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System Administration Tools Guide

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Chapter 1: Introduction

Note: Some of the utilities (tools) described in this document are feature–dependent and may not be installed on your system.

TOOLS menu

The TOOLS menu provides access to some of the following system management utilities:

- ***Move user*** Use it to move users from one volume to another, one at a time.
- ***Modify hardware*** This utility can modify the hardware database.
- ***Set silence compression*** This utility compresses out recorded silence if turned on, or leaves it in if turned off.
- ***Control volume*** This utility allows you to control volume on Meridian Mail voice sessions.
- ***Update MWI*** This utility updates Message Waiting Indicators (MWIs) on telephone sets after the Meridian 1 is rebooted.
- ***Block Meridian Mail*** This utility allows you to specify whether access to Meridian Mail should be blocked in the case of a serious disk failure.
- ***Session Trace*** This utility allows you to obtain detailed information about the activity in a user's mailbox and the state of the message waiting indicator (MWI).
- ***Audit all volumes*** This utility allows you to free up data blocks on all volumes in the system.

- ***Rebalance directory*** This utility rebalances the access structure for the organization directory in order to speed up searches and updates to its entries. This tool is intended mainly for Hospitality systems to assist in the initial setup of the system.
- ***COS conversion*** This utility converts the class of service (COS) for several users from Personal COS to a matching COS.
- ***Display system record*** This utility identifies the installed features, number of recording (storage) hours, and disk sizes on your system, among other items. This information is required when filling out a Site Profile form.
- ***Universal link monitor*** This utility allows viewing data of one link at a time. Separate instances of the message analyzer can be used to monitor more than one link. All links except AML are shown at the TOOLS level.
- ***Other*** This menu item displays the second TOOLS menu which consists of other system/feature-dependent utilities.

The following utilities are accessible when you select “Other” from the TOOLS menu. They are system/feature dependent and will not be displayed if the necessary feature is not installed.

- ***Change local site ID*** This utility is available only if Meridian Networking and Network Message Services are installed. It allows you to change the local site ID.
- ***Configure GACs*** This utility is available only if Hospitality is installed. It allows you to install the Guest Administration Console program on a terminal (or delete it from one).
- ***Check out all rooms*** This utility is available only if Hospitality is installed. It allows you to check out all hotel rooms at one time.
- ***Transfer voice prompts*** This utility is available only if Meridian ACCESS is installed. It allows you to transfer voice prompt files between Meridian Mail systems.
- ***ACCESS diagnostics*** This utility is available only if Meridian ACCESS is installed. It allows you to diagnose and monitor system activity related to Meridian ACCESS.

- ***Configure MATs*** This utility is available only if the Multiple Administration Terminals feature is installed. It allows you to install the Multiple Administration Terminal program on a terminal (or delete it from a terminal that is currently equipped with it).
- ***Add/Delete many users*** This utility is available only on Card Option systems. It allows you to add or delete a block of mailboxes at one time.
- ***RN Administration*** This utility is available only if Outcalling is installed. It allows you to change the parameters that affect the interaction between Meridian Mail and the paging company or remote phone during remote notification (RN).
- ***Console port*** This utility is available on all systems except Card Option and MSM. It allows you to change the default console port speed of the MMP40 card to either 2400 bps or 9600 bps.
- ***Synchronize disks*** This utility is available on Message Services Module (MSM) systems and is used to synchronize shadowed disks in circumstances where the Disk Maintenance option on the System Status and Maintenance menu proves to be inadequate. For example, if you are trying to transfer valid data from a disk (which currently has a "No Access" status) to its associated disk (which is set to "Read/Write"), the normal Disk Maintenance option may be unable to completely synchronize the disks. In this case, the Synchronize disks utility could be used.
- ***Clone Disk*** This utility creates a copy of your system and stores the copy on a backup set of disks. It is available on all platforms except MSM and Option .

ATTENTION

After using any of the following tools, you must reboot the system for the changes to take effect:

Modify hardware
Set silence compression
Control volume
Block Meridian Mail
Configure GACs
Configure MATs

NTP references

For references to the *System Administration Guide*, the *Installation and Maintenance Guide*, and the *Networking Installation and Administration Guide*, refer to the lists below to find the version of the Northern Telecom Publication or NTP (as identified by the NTP number) that applies to your system:

Meridian 1 systems

- *System Administration Guide* for a single-customer system (NTP 555-7001-301)
- *System Administration Guide* for a multi-customer system (NTP 555-7001-302)
- *Customer Administration Guide* for a multi-customer system (NTP 555-7001-303)
- *Installation and Maintenance Guide* for a Modular Option EC system (NTP 555-7061-250)
- *Installation and Maintenance Guide* for a Modular Option system (NTP 555-7041-250)
- *Meridian Networking Installation and Administration Guide* (NTP 555-700-244)
- *Virtual Node Amis Installation and Administration Guide* (NTP 555-7001-245)
- *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246)

DMS or SL-100 systems

- *System Administration Guide* for a single-customer system (NTP 555-7001-30)7
- *System Administration Guide* for a multi-customer system NTP 555-7001-308
- *Customer Administration Guide* for a multi-customer system NTP 555-7001-309
- *Installation and Maintenance Guide* for a Modular Option GP system NTP 555-7051-250

Chapter 2: Using the TOOLS menu

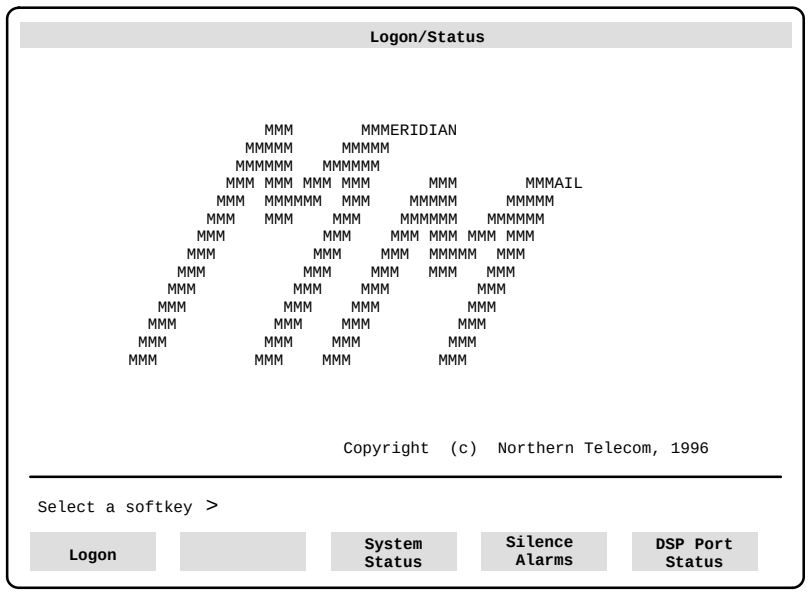
Logging on

The Logon screen (Figure 2-1) appears when the administrative console is idle. When the system is installed, the default administration password is “adminpwd,” and the password used to access the TOOLS menu is “tools.” To ensure system security, change the administrator password as soon as possible.

An unsuccessful logon attempt is automatically recorded in the system log file. As a security precaution, the system forces a ten-minute delay after a third unsuccessful attempt to log on, before a further logon attempt will be accepted.

To log on to the system and gain access to the tools, use Procedure 2-1, described on page 2-2.

Figure 2-1
The Logon screen



Note 1: If your system is an MSM, the blank softkey actually becomes the [T1 Status] softkey.

Note 2: On the Logon screen of a MAT, only the [Logon] softkey is displayed.

Procedure 2-1
Logging on

Starting point: Logon screen

1 Press [Logon]. Enter the tools password to access the TOOLS Level menu and press <Return>.

You are prompted to enter the administrator password.

2 Enter the administrator password and press <Return>.

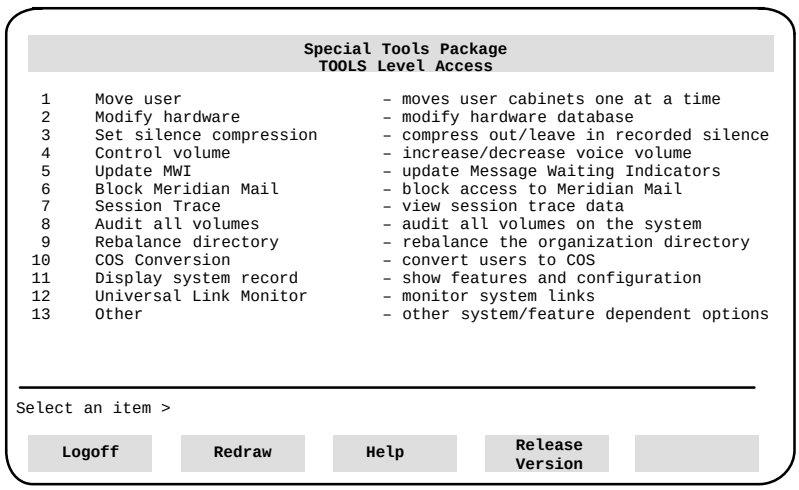
The TOOLS menu appears. See the section "The TOOLS menu" for details on how to use the TOOLS menu.

If you enter an invalid password, an error message appears; try logging on again.

The TOOLS menu

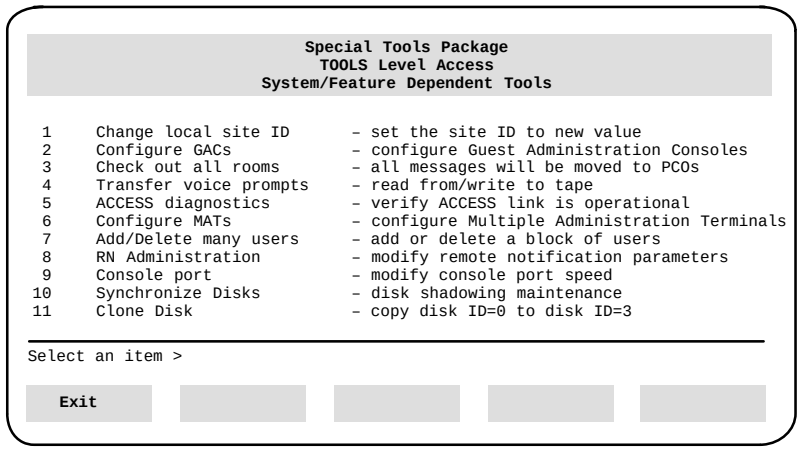
The TOOLS menu (Figure 2-2) appears after a successful logon using the TOOLS password. The menu allows you to select the tool you want. Never leave the administrative console unattended while you are logged on.

Figure 2-2
The TOOLS menu



When you choose the “Other” option from this menu, the menu shown in Figure 2-3 is displayed. The items that appear on this menu depend on the features installed on your system. Figure 2-3 shows all possible feature-dependent tools. Your system will most likely have only a few of them, and the menu item numbers may, therefore, be different on your system.

Figure 2-3
Feature-dependent tools



Procedure 2-2
Navigating the TOOLS menu

Starting point: The TOOLS level menu

1 Choose an item by entering its number and pressing <Return>. After a few moments, the first screen for the tool you have selected appears.

The softkeys, if selected, perform the following actions:

[Logoff]	returns you to the Logon screen
[Redraw]	refreshes the menu screen
[Help]	presents general information
[Release Version]	provides a brief summary of any pertinent release information; if the screen is simply redrawn, then there is no release information available.

Note: On the Feature-Dependent Tools menu, [Exit] returns you to the main TOOLS menu.

For other menu items, consult the appropriate chapter for details (see the table of contents).

2 When you have finished using the tool, terminate the program in the manner described in the chapter for that tool.

Note: You must terminate one tool before starting another.

3 To log off, press [Logoff].

The Logon screen is redisplayed.

Chapter 3: Move user

The Move user tool moves user cabinets, profiles, and voice messages from one user volume to another. This operation is performed one user at a time.

CAUTION
Risk of data loss
Check individual user storage limits and violations before users are moved.

If the volume from which you are moving users (the source volume) is more than 95% full, the Move user tool will inform you of this fact and will not move the user. This is because the source volume needs a certain amount of disk space in order to perform the “move user” task. If you get this warning message, run the Audit all volumes tool. If the source volume is still more than 95% full after the audit, then some files must be deleted from the source volume. When the source volume is less than 95% full, try running the Move user tool again.

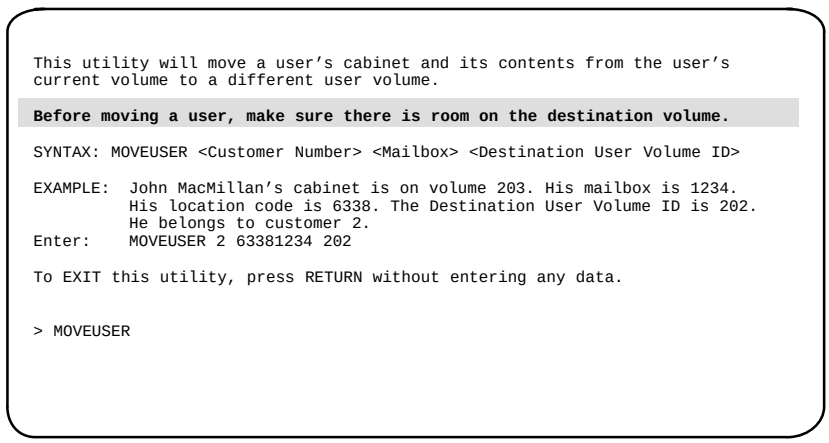
The process of moving users uses up disk space on the source volume. Therefore, even if the source volume is less than 95% full when you start moving users, the disk may become more than 95% full while you are moving users. If this happens, the tool will not let you continue. Run Audit all volumes or delete files on the source volume to free up the disk space that you need to continue.

After you have moved the users, run Audit all volumes to reclaim the disk space on the volume from which you moved the users; or wait for the automatic overnight audit to reclaim the freed up disk space.

Note 1: This tool is useful only on systems with more than one user volume.

Note 2: If you do not have the multi-customer feature, you are still prompted for the Customer Number. In this case, simply enter 1.

Figure 3-1
Move user screen



Procedure 3-1
Moving users from one volume to another

Starting point: The TOOLS level menu

1 Select 1, Move user, and press <Return>.

The command line at the bottom of the screen displays the command MOVEUSER, and the cursor is positioned immediately after the command. You do not have to enter "moveuser" yourself.

2 For each user to be moved, enter the following information:

- user's customer number and mailbox number
- the destination user volume ID

See Figure 3-1.

3 Press <Return>.

The user's cabinet and profile will be created under the "users" directory on the specified volume. This directory must already exist. It will not automatically be created.

If the move is successful, the following prompts appear:

```
Moving Mailbox <mailbox ID> of Customer <customer
number> to volume <volume Id>
```

```
Mailbox <mailbox ID> of Customer <customer number>
moved to volume <volume Id>
```

The Help command provides information on the move user command.

4 Exit the Move user utility by pressing <Return> without entering any data.

Chapter 4: Modify hardware

The Modify hardware tool allows you to modify the contents of the hardware database in your Meridian Mail system. The hardware database is a system utility which maintains a current listing and description of all nodes, cards, and ports in your system.

Note: For any changes made with this tool to take effect, you must reboot the system after you have made the changes. Exceptions are dataport speed changes for MAT, GAC, AdminPlus, MMLink, and MS Link.

CAUTION
Risk of system audit failure

You should not leave the administrative console running overnight or important system audits may fail due to lack of available memory.

Hardware configurations available

The following screen examples are taken from an EC system and an MSM system. The basic setup and type of information shown in these screens is the same on other hardware platforms. On these other systems, the card types and system capacities will be different, as will some of the data ports. For example, on a Modular Option GP system, the default link data port will be an SMDI data port, not an AML data port.

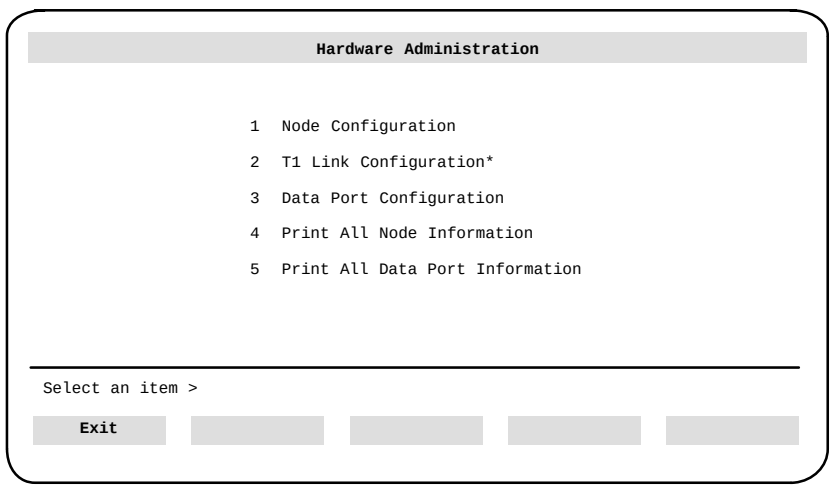
A fully upgraded 5-node EC system can have up to 96 ports. A fully upgraded 5-node Modular Option, or Modular Option GP system can have up to 64 ports. A fully upgraded 10-node MSM system can have up to 192 channels.

Note: The figures in this section do not necessarily represent the hardware configurations on your system. They are illustrations only.

The Hardware Administration menu

The Hardware Administration menu (Figure 4-1) provides several functions.

Figure 4-1
Hardware Administration menu



Note: *The T1 Link Configuration option appears only on MSM systems.

Procedure 4-1
Navigating the Hardware Administration menu

Starting point: The TOOLS level menu

1 Select <2>, Modify hardware, and press <Return>.

The Hardware Administration menu appears (Figure 4-1).

2 Choose an item by entering its number and pressing <Return>.

The menu corresponding to your selection appears. See the following sections for details:

<1> "Node configuration"
*<2> "T1 link configuration" **
<3> "Data port configuration"
<4> "Print all node information"
<5> "Print all data port information"

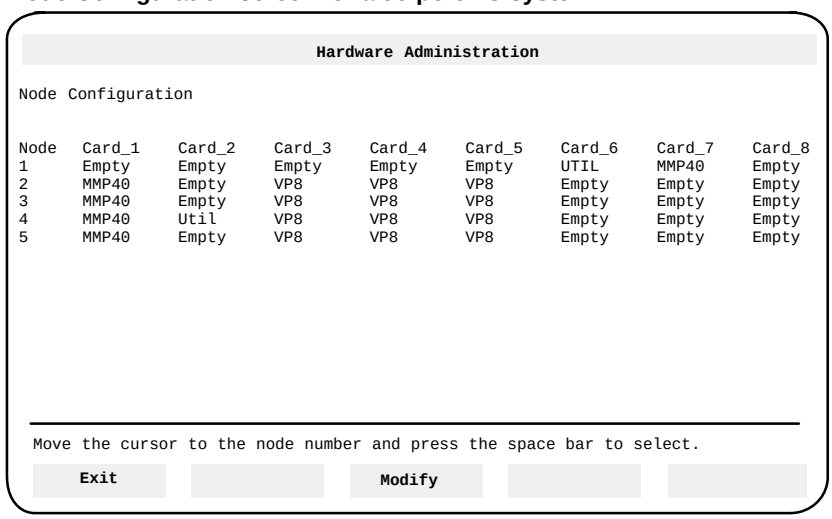
Note: *The "T1 Link Configuration" option appears only on MSM systems.

3 Press [Exit] to return to the TOOLS menu.

Node configuration

The Node Configuration screen is a summary listing of the cards found on all nodes in your system. Figures 4-2 and 4-3 show Node Configuration screens for an EC system and an MSM system respectively.

Figure 4-2
Node Configuration screen for a 96-port EC system



```
                              Hardware Administration

Node Configuration


Node   Card_1    Card_2    Card_3    Card_4    Card_5    Card_6    Card_7    Card_8
1      Empty     Empty     Empty     Empty     Empty     UTIL      MMP40     Empty
2      MMP40     Empty     VP8       VP8       VP8       Empty     Empty     Empty
3      MMP40     Empty     VP8       VP8       VP8       Empty     Empty     Empty
4      MMP40     Util      VP8       VP8       VP8       Empty     Empty     Empty
5      MMP40     Empty     VP8       VP8       VP8       Empty     Empty     Empty

 Move the cursor to the node number and press the space bar to select.

     Exit                          Modify
```

Note: A Card Option system may have a Card 9.

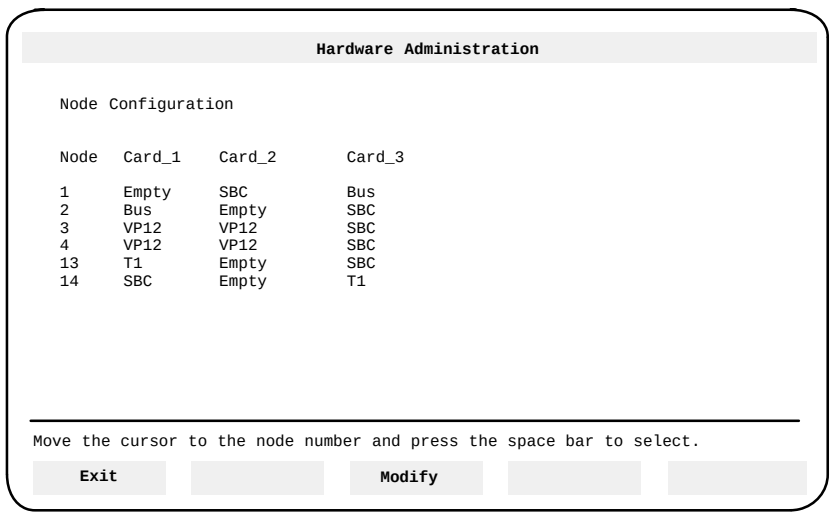
The following abbreviations identify the cards:

- ***MMP40*** This CPU card includes a 24 MHz 68040 processor, 16 Mbytes of memory, a SCSI interface processor, and up to two RS-232 serial ports.
- ***SBC*** This CPU card includes a 12 MHz 68010 processor. For Release 10.0, 68K cards are used for Card Option or MSM systems only.
- ***RSM*** This indicates an RS-232 service module.
- ***Bus*** This indicates a high-speed bus (also called HABC for High Availability Bus Controller).
- ***MSP*** This abbreviation stands for a multipurpose signal processor.
- ***NVP*** This abbreviation stands for a network voice processor (16K).
- ***NVP32*** This is a 32K network voice processor.

The following cards are available on a Modular Option EC system:

- ***MMP40*** This card is used on all Classic and Modular Option EC Meridian Mail systems. See page 4-4 for a description.
- ***UTIL*** This utility card contains a high-speed bus. It also includes four auxiliary RS-232 ports (1- to 4-node systems require one of these cards; 5-node systems with 60 or more ports require two of these cards).
- ***VP4/VP8 cards*** These cards are voice processor cards that provide four and eight ports respectively.

Figure 4-3
Node Configuration screen for an MSM system



The following information is displayed on this screen:

- ***Node*** This is the node number.
- ***Card*** These are the types of cards found on the specified node. The following abbreviations identify the following cards:
  - ***SBC*** single board computer (68K CPU card)
  - ***Bus*** high-speed bus
  - ***VP12*** 12-channel voice processor
  - ***T1*** T1 link

Procedure 4-2
Modifying node configurations

Starting point: The TOOLS level Hardware Administration menu

1 Select <1>, Node Configuration, and press <Return>.

The Node Configuration screen is displayed (Figure 4-2).

2 Move the cursor to the node you want to modify and press the <Space Bar>.

Your selection is highlighted.

3 Choose step 3a to modify the configuration information of the node or 3b to return to the Hardware Administration menu.

a. Press [Modify]

The Modify Node screen appears; see the next section, "Modify node."

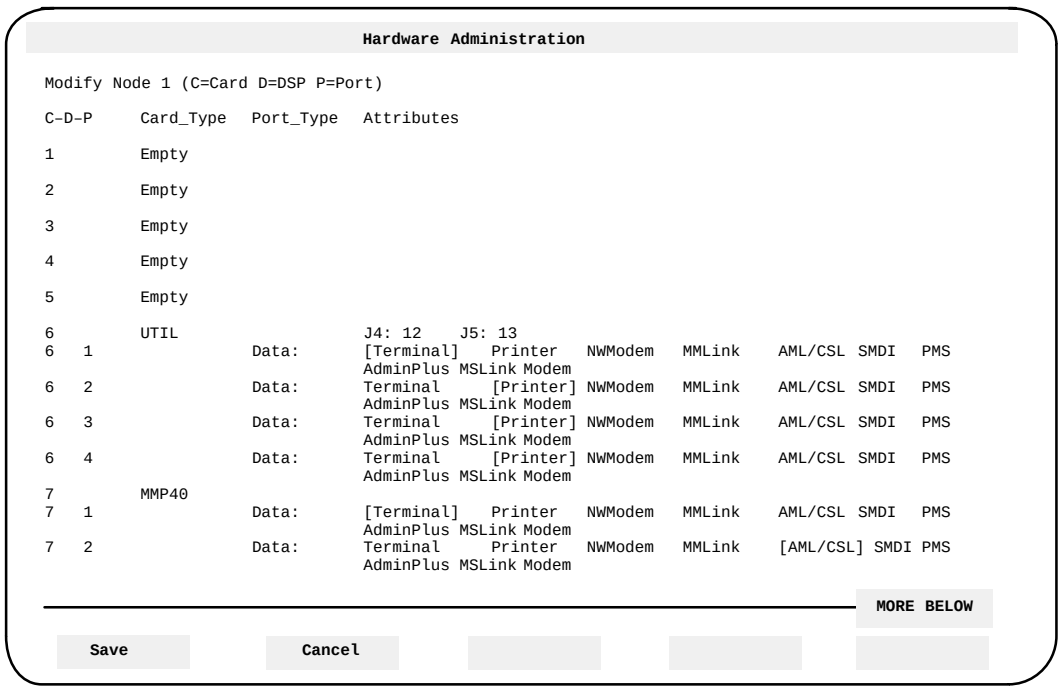
b. Press [Exit].

The Hardware Administration menu is displayed.

Modify node

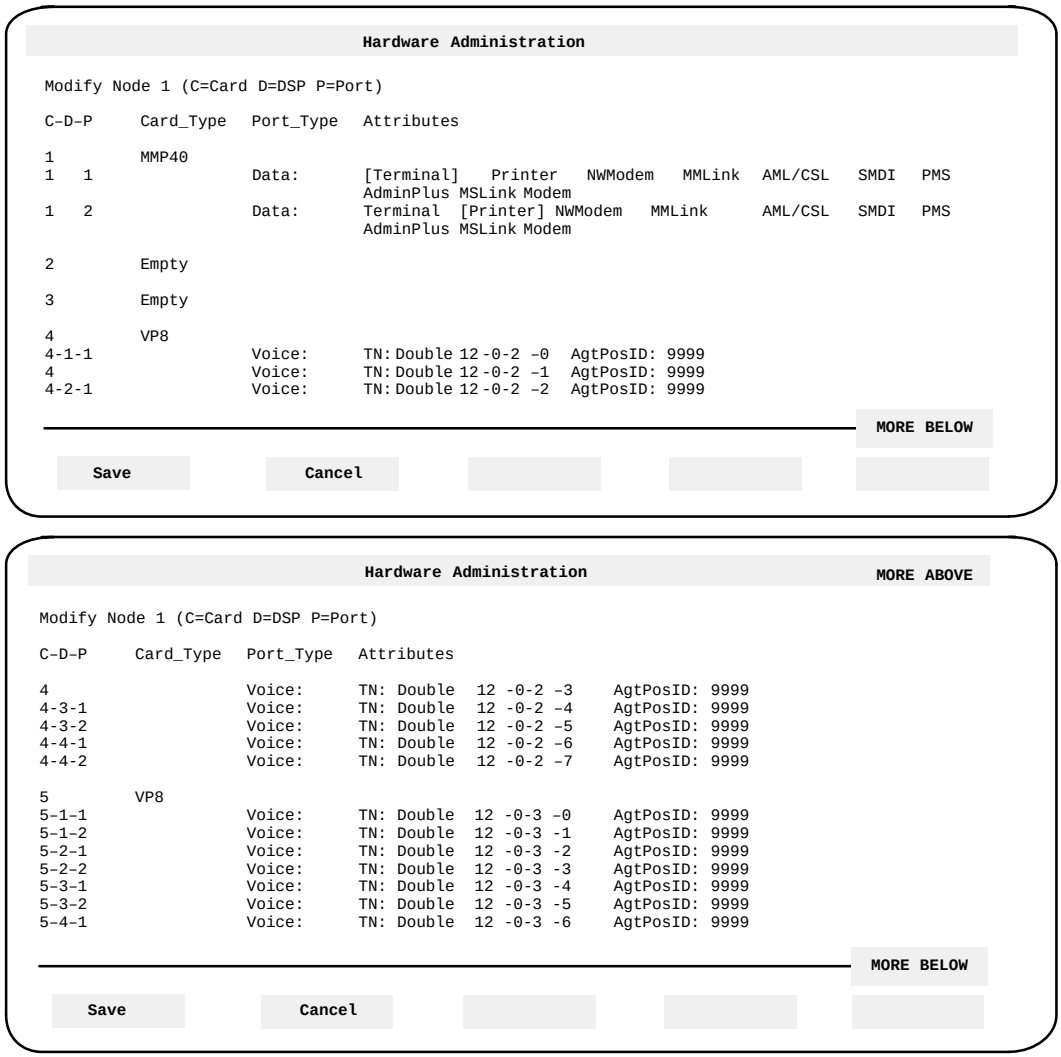
The Modify Node screen displays the cards and ports (and their attributes) which are installed on the node you selected in the Node Configuration screen. Figure 4-4 shows a Modify (System) Node screen for an EC system. Figure 4-5 shows a Modify (Voice) Node screen for an EC system. Figure 4-6 shows a Modify Node screen for an MSM system.

Figure 4-4
Modify (System) Node screen for 96-port EC systems



Note: If the node you are viewing is a system node, you may have MMP40, VP4, VP8, or UTIL cards installed. A voice node may also have these cards installed.

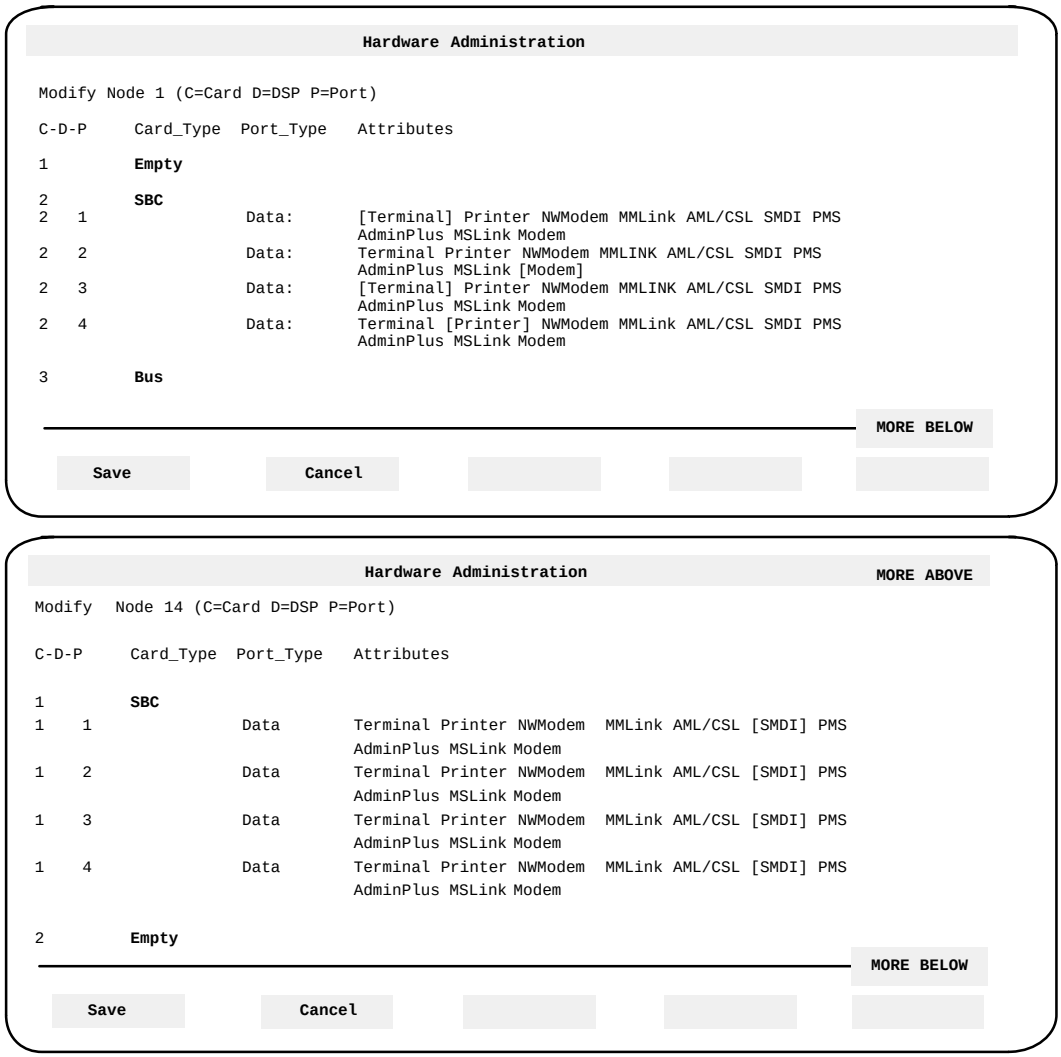
Figure 4-5
Modify (Voice) Node screen for 96-port EC systems



```
                                Hardware Administration

Modify Node 1 (C=Card D=DSP P=Port)

C–D–P     Card_Type   Port_Type   Attributes

1         MMP40
1   1                 Data:       [Terminal]   Printer   NWModem   MMLink  AML/CSL   SMDI   PMS
                                  AdminPlus MSLink Modem
1   2                 Data:       Terminal  [Printer] NWModem   MMLink     AML/CSL   SMDI   PMS
                                  AdminPlus MSLink Modem

2         Empty

3         Empty

4         VP8
4-1-1                 Voice:      TN: Double 12 -0-2 –0  AgtPosID: 9999
4                     Voice:      TN: Double 12 -0-2 –1  AgtPosID: 9999
4-2-1                 Voice:      TN: Double 12 -0-2 –2  AgtPosID: 9999

                                                                                  MORE BELOW

   Save          Cancel
```

```
                                Hardware Administration                                MORE ABOVE

Modify Node 1 (C=Card D=DSP P=Port)

C–D–P     Card_Type   Port_Type   Attributes

4                     Voice:      TN: Double  12 -0-2 –3    AgtPosID: 9999
4-3-1                 Voice:      TN: Double  12 -0-2 –4    AgtPosID: 9999
4-3-2                 Voice:      TN: Double  12 -0-2 –5    AgtPosID: 9999
4-4-1                 Voice:      TN: Double  12 -0-2 –6    AgtPosID: 9999
4-4-2                 Voice:      TN: Double  12 -0-2 –7    AgtPosID: 9999

5         VP8
5–1–1                 Voice:      TN: Double  12 -0-3 –0    AgtPosID: 9999
5–1–2                 Voice:      TN: Double  12 -0-3 -1    AgtPosID: 9999
5–2–1                 Voice:      TN: Double  12 -0-3 -2    AgtPosID: 9999
5–2–2                 Voice:      TN: Double  12 -0-3 -3    AgtPosID: 9999
5–3–1                 Voice:      TN: Double  12 -0-3 -4    AgtPosID: 9999
5–3–2                 Voice:      TN: Double  12 -0-3 -5    AgtPosID: 9999
5–4–1                 Voice:      TN: Double  12 -0-3 -6    AgtPosID: 9999

                                                                                  MORE BELOW

   Save          Cancel
```

Figure 4-6
Modify Node screen for an MSM system



The screen displays the following read-only information about each card on the node:

- ***C-D-P (Location)*** This is the physical location of the port in the Meridian Mail system, where C is the Card, D is DSP Port, and P is the port number.
- ***Card Type*** The function of the card appears here; see "Node configuration" for a description of the abbreviations used in this field.
- ***Port Type*** This is the type of port. "Data" indicates a serial data communications port. "Device" indicates a mass storage device or tape drive. "Voice" indicates a voice processor port. "Multi" indicates a multimedia port.
- ***J4*** (UTIL card only) This indicates the Meridian 1 network loop number connected to J4 on the utility card. Not available on an MSM system.
- ***J5*** (UTIL card only) This indicates the Meridian 1 network loop number connected to J5 on the utility card. Not available on an MSM system.
- ***Attributes (for ports with type = Data)***
  - — ***Terminal*** This indicates a connection to an administration terminal or a personal computer.
  - — ***Printer*** This is a printer serial connection.
  - — ***NWModem*** This indicates a connection to a modem used for networking calls.

    Note: Ports on the MMP40 and the SBC card do not support networking. The RSM card and UTIL card, however, do support networking.

  - — ***MMLink*** This indicates a Meridian ACCESS Link. This is the communications channel for Meridian ACCESS.

    Note: For voice nodes, ports on an RSM or Util card do not support Meridian ACCESS or AdminPlus.

  - — ***AML/CSL (Meridian Link)*** This indicates a communications channel between Meridian Mail and a Meridian 1.

— ***SMDI*** Not applicable. (This is a communications channel between Meridian Mail and a DMS-100, DMS-10, SL-100, AT&T, or ROLM switch.)

— ***PMS*** This attribute is available for Hospitality systems. It is the serial link between Meridian Mail, the PMS system, and the Meridian 1 for PMS data.

— ***AdminPlus*** This stands for a connection to a PC equipped with Meridian Mail Reporter.

— ***MSLink*** This is the connection to a PC used for the Meridian Mail AutoAdmin feature.

— ***Modem*** This is a connection to a modem used for remote access.

- ***Attributes (for ports with type = Device)***

— ***Disk*** This stands for a mass storage subsystem (hard disk).

— ***Tape*** This indicates a cartridge tape subsystem.

- ***Attributes (for ports with type = Voice or Multi)***

— ***TN*** (Meridian 1) This is the Terminal Number <Density + Address> where Density is either Single, Double, or Quadruple. (This is Octal on Card Option systems.) The Address consists of the set of numbers lll-ss-c-uu, where

lll = loop (0–255)

ss = shelf (0–3 for single-density, 0–1 for double, 0 for quadruple)

c = card (0–15)

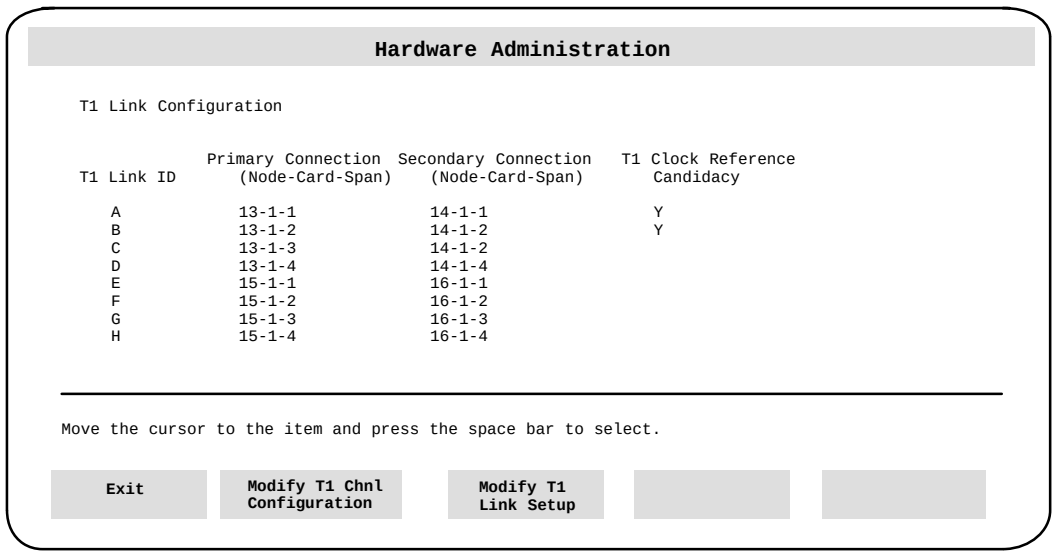
uu = unit (0–3 for single density, 0–7 for double, 0–15 for quadruple)

— ***AgtPosId*** This is the Agent Position ID for the voice port. It is equivalent to the Position ID for the virtual agent. The Position ID is an actual DN (although not directly callable). It is unique across the entire Meridian 1 customer and is associated with a particular (agent) telephone set. It is not necessary to fill in this field, but you may want to use this field to further label and track your ports. The default value is 9999.

T1 link configuration for the MSM

The T1 Link Configuration screen lists the T1 links in the MSM system.

Figure 4-7
T1 Link Configuration screen



Note: The figures in this section do not necessarily represent actual hardware configurations. They are illustrations only.

The following information is displayed on this screen:

- ***T1 Link ID*** This is a unique identifier for the T1 link. Each link actually consists of two connections, a primary and secondary connection, to provide redundancy.
- ***Primary Connection*** This is the location (node-card-span) of the primary connection.
- ***Secondary Connection*** This is the location (node-card-span) of the secondary connection.

- ***T1 Clock Reference Candidacy*** This field shows whether the link has been configured as a candidate for clock referencing. Press [Modify T1 Link Setup] to nominate a link or to disqualify a current candidate. See the section "Modifying the T1 link setup" for more information about clock referencing.

Procedure 4-3
Modifying T1 Link configurations

Starting point: The Hardware Administration menu

1 Select <2>, T1 Link Configuration, and press <Return>.

The T1 Link Configuration screen appears (Figure 4-7).

2 Move the cursor to the link you want to modify and press <Space Bar>.

Your selection is highlighted.

3 To modify the T1 channel configuration information, choose step 3a. To modify the T1 link setup information, choose step 3b. To return to the Hardware Administration menu, choose step 3c.

a. Press [Modify T1 Chnl Configuration].

The Modify T1 Channel configuration screen appears; see the next section, "Modifying T1 channels".

b. Press [Modify T1 Link Setup].

The T1 Link Setup screen appears; see the section "Modifying the T1 link setup".

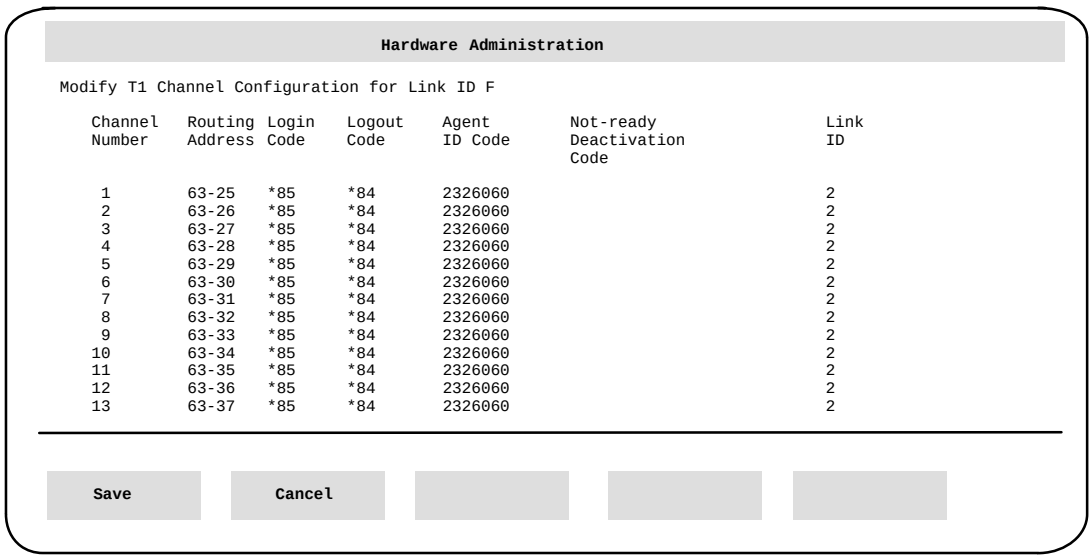
c. Press [Exit].

The Hardware Administration menu is redisplayed.

Modifying T1 channels

The Modify T1 Channel screen (Figure 4-8) displays the T1 Channel configuration for the link you have selected.

Figure 4-8
Modify T1 Channel screen



Hardware Administration

Modify T1 Channel Configuration for Link ID F

Channel Number	Routing Address	Login Code	Logout Code	Agent ID Code	Not-ready Deactivation Code	Link ID
1	63-25	*85	*84	2326060		2
2	63-26	*85	*84	2326060		2
3	63-27	*85	*84	2326060		2
4	63-28	*85	*84	2326060		2
5	63-29	*85	*84	2326060		2
6	63-30	*85	*84	2326060		2
7	63-31	*85	*84	2326060		2
8	63-32	*85	*84	2326060		2
9	63-33	*85	*84	2326060		2
10	63-34	*85	*84	2326060		2
11	63-35	*85	*84	2326060		2
12	63-36	*85	*84	2326060		2
13	63-37	*85	*84	2326060		2

Save Cancel

Note: The figures in this section do not necessarily represent an actual hardware configuration. They are presented for illustration purposes only.

The following information is displayed on this screen:

- ***Channel Number*** This is the number of the T1 channel.
- ***Routing Address*** This is the location of the corresponding agent in the switch. This is the message desk number and is represented in the format xxx-yyyy, where xxx is the message desk number and yyyy is the terminal number.

- ***Login Code*** This is the channel access code for logging in to the UCD group. This field should be blank if the SMDI_AUTOLOG option has been configured as "Y" (yes) on the switch. When this field is left blank, Meridian Mail inserts a default login code.

  If SMDI_AUTOLOG is configured as "N" on the switch, ensure that the code displayed here matches the code configured on the switch. See your administrator.

- ***Logout Code*** This is the channel access code for logging out of the UCD group. This field should be blank if the SMDI_AUTOLOG option has been configured as "Y" (yes) on the switch. When this field is left blank, Meridian Mail inserts a default login code.

  If SMDI_AUTOLOG is configured as "N" on the switch, ensure that the code displayed here matches the code configured on the switch. See your administrator.

- ***Agent ID Code*** This ID must match the line number (SMDI_LINE_NO) of the UCD agent that is configured on the switch. On the SL-100, the LINE_NO can either be configured through **so** (servord) or through Table IBNFEAT by entering the SMDI option.

- ***Not-ready Deactivation Code*** This field is not applicable to UCD environments and should be left blank. It is used in ACD environments for assigning the channel to the ACD queue after the channel has logged in to the ACD group.

- ***Link ID*** The Link ID of the SMDI link associated with the T1 channel.

For more information about these options, see the *MSM Translations Guide* (NTP 557-7001-310).

Procedure 4-4
Modifying T1 Channel configurations

Starting point: The Hardware Administration menu

1 Select <2>, T1 Link Configuration, and press <Return>.

The T1 Link Configuration screen appears (Figure 4-7).

2 Move the cursor to the T1 link you want to view or modify and press <Space Bar>.

Your selection is highlighted.

3 Press [Modify T1 Chnl Configuration].

The Modify T1 Channel Configuration screen is displayed (see Figure 4-8).

4 Press the arrow keys to position the cursor where you want to make changes. Press the backspace or delete keys to make changes as required. Type in new information where required.

5 Choose step 5a to save the changes or step 5b to exit the Modify T1 Channel Configuration screen.

a. Press [Save] to save the changes.

The T1 Link Configuration screen reappears.

b. Press [Cancel] to undo the changes.

The T1 Link Configuration screen reappears.

Applying T1 channel modifications

When you have completed T1 channel modifications and the hardware database has been updated, you can apply the changes without rebooting by following Procedure 4-5.

The modifications will affect one or both pairs of T1 nodes depending on which channels were changed. Procedure 4-5 must be applied to one or both of the following:

- Node 13 and 14 for spans with link ID A-D
- Node 15 and 16 for spans with link ID E-H

Procedure 4-5
Disabling and reenabling T1 nodes

Starting point: The Main Menu

1 Select System Status and Maintenance.

2 Select T1 Link Status.

3 Switch all “InService” T1 links by pressing [Switch Links].

4 Press [Exit].

The System Status and Maintenance menu is displayed.

5 Select SMDI Link Status.

6 Switch all “InService” SMDI links by pressing [Switch Links].

7 Press [Exit].

The System Status and Maintenance menu is displayed.

8 Select Node Status.

9 Press [Disable Node].

You are prompted for the node number.

10 Enter the node number for the even T1 node and press <Return>.

The selected node will be disabled.

a. Wait three to five minutes before reenabling it.

b. When it has been successfully disabled, continue with the next step.

If the disable is not successful, refer to *Trouble-locating and Alarm-clearing Procedures* (NTP 557-7001-503) for more information.

11 Press [Enable Node].

You are prompted for the node number.

12 Enter the node number of the previously disabled node and press <Return>.

The selected node will be enabled. When it has been successfully enabled, continue with the next step. If the enable is not successful, refer to Trouble-locating and Alarm-clearing Procedures *(NTP 557-7001-503) for more information.*

13 Press [Exit].

The System Status and Maintenance menu is displayed.

14 Repeat steps 2 through 13 for the odd T1 node.

15 Press [Exit].

The Main Menu is displayed.

Modifying the T1 link setup

Note: In a private customer installation, the MSM typically does not use a clock. In this situation, you have to put the system in free run mode. When you put your system in free run mode, the channel banks terminating equipment must derive its timing reference from the MSM.

The modify T1 Link Setup screen (see Figure 4-9) is used to modify the T1 clock reference candidacy of a T1 link, the T1 Line Code format, or the T1 debounce time. You may nominate one or more links to serve as the clock reference for the MSM. An external device in the network (such as the PBX switch, for example) can serve as the reference provider.

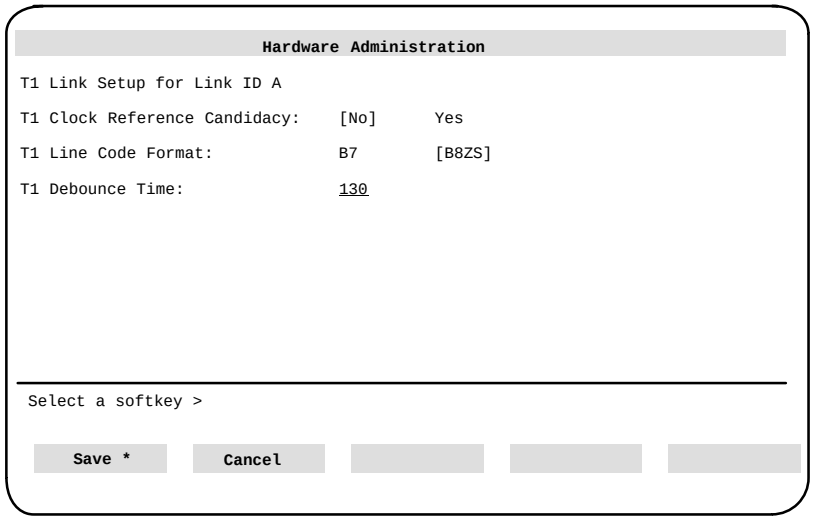
The link that is used as the reference is defined in the T1 Link Status screen. If any problems occur on the link that is the current clock reference, or if certain maintenance procedures are being carried out on the link or the card, the system will automatically select one of the other nominated links as the new reference and generate a SEER to indicate that a link has been activated as the reference provider.

The following situations will cause the system to select another reference:

- A red alarm is detected.
- A yellow alarm is detected.
- There is a hardware fault.
- The T1 card on which the link resides is disabled.
- The TIFN is disabled.
- The switch T1 link command is issued.
- The T1 link that is the clock reference is disabled.

In order to nominate a T1 link for clock reference candidacy, or to modify the T1 Line Code format or the T1 debounce time, you must first take both the primary and secondary spans associated with the T1 link out of service. T1 links are enabled and disabled in the T1 Link Status screen.

Figure 4-9
Modify T1 Link Setup screen



Note: *If you have not disabled the primary and secondary spans, only the [Exit] softkey is displayed and the screen is read-only.

The following fields are displayed on this screen:

- ***T1 Clock Reference Candidacy*** "Yes" indicates that the selected T1 link is nominated as a clock reference candidate. "No" indicates that the link has not been nominated.
- ***T1 Line Code Format*** This indicates the T1 Line Code format in the T1 link.
- ***T1 Debounce Time*** Enter a value between 0 and 512. This value is the amount of time the system will wait for a T1 span to be cleared of noise after a T1 signal is sent. The default is 130.

Procedure 4-6
Nominating/disqualifying a T1 link as a clock reference candidate

Starting point: The Main Menu

1 Select System Status and Maintenance.

2 Select T1 Link Status.

3 Press [Disable T1].

You are prompted for the T1 number of the link you want to disable.

4 Enter the number of the T1 link you want to disable followed by <Return>.

To disable another link, repeat steps 2 and 3.

5 Press [Exit].

The System Status and Maintenance menu is displayed.

6 Press [Exit].

The Main Menu is displayed.

7 Select Hardware Administration.

8 Select T1 Link Configuration.

9 Move the cursor to the T1 link you want to nominate/disqualify and press <Space Bar> to select it.

Your selection is highlighted.

10 Press [Modify T1 Link Setup].

The T1 Link Setup screen is displayed.

11 Select Yes to nominate a link or No to disqualify a current candidate.

12 If you want to change the T1 Line Code Format, select the format that you want for the T1 link.

13 If you want to change the T1 Debounce Time, replace the old time with the new time.

14 Press [Save].

The selected link is nominated/disqualified, the new T1 line code format is set (if you changed it), and the T1 Link Configuration screen is displayed.

15 Press [Exit] to return to the T1 Link Status screen in System Status and Maintenance, and reenable the link.

16 If necessary, activate one of the candidates as the clock reference using [Change T1 Clocking Mode] in the T1 Link Status screen.

Data port configuration

The Data Port Configuration screen (see Figure 4-10) summarizes the data ports on all nodes in your system. For Networking systems, the modem port settings can be modified. The AML/CSL port can neither be viewed nor modified. All other data ports can always be selected and their configuration modified.

> ***Note:*** The abbreviations used in this screen are described in the section “Node configuration” earlier in this chapter.

This section shows the recommended data port uses, followed by a description of the Data Port Configuration screen, and how to modify data ports for the following device types:

- Terminal
- Printer
- MMLink (Meridian Mail Link)
- NWModem (Networking Modem)
- MSLink
- SMDI
- PMS
- AdminPlus

The recommended data port uses are listed in the tables that follow.

Table 4-1
Recommended data port uses for Card Option systems

Port	Allowable uses
DP1	Network Modem, GAC, Printer, ACCESS Link, AdminPlus, MS Link
DP2	Network Modem, GAC, Printer, ACCESS Link, AdminPlus, MS Link
DP3	PMSI to PMS System, Network Modem, Printer
DP4	PMSI to Meridian 1, Network Modem, Printer

Note 1: DP3 and DP4 have a bypass relay installed for the PMS links.

Note 2: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 9600 bps.

Table 4-2
Recommended data port uses for Modular Option, and Modular GP systems

Port	Allowable uses
Node 1 MMP40 port 1: DP1	System Console
Node 1 MMP40 port 2: DP2	AML, CSL, or SMDI
Node 1 RSM port 1: DP3	GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, AdminPlus, MS Link
Node 1 RSM port 2: DP4	GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
Node 1 RSM port 3: DP5	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
Node 1 RSM port 4: DP6	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, SMDI, MS Link
–continued–	

Table 4-2 (continued)
Recommended data port uses for Modular Option, and Modular GP systems

Port	Allowable uses
Node 2 MMP40 port 1: DP7	GAC, MAT, Printer, SMDI, ACCESS Link, MS Link
Node 2 MMP40 port 2: DP8	Maintenance
Node 2 RSM port 1: DP9	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 2: DP10	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 3: DP11	GAC, MAT, Network Modem, Printer, SMDI
Node 2 RSM port 4: DP12	GAC, MAT, Network Modem, Printer, SMDI
Node 3 MMP40 port 1: DP13	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 3 MMP40 port 2: DP14	Maintenance
Node 3 RSM port 1: DP15	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 2: DP16	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 3: DP17	GAC, MAT, Network Modem, Printer, SMDI
Node 3 RSM port 4: DP18	GAC, MAT, Network Modem, Printer, SMDI
Node 4 MMP40 port 1: DP19	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 4 MMP40 port 2: DP20	Maintenance
Node 4 RSM port 1: DP21	GAC, MAT, Network Modem, Printer, SMDI
Node 4 RSM port 2: DP22	GAC, MAT, Network Modem, Printer, SMDI
–continued–	

Node 4 RSM port 3: DP23	GAC, MAT, Network Modem, Printer, SMDI
Node 4 RSM port 4: DP24	GAC, MAT, Network Modem, Printer, SMDI
Node 5 MMP40 port 1: DP25	GAC, MAT, Printer, ACCESS Link, SMDI, MS Link
Node 5 MMP40 port 2: DP26	Maintenance
Node 5 RSM port 1: DP27	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 2: DP28	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 3: DP29	GAC, MAT, Network Modem, Printer, SMDI
Node 5 RSM port 4: DP30	GAC, MAT, Network Modem, Printer, SMDI
–end–	

Note: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 19 200 bps on node 1 and 38 400 bps on a voice node.

Table 4-3
Recommended data port uses for EC and EC-11 systems

Note: A maximum of two nodes comprise the EC-11 system.

Port	Allowable uses
Node 1 MMP40 port 1	System Console
Node 1 MMP40 port 2	AML/CSL
Node 1 Utility Card port 1 (modem on North American systems)	Remote Access
Node 1 Utility Card port 2	GAC, MAT, Network Modem, Printer, ACCESS Link, AdminPlus, MS Link
Node 1 Utility Card port 3	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, MS Link
–continued–	

Table 4-3 (continued)
Recommended data port uses for EC and EC-11 systems

Port	Allowable uses
Node 1 Utility Card port 4	PMSI Link, GAC, MAT, Network Modem, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 2 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 3 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 3 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 4 MMP40 port 1	GAC, MAT, Printer, ACCESS Link, MS Link
Node 4 MMP40 port 2	GAC, MAT, Printer, ACCESS Link, MS Link
Node 5 MMP40 port 1	GAC, MAT, Printer
Node 5 MMP40 port 2	GAC, MAT, Printer
Second Utility Card port 1	GAC, MAT, Printer
Second Utility Card port 2	GAC, MAT, Printer
Second Utility Card port 3	GAC, MAT, Printer
Second Utility Card port 4	GAC, MAT, Printer
–end–	

Note: The cumulative baud rate of all AdminPlus and ACCESS dataports cannot exceed 19 200 bps on node 1 and 38 400 bps on a voice node.

Table 4-4
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
1 (MSP 1)	1	20 ma	Console (note 1)
1 (MSP 1)	2	Modem	Remote Access
1 (MSP 1)	3	20 ma	Maintenance printer
1 (MSP 1)	4	20 ma	MAT (note 2)
2 (MSP 2)	1	20 ma	Console (note 1)
2 (MSP 2)	2	Modem	Remote Access
2 (MSP 2)	3	20 ma	
2 (MSP 2)	4	20 ma	MAT (note 2)
3 (SPN 1)	1	RS-232-C	Network, AdminPlus
3 (SPN 1)	2	RS-232-C	Network, MAT (note 2)
3 (SPN 1)	3	RS-232-C	Network
3 (SPN 1)	4	RS-232-C	Network, MAT (note 2)
4 (SPN 2)	1	RS-232-C	Network
4 (SPN 2)	2	RS-232-C	Network
4 (SPN 2)	3	RS-232-C	Network
4 (SPN 2)	4	RS-232-C	Network, ACCESS, MS Link
5 (SPN 3)	1	RS-232-C	Network
5 (SPN 3)	2	RS-232-C	Network
5 (SPN 3)	3	RS-232-C	Network
5 (SPN 3)	4	RS-232-C	Network
6 (SPN 4)	1	RS-232-C	Network
6 (SPN 4)	2	RS-232-C	Network
6 (SPN 4)	3	RS-232-C	Network
6 (SPN 4)	4	RS-232-C	Network, ACCESS, MS Link

—continued—

Table 4-4 (continued)
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
8 (SPN 6)	1	RS-232-C	Network
7 (SPN 5)	1	RS-232-C	Network
7 (SPN 5)	2	RS-232-C	Network
7 (SPN 5)	3	RS-232-C	Network
7 (SPN 5)	4	RS-232-C	Network
8 (SPN 6)	2	RS-232-C	Network
8 (SPN 6)	3	RS-232-C	Network
8 (SPN 6)	4	RS-232-C	Network, ACCESS, MS Link
9 (SPN 7)	1	RS-232-C	Network
9 (SPN 7)	2	RS-232-C	Network
9 (SPN 7)	3	RS-232-C	Network
9 (SPN 7)	4	RS-232-C	Network
10 (SPN 8)	1	RS-232-C	Network
10 (SPN 8)	2	RS-232-C	Network
10 (SPN 8)	3	RS-232-C	Network
10 (SPN 8)	4	RS-232-C	Network, ACCESS, MS Link
13 (TIFN 1)	1	Modem	SMDI
13 (TIFN 1)	2	Modem	SMDI (note 3)
13 (TIFN 1)	3	Modem	SMDI (note 3)
13 (TIFN 1)	4	Modem	SMDI (note 3)
14 (TIFN 2)	1	Modem	SMDI or standby SMDI
14 (TIFN 2)	2	Modem	SMDI or standby SMDI (note 3)
14 (TIFN 2)	3	Modem	SMDI or standby SMDI (note 3)
14 (TIFN 2)	4	Modem	SMDI or standby SMDI (note 3)

—continued—

Table 4-4 (continued)
Recommended data port uses — MSM systems (for networking)

Node	Port	Port type	Allowable uses
15 (TIFN 3)	1	Modem	SMDI
15 (TIFN 3)	2	Modem	SMDI (note 3)
15 (TIFN 3)	3	Modem	SMDI (note 3)
15 (TIFN 3)	4	Modem	SMDI (note 3)
16 (TIFN 4)	1	Modem	SMDI or standby SMDI
16 (TIFN 4)	2	Modem	SMDI or standby SMDI (note 3)
16 (TIFN 4)	3	Modem	SMDI or standby SMDI (note 3)
16 (TIFN 4)	4	Modem	SMDI or standby SMDI (note 3)
—end—			

Note 1: A relay on the I/O panel switches the terminal to MSP2 port 1 if MSP1 fails.

Note 2: Up to three MATs (Multiple Administration Terminals) may be assigned. In the case of local terminals, it is recommended that MSP1 data port 4 be assigned to the first MAT, MSP2 data port 4 be assigned to the second MAT, and SPN1 data port 4 be assigned to a third MAT. For remote user administration, MATs may instead be assigned to a modem data port on an SPN node. A MAT and ACCESS data port must not be assigned to the same node.

Note 3: If the Multi-SMDI feature is enabled, additional SMDI ports may be assigned. The maximum number of SMDI links that may be supported by the MSM will be determined by the number of ports provisioned and the number of SPN modem data ports not being used for other features. As an example, an MSM provisioned with 48 voice ports could support 6 SMDI links if no other feature required use of either SPN modem data port. MSMs provisioned with 48 ports will support up to four redundant SMDI ports (TIFN 1 and 2, ports 1 to 4) and two non-redundant SMDI ports (SPN 1 and 2, port 2).

The remainder of this section describes the Data Port Configuration screen and the Modify Data Port screens. Figure 4-10 shows a Node Configuration screen for an EC system, and Figure 4-11 shows a Node Configuration screen for an MSM system.

Figure 4-10
Data Port Configuration screen—96-port EC system

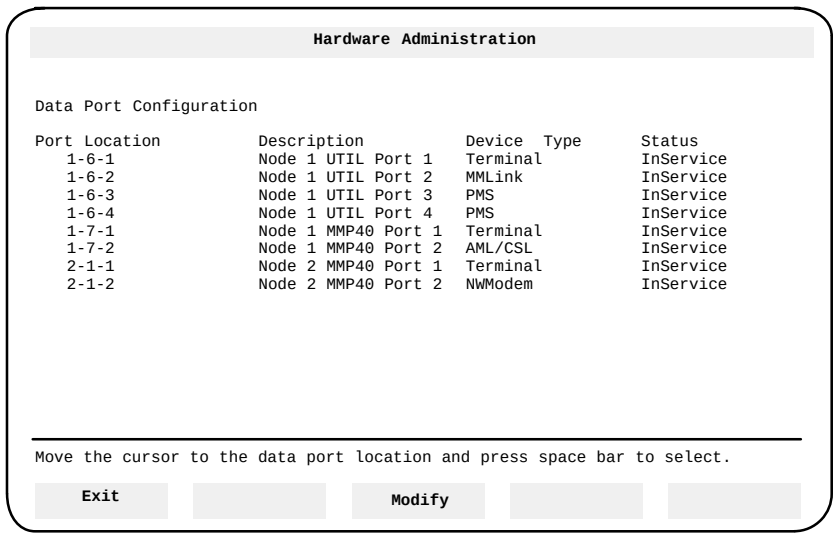
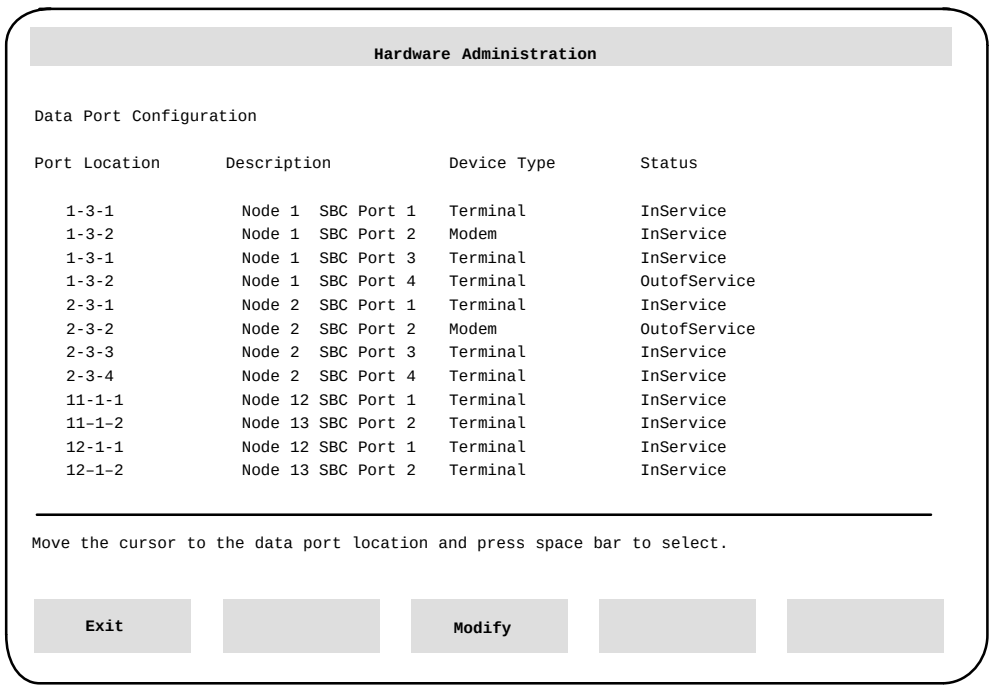


Figure 4-11
Data Port Configuration screen for an MSM system



The Data Port Configuration screen displays the following information:

- ***Port Location*** This is the port's physical location (node-card-port) in the system.
- ***Description*** This is the node and card type on which the port resides.
- ***Device Type*** This is the function of the port. MMP40 or SBC port 1 must be set to Terminal (SBC is available on Card Option systems). MMP40 port 2 must be SMDI or AML/CSL.
- ***Status*** This is the current operational state of the port. It can be one of the following:
  - — ***InService*** This indicates that the data port is operational.
  - — ***OutofService*** This indicates that the data port is no longer operational because the node has been disabled.

— ***Faulty*** This means that the system has detected an error in the data port.

— ***Unequipped*** This means that the data port is not defined in the hardware database.

Procedure 4-7
Modifying data ports

Starting point: The TOOLS level Hardware Administration menu

1 Select [Data Port Configuration], and press <Return>.

The Data Port Configuration screen is displayed (see Figure 4-10).

2 Move the cursor to the port to be modified and press the <Space Bar>.

Your selection is highlighted.

3 Choose step 3a to modify the configuration information, or 3b to return to the Hardware Administration menu.

a. Press [Modify].

The Modify Data Port screen appears. See the next section for details.

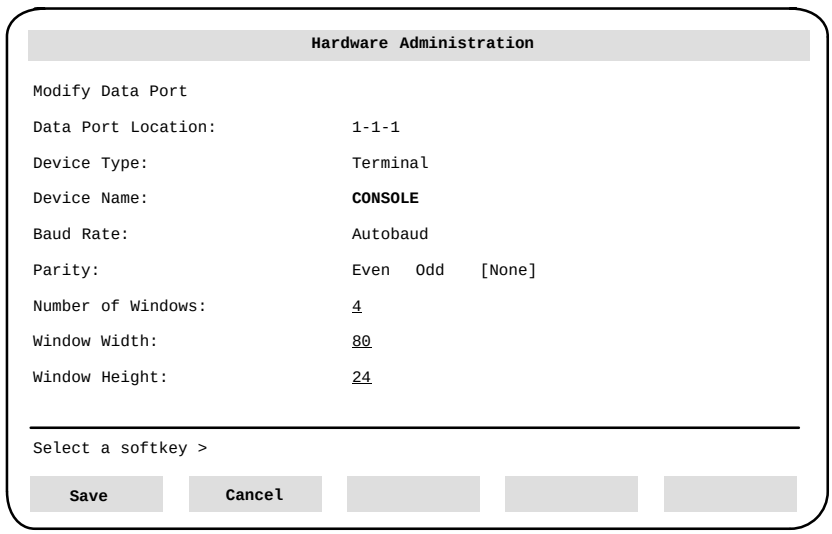
b. Press [Exit].

The Hardware Administration menu appears.

Modify terminal data ports

The Modify Data Port screen for terminals (Figure 4-12) allows you to modify information on the terminal connected to the selected port.

Figure 4-12
Modify Data Port screen for Terminals



The following fields are displayed in the screen:

- ***Data Port Location*** This is the physical location of the port (node-card-span). The MMI terminal must be located on node 1, MMP40, or SBC port 1 (for Card Option only).
- ***Device Type*** This field should be set to Terminal.
- ***Device Name*** This is the name that identifies the terminal. If the name starts with UAT, the terminal is configured as a multiple administration terminal. If the name starts with GAC, the terminal is configured as a Guest Administration Console.

- ***Baud Rate*** Set this field to either 2400 or 9600 for all system types except Card Option and MSM. For Card Option systems, 2400 is recommended, but it must match the baud rate set on the Option 11 switch. For MSM systems, this should be set to 2400. On the MMI terminal or MMP40 systems, Autobaud is displayed in this field. This indicates that the Console Port utility should be used to obtain and modify the baud rate for the data port. Note that a reboot of the system is not required for the changes to take effect.
- ***Parity*** This must be set to None.
- ***Number of Windows*** This specifies the number of windows that can be used simultaneously. Set to 4 for the System Administration terminal and 1 for the multiple administration terminal or GAC.
- ***Window Width*** This field sets the window width.
- ***Window Height*** This field sets the window height.

Procedure 4-8
Setting parameters for the terminal data port

Starting point: The TOOLS level Modify Data Port screen

1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required.
3. When the parameters are set, proceed to step 3a or 3b:
   a. Press [Save].

      The changes are saved and the Data Port Configuration screen appears.

   b. Press [Cancel].

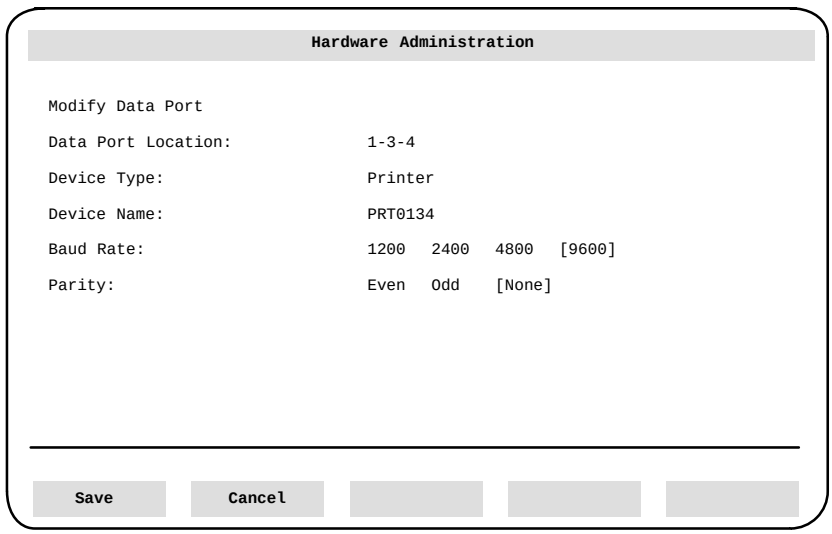
      Any changes you have made are discarded. The Data Port Configuration screen appears.
4. Adjust the baud rate to the required speed in the terminal setup of the connected terminal.

Modify printer data ports

The Modify Data Port screen for printers (Figure 4-13) allows you to modify the baud rate and parity of the terminal connected to the selected port.

> ***Note:*** A printer can be attached directly to the administration terminal. It does not require a separate data port. The printer must be defined in General Administration, General Options (see the *System Administration Guide*).

Figure 4-13
Modify Data Port screen for printers



The following fields are displayed in the screen:

- ***Data Port Location*** This is the physical location of the port (node-card-span).
- ***Device Type*** This is the function of the port. Set to Printer.
- ***Device Name*** The name of the device goes here.
- ***Baud Rate*** Set this field to 1200, 2400, 4800, or 9600 depending on the current setup of the printer connected to the port. The selected baud rate is highlighted.

- ***Parity*** Set the parity to Even, Odd, or None depending on the current setup of the printer connected to the port.

Procedure 4-9
Modifying printer data ports

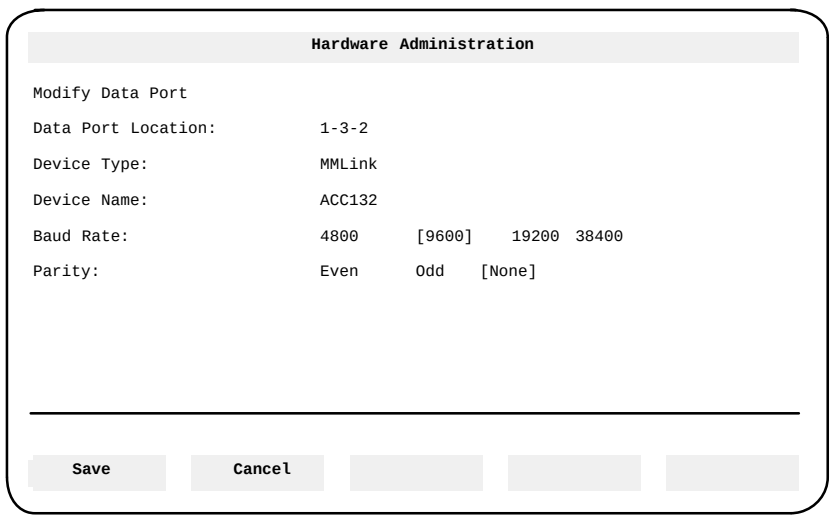
Starting point: The TOOLS level Data Port Configuration screen

1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required.
3. Choose step 3a to save the changes, or 3b to cancel.
   a. Press [Save].
      Changes are saved. The Data Port Configuration screen appears.
   b. Press [Cancel].
      Any changes you have made are discarded. The Data Port Configuration screen appears.

Modify MMLink data ports

The Modify Data Port screen for the Meridian ACCESS Link (see Figure 4-14) allows you to modify link characteristics.

Figure 4-14
Modify Data Port screen for the MMLink



Note: The 19 200 and 38 400 baud rates are displayed when the MMLink Data Port is located on an MMP40 card. These baud rates are not displayed for the MSM system.

The following fields are displayed in the screen:

- ***Data Port Location*** This is the location of the port in the system (node-card-span). (On node 1, this must be an RSM/Util port.)
- ***Device Type*** This is the function of the port. Set this field to "MMLink."
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This field can be set to 4800, 9600, 19 200 (MMP40 only), and 38 400 (MMP40 only) for MMLink. Note that a system reboot is not required when the baud rate is reset.
- ***Parity*** This field does not apply to MMLink.

Procedure 4-10
Modifying MMLink data ports

Starting point: The TOOLS level Data Port Configuration screen

1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required. When the baud rate of the MMLink Data Port is to be changed, ensure that the application using the MMLink Data Port is shut down.
3. Choose step 3a to save the changes, or 3b to cancel.
   a. Press [Save].

      Changes are saved. The Data Port Configuration screen appears.

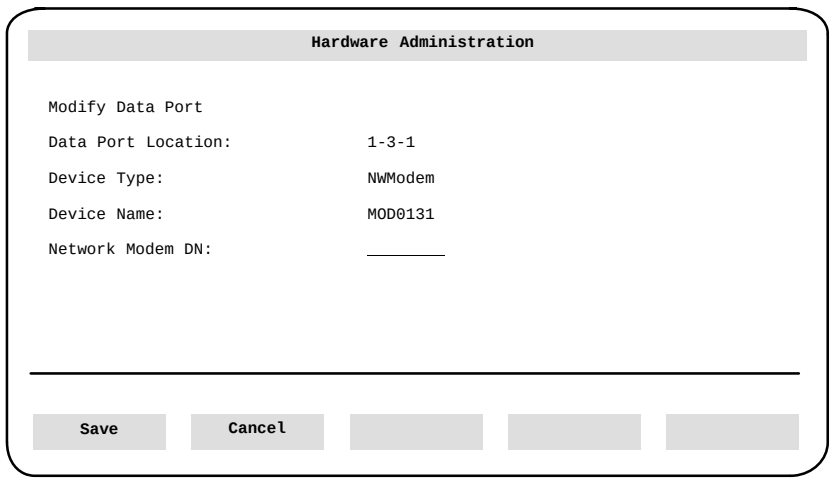
   b. Press [Cancel].

      Any changes you have made are discarded. The Data Port Configuration screen appears.
4. If the baud rate has been changed, restart the application using the MMLink Data Port.

Modify NWModem data ports

The Modify Data Port screen for Networking Modems (see Figure 4-15) allows you to specify the Directory Number (DN) of the modem connected to the selected port.

Figure 4-15
Modify Data Port screen for NWModems



The following fields are displayed in the screen:

- ***Data Port Location*** This is the physical location of the port in the Meridian Mail system (node-card-span).

  Note: Ports on the SBC card or the MMP40 card do not support networking. For EC systems, use one of the ports on the Utility card (except port 1 if the card has a built-in modem). For non-EC systems, use one of the ports on the RSM card.

- ***Device Type*** This is the function of the port. Set it to NWModem.
- ***Device Name*** This is the name of the device.
- ***Network Modem DN*** This is the directory number (up to eight digits) used to identify the modem connected to the port.

Procedure 4-11
Modifying NWModem data ports

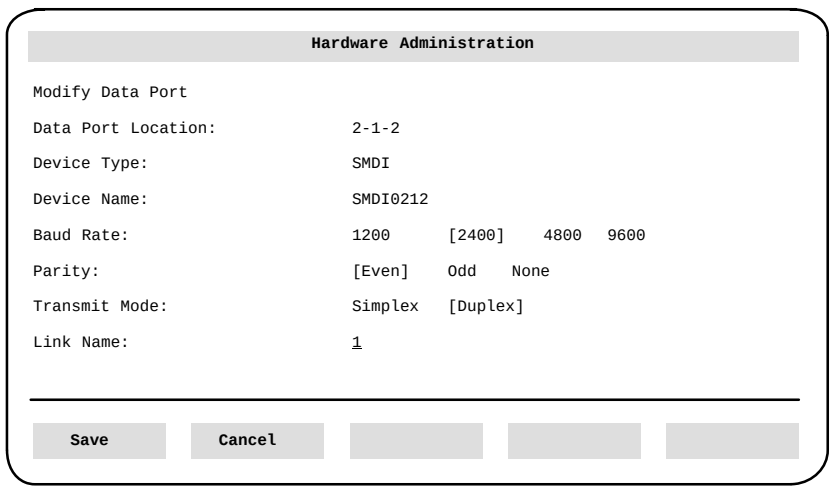
Starting point: The TOOLS level Data Port Configuration screen

1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Modify the *Networking Modem DN* as required.
3. Choose step 3a to save the changes, or 3b to cancel.
   a. Press [Save].
      The changes are saved and you are returned to the Data Port Configuration screen.
   b. Press [Cancel].
      You are returned to the Data Port Configuration screen.

Modify SMDI data ports

The Modify Data Port screen for SMDI (see Figure 4-16) allows you to modify the baud rate, parity, and transmit mode of the serial connection to the switch at the selected port.

Figure 4-16
Modify Data Port screen for SMDI



The following fields are displayed in the screen:

- ***Data Port Location*** This is the physical location of the port (node-card-span). It must be SBC port 2 (node 1).
- ***Device Type*** This is the function of the port. Set it to SMDI.
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This field should be set to 2400 for the MPC card or 1200 for the 1X67FA card.
- ***Parity*** Set parity to Even, Odd, or None depending on the current setup of the SMDI connected to the port.
- ***Transmit Mode*** The mode can be Simplex or Duplex.
- ***Link Name*** Enter the link's name in this field, using numeric or alpha character, or both. It is recommended that you enter a meaningful name (rather than a number) to make it easy to identify the link.

ATTENTION

Do not change the link name once it has been configured and users have been added to the system. If you change the link name, you must change the Message Waiting Link Name for each user profile that refers to the link.

Procedure 4-12
Modifying SMDI data ports

Starting point: The TOOLS level Data Port Configuration screen

1 Follow Procedure 4-7 to access the Modify Data Port screen.

2 Set the parameters as required.

3 Choose step 3a to save the changes, or step 3b to cancel.

a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.

b. Press [Cancel].

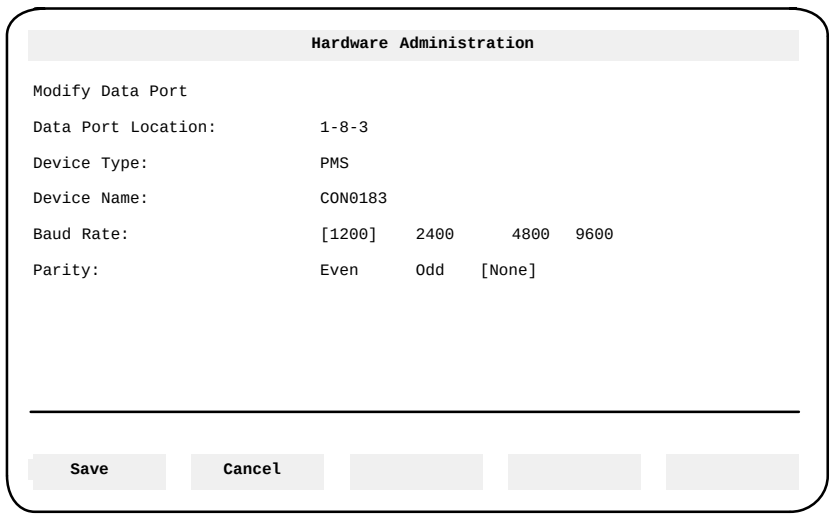
Any changes you have made are discarded. The Data Port Configuration screen appears.

Note: The system must be rebooted for changes to take effect.

Modify PMS data ports

This screen is applicable only if Hospitality Voice Messaging is installed. This screen can be ignored if your Meridian Mail hospitality system is not connected to a Property Management System (PMS). The Modify Data Port screen for PMS (see Figure 4-17) allows you to modify the baud rate, and parity of the serial connection to the Meridian 1. This is not applicable to MSM systems.

Figure 4-17
Modify Data Port screen for PMS



The following fields are displayed on this screen:

- ***Data Port Location*** This is the physical location of the port.
- ***Device Type*** This is the function of the port. Set it to PMS.
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This field should be set to 1200.
- ***Parity*** This field should be set to None.

Procedure 4-13
Modifying PMS data ports

Starting point: The TOOLS level Data Port Configuration screen

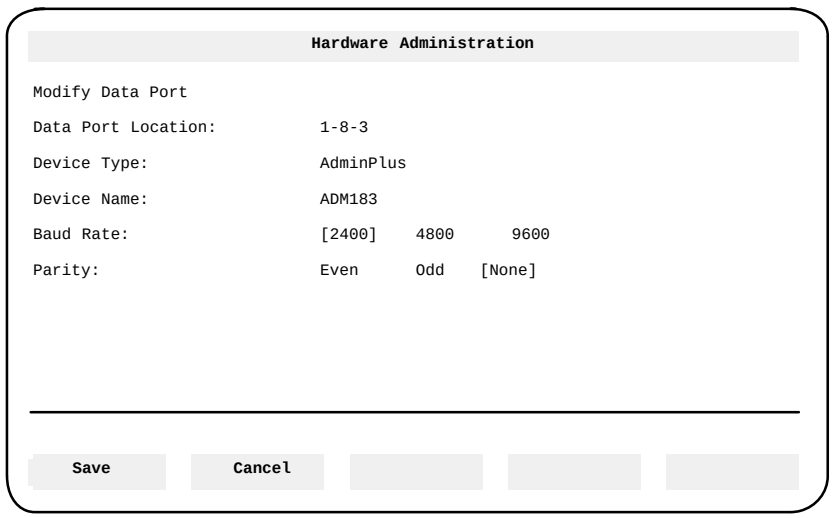
1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required.
3. Choose step 3a to save the changes, or step 3b to cancel.
   a. Press [Save].
      Changes are saved. The Data Port Configuration screen appears.
   b. Press [Cancel].
      Any changes you have made are discarded. The Data Port Configuration screen appears.

      Note: The system must be rebooted for changes to take effect.

Modify AdminPlus data ports

(This screen is applicable only if AdminPlus is installed.) The Modify Data Port screen for AdminPlus (see Figure 4-18) allows you to modify the baud rate and parity of the serial connection to the Meridian 1.

Figure 4-18
Modify Data Port screen for AdminPlus



The following fields are displayed on this screen:

- ***Data Port Location*** This is the physical location of the port.
- ***Device Type*** This is the function of the port. Set it to AdminPlus.
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This field can be set to 2400, 4800, or 9600, subject to engineering constraints.
- ***Parity*** This field should be set to None.

Procedure 4-14
Modifying AdminPlus data ports

Starting point: The TOOLS level Data Port Configuration screen

1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required.
3. Choose step 3a to save the changes, or step 3b to cancel.
   a. Press [Save].

      Changes are saved. The Data Port Configuration screen appears.

      Note: A system reboot is not required if only the baud rate of the data port is changed.

   b. Press [Cancel].

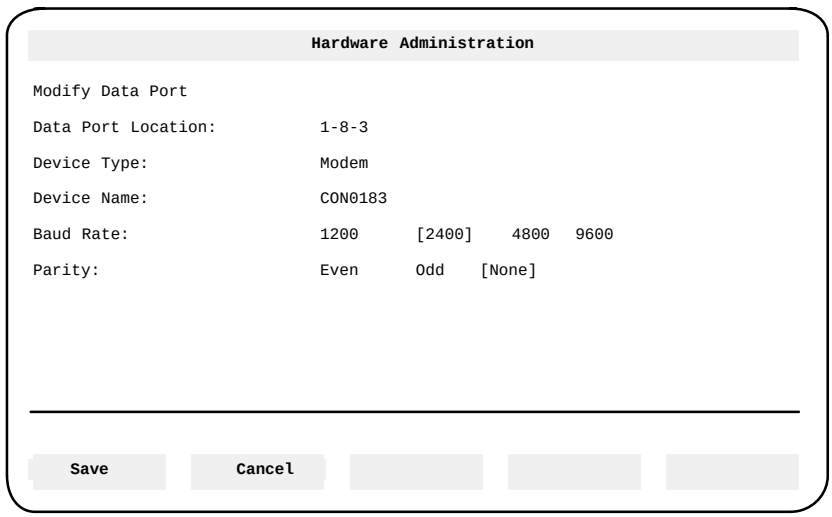
      Any changes you have made are discarded. The Data Port Configuration screen appears.

      Note: The system must be rebooted for changes to take effect.

Modify Modem data ports

The Modify Data Port screen for Modems (see Figure 4-19) allows you to modify the modem characteristics.

Figure 4-19
Modify Data Port screen for Modems



The following fields are displayed on this screen:

- ***Data Port Location*** This is the port's physical location (node-card-port) in the system.
- ***Device Type*** This is the function of the port. Set it to Modem.
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This setting will depend on the current setup of the modem connected to the port.
- ***Parity*** This setting will depend on the current setup of the modem connected to the port.

Procedure 4-15
Modifying Modem data ports

Starting point: The TOOLS level Data Port Configuration screen

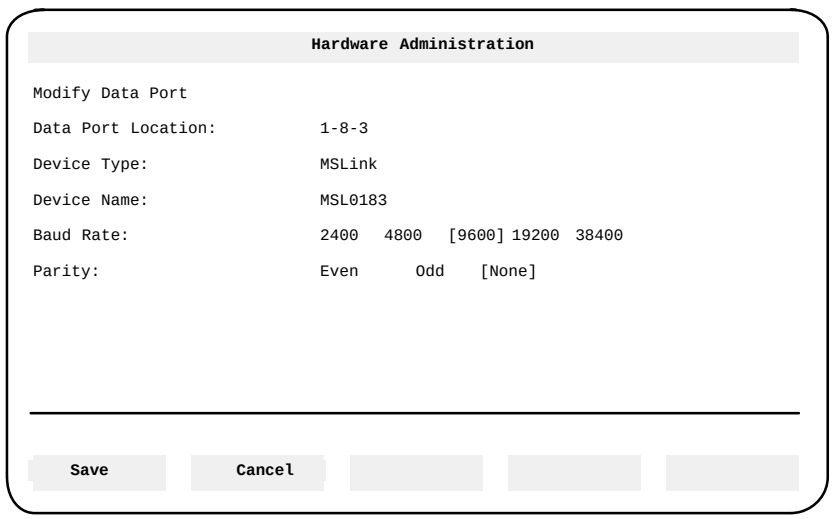
1. Follow Procedure 4-7 to access the Modify Data Port screen.
2. Set the parameters as required.
3. Choose step 3a to save the changes, or step 3b to cancel.
   a. Press [Save].
      Changes are saved. The Data Port Configuration screen appears.
   b. Press [Cancel].
      Any changes you have made are discarded. The Data Port Configuration screen appears.

      Note: The system must be rebooted for changes to take effect.

Modify MSLink data port

This screen is applicable only if the Meridian Mail AutoAdmin feature is enabled. The Modify Data Port screen for MSLink (see Figure 4-20). allows you to modify the characteristics of the link connection to a PC used for Meridian Mail AutoAdmin.

Figure 4-20
Modify Data Port screen for MSLink



The following fields are displayed on this screen:

- ***Data Port Location*** This is the port's physical location (node-card-port) in the system.
- ***Device Type*** This is the function of the port. Set it to MSLink.
- ***Device Name*** This is the name of the device.
- ***Baud Rate*** This field can be set to 2400, 4800, 9600, 19200, or 38400, depending on the current setup of the modem connected to the port. Note that a system reboot is not required when the baud rate is reset.
- ***Parity*** This field does not apply to MSLink.

Procedure 4-16
Modifying MSLink data ports

Starting point: The TOOLS level Data Port Configuration screen

1 Follow Procedure 4-7 to access the Modify Data Port screen.

2 Set the parameters as required.

3 Choose step 3a to save the changes, or step 3b to cancel.

a. Press [Save].

Changes are saved. The Data Port Configuration screen appears.

b. Press [Cancel].

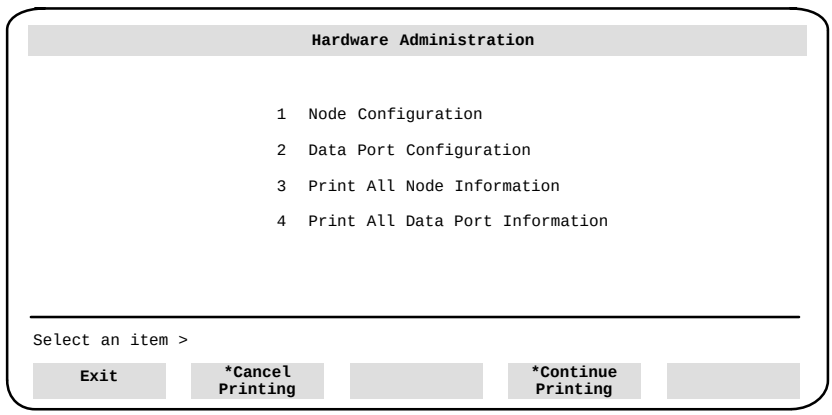
Any changes you have made are discarded. The Data Port Configuration screen appears.

Note: The system must be rebooted for changes to take effect.

Print node or data port information

The following procedure describes how to print a list of all the node or data port information contained in the hardware database.

Figure 4-21
Hardware Administration menu



Note: * The Printing softkeys appear only when choice 3 or 4 is selected.

Procedure 4-17
Printing node and data port information

Starting point: The Hardware Administration menu

1 Select <3> or <4> to print all node or data port information and press <Return>.

The following softkeys appear: [Continue Printing] and [Cancel Printing].

You are prompted to check that the printer is ready and on-line.

2 Choose step 2a to print the node information, or 2b to cancel.

a. Press [Continue Printing].

The node information begins printing.

Once printing is complete, the Hardware Administration menu and its softkeys are redisplayed; you may stop printing at any time by proceeding to 2b.

b. Press [Cancel Printing].

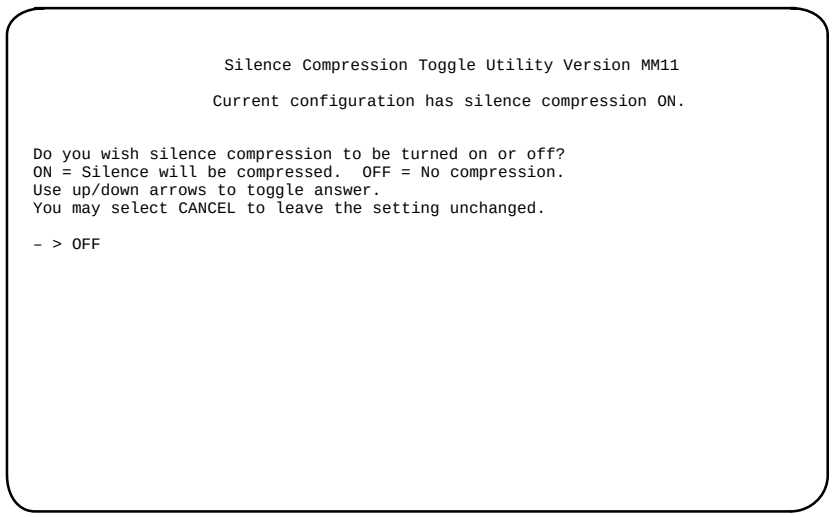
The print operation is canceled and you are returned to the Hardware Administration menu.

There may be some delay before control is returned to the menu while the system waits for the printer to stop printing.

Chapter 5: Set silence compression

The Set silence compression tool (see Figure 5-1) allows you to activate or deactivate the Silence Compression feature. This feature removes (compresses) extended periods of silence from messages.

Figure 5-1
Silence Compression screen



Procedure 5-1
Activating/deactivating Silence Compression

Starting point: The TOOLS menu

1 Select Set silence compression, and press <Return>.

The Silence Compression Toggle Utility screen appears (see Figure 5-1).

Note: The actual screen display may differ slightly from the illustration.

2 Choose the required setting by using the up/down cursor keys. If you want to cancel, press the up/down arrow keys until CANCEL appears and press <Return>.

Note: Be sure that the prompt line displays the correct setting before you press <Return>. If silence compression is turned on when you enter this utility, the command line does not display the current setting but displays OFF (the utility assumes you have entered the utility to make a change).

3 Press <Return>.

The selection is made and the utility is terminated.

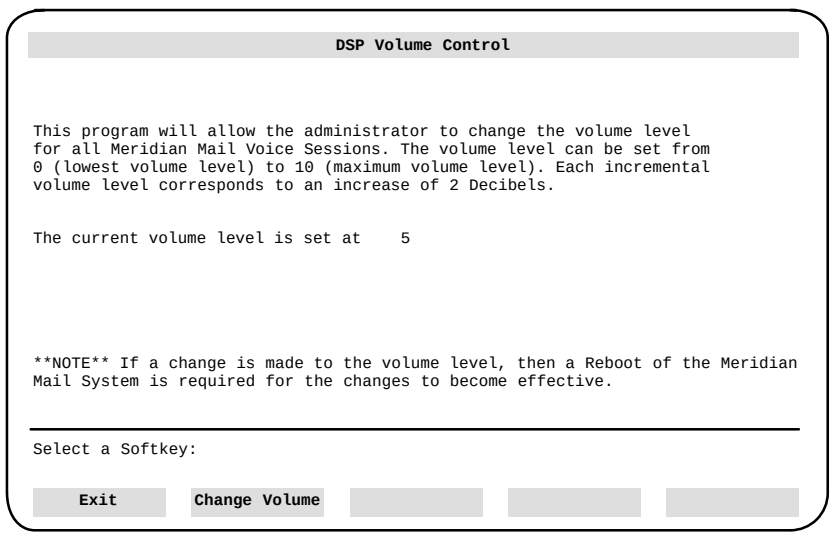
Note: If a change is made, you will have to reboot the system for the change to take effect.

Chapter 6: Control volume

The Control volume tool allows the administrator to change the volume levels on both recording and playback voice paths. Each level change of one unit, from level 0 to level 10, corresponds to an increase of two decibels.

Volume control changes cannot be performed on a 16K NVP (NT4R01AA) card.

Figure 6-1
Control Volume utility screen



Procedure 6-1
Changing the volume level

Starting point: The TOOLS menu

1 Select Control volume, and press <Return>.

The current volume level is shown in the center of the screen.

2 Press [Change Volume] to change the volume level.

3 Enter the desired volume level and press <Return>.

The screen is redrawn, showing the updated volume level.

4 Press [Exit] to return to the TOOLS menu.

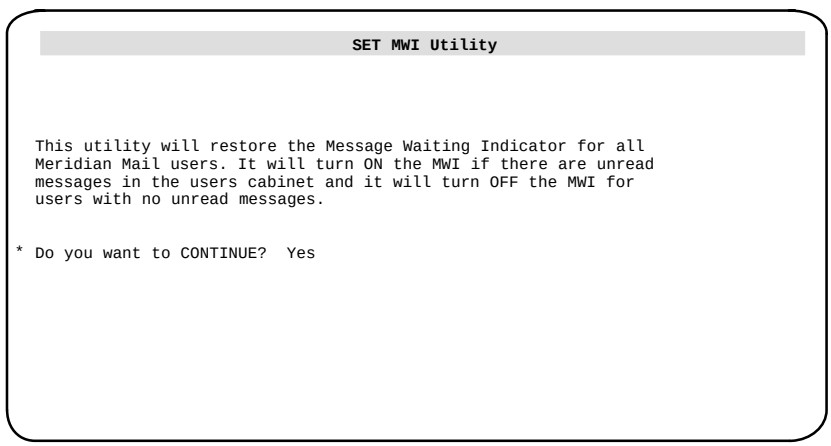
Note: The system must be rebooted for a change in volume level to take effect.

Chapter 7: Update MWI

The Update MWI tool restores the Message Waiting Indicators (MWIs) for all Meridian Mail users. It turns on the MWI if there are unread messages in a user's cabinet, and it turns off the MWI for users with no unread messages.

This tool should be run after the switch is rebooted since a reboot causes all message waiting indicators to be turned off. It is also useful if the link (AML or SMDI) goes down at a peak time period, because users who were connected to Meridian Mail at the time may not have had their MWI updated. The update requires 0.4 seconds per user (slow option) or 0.1 seconds per user (fast option) to complete.

Figure 7-1
SET MWI Utility screen



Note:*** Use the up/down arrow keys to toggle the response from Yes to No.

Procedure 7-1
Restoring message waiting indicators

Starting point: The TOOLS menu

1 Select Update MWI, and press <Return>.

The screen displays information about the SET MWI tool and prompts:

```
Do you want to continue? YES
```

2 Use the up/down arrow keys to toggle the response from YES to NO, or from NO to YES. Follow step 2a to reset the MWIs, or step 2b to cancel.

a. Select YES and press <Return> to reset the MWIs.

b. Select NO and press <Return> if you do not want to reset the MWIs.

3 If you choose YES, another set of prompts (shown below) are displayed. Use these CheckTime prompts to enter the date and time that the link to the switch went down:

```
CheckTime YR:  1994
CheckTime MON (1..12): 1
CheckTime DAY (1..31): 1
CheckTime HR (0..23): 0
CheckTime MIN (0..59): 0
CheckTime SEC (0..59): 0
```

After you respond to the CheckTime prompts, the following message is displayed:

```
Initiated the updating of Message Waiting
Indicators.

Press <Return> to continue...
```

4 Press <Return> to terminate the utility and return to the TOOLS menu.

The following SEERs are produced for each node that has users:

*INF 9106 SYSTEM 04/29/94 09:52:13 *** NODE=1 HWLOC=NULL*
DES: MWIAUDIT VS2: Starting the Audit LNTC=05:7E:08833809:007B51C5

*INF 9105 SYSTEM 04/29/94 09:52:15 *** NODE=1 HWLOC=NULL*
DES: MWIAUDIT VS2: The Audit is Finished. LNTC=05:7E:08833809:007B5263

Chapter 8: Block Meridian Mail

The Block Meridian Mail tool allows the administrator to choose whether to deny all access to Meridian Mail voice services in the event of a serious disk failure.

If access is blocked and a disk failure occurs, Meridian Mail voice services shut down, and calls are immediately routed to a live attendant (as configured on the PBX). Meridian Mail system administration and maintenance capabilities remain operational.

> ***Note:*** When Meridian Mail is first installed, the default is set to not block access to Meridian Mail voice services in the event of a serious disk failure.

Figure 8-1
Block Meridian Mail Screen: “No” as Default

```
Enable/disable Access to Meridian Mail on Catastrophic Failure


If the following field is set to yes, access to Meridian Mail will be
completely blocked if some serious disk fault occurs.
NOTE: Any changes made to the state below will only take effect after the
system is re-booted!


Current State: Block access to Meridian Mail on disk failure: No
```

Procedure 8-1
Enable blocking of Meridian Mail on disk error

Starting point: The TOOLS menu

1 Select Block Meridian Mail, and press <Return>.

Figure 8-1 displays the No default with a short explanation of what happens when Yes is selected.

2 If you choose Yes to enable blocking, go to step 3.
If you choose No to keep blocking disabled, go to step 6.

3 If blocking access to Meridian Mail is required, choose Yes by using the up/down arrow keys, then press <Return>.

The following screen is displayed:

Figure 8-2
Block Meridian Mail Screen: Changing No to Yes

```
Enable/disable Access to Meridian Mail on Catastrophic Failure


If the following field is set to yes, access to Meridian Mail will be
completely blocked if some serious disk fault occurs.
NOTE: Any changes made to the state below will only take effect after the
system is re-booted!


Current State: Block access to Meridian Mail on disk failure: Yes

Warning: After this system is re-booted, there will be NO access to
Meridian Mail should a disk failure ever be detected.

Do you wish to continue with this change? Yes
```

4 At the “Do you wish to continue with this change? Yes” prompt, press <Return> to confirmYes as your selection.

At this point, the TOOLS menu is displayed.

5 Re-boot your system in order for the change to take effect.

6 If you DO NOT wish to block access at this time, do the following:

a. Do not change No at the “Current State” prompt (see Figure 8-1).

b. Press <Return>.

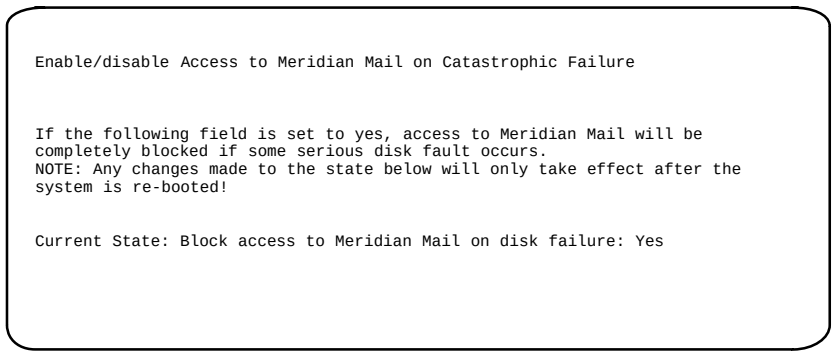
The message “No change made” is displayed, then the TOOLS menu is displayed. No system re-boot is necessary since no change has been made.

c. If you have chosen Yes at the “Current State:” prompt already, but have decided to disable access at this time, then choose No at the “Do you wish to continue with this change?” prompt.

d. Press <Return>.

The message “No change made” is displayed, then the TOOLS menu is displayed. No system re-boot is necessary since no change has been made.

Figure 8-3
Block Meridian Mail Screen: Yes as Default



Procedure 8-2
Disable blocking of Meridian Mail on disk error

Starting point: The TOOLS menu

1 Select Block Meridian Mail, and press <Return>.

Figure 8-3 displays the Yes default with a short explanation of what happens when Yes is selected.

2 If you choose No to disable blocking, go to step 3.
If you choose Yes to keep blocking enabled, go to step 6.

3 To disable blocking of Meridian Mail, choose No by using the up/down arrow keys, then press <Return>.

The following screen is displayed:

Figure 8-4
Block Meridian Mail Screen: Changing Yes to No

```
Enable/disable Access to Meridian Mail on Catastrophic Failure


If the following field is set to yes, access to Meridian Mail will be
completely blocked if some serious disk fault occurs.
NOTE: Any changes made to the state below will only take effect after the
system is re-booted!


Current State: Block access to Meridian Mail on disk failure: No

Warning: After this system is re-booted, access to Meridian Mail will NOT
be blocked should a disk failure ever be detected.

Do you wish to continue with this change? Yes
```

4 At the “Do you wish to continue with this change? Yes” prompt, press <Return> to confirm No as your selection.

At this point, the TOOLS menu is displayed.

5 Re-boot your system in order for the change to take effect.

6 If you wish to retain block access at this time, do the following:

a. Do not change Yes at the “Current State” prompt (see Figure 8-3).

b. Press <Return>.

The message “No change made” is displayed, then the TOOLS menu is displayed. No system reboot is necessary since no change has been made.

c. If you have chosen No at the “Current State:” prompt already, but have decided not to disable access at this time, then choose No at the “Do you wish to continue with this change?” prompt.

d. Press <Return>.

The TOOLS menu is displayed. No system reboot is necessary since no change has been made.

Chapter 9: Session Trace

The Session Trace tool allows you to obtain detailed information about the activity in a user's mailbox and the state of the message waiting indicator (MWI). The session information includes voice messaging; call answering; express messaging activity (messages composed and sent, or left in a mailbox); the number of messages played or left unplayed at the start, during, and end of a session; messages and personal distribution lists restored into a mailbox; messages deleted from a mailbox by the VS Audit; the last change to the message waiting indicator (turned on or off, or untouched).

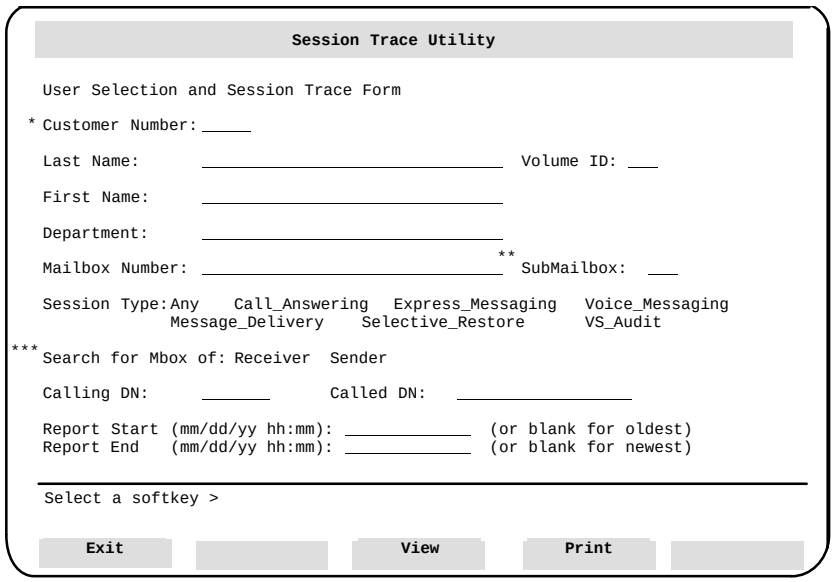
This session information allows an administrator or technician to study the state of a user's mailbox and the message waiting indicator, and use that information to follow up on any user complaints about Meridian Mail. For example, a user may complain that the MWI was on, but no voice messages were in the mailbox when the user logged in. The session information may tell the administrator why the MWI was turned on. Refer to the "Session trace report" section for more information about using session trace for diagnostics.

> ***Note:*** The session information is retrieved from the Operational Measurements billing file, and this billing data is stored only when "Collect User Usage Data" in the Operational Measurement Options screen is enabled. Session trace data is kept on the system for only two days plus the current day. Operational Measurements billing files and the Options screen are discussed in the "Operational Measurements" chapter of the *System Administration Guide* appropriate to your system.

Find the session

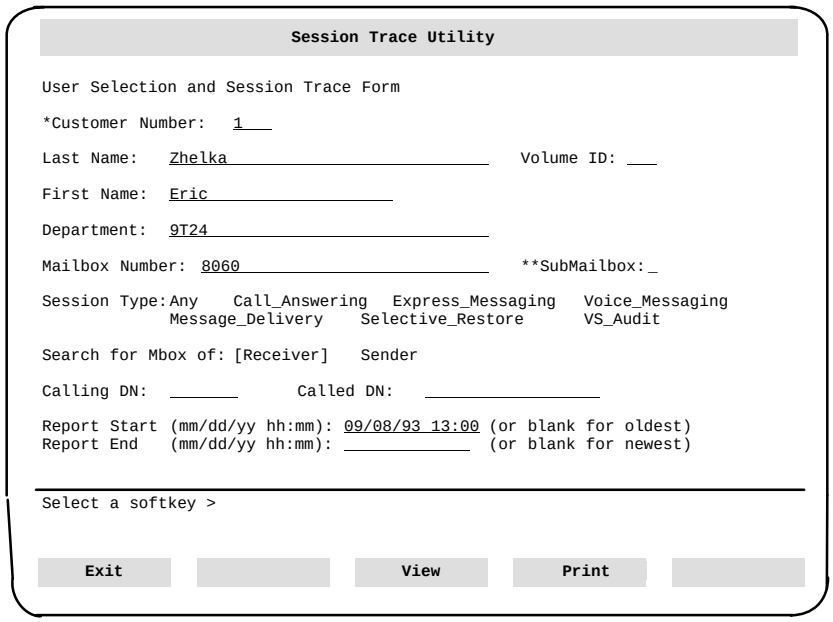
When you select Session Trace from the TOOLS menu, the following screen (see Figure 9-1) is displayed.

Figure 9-1
User Selection and Session Trace Form



Note 1: * This field appears only on multi-customer systems.
Note 2: ** This field appears only on VMUIF systems.
Note 3: *** This field differs if the "Session Type" field is set to Message Delivery.

Figure 9-2
User Selection and Session Trace Form (with search criteria filled in)



Note 1: * This field appears only on multi-customer systems.
Note 2: ** This field appears only on VMUIF systems.
Note 3: *** This field differs if the "Session Type" field is set to Message Delivery.

Enter as many search criteria in the "User selection" screen as you think you need to uniquely identify the session you want to view. The fields are described below:

- ***Customer Number*** This is the customer group you want to search. This field appears only on multi-customer systems.
- ***Last Name*** This is the last name of the user whose session information you want to find (maximum 41 characters). To find a group of users with similar last names, use wildcard characters (exception +).
- ***Volume ID*** This is the hard disk volume to which the user is assigned. All users are assigned to a volume.

- ***First Name*** This is the first name of the user whose session information you want to find (maximum 21 characters). To find a group of users with similar first names, use wildcard characters (exception +).
- ***Department*** This is the department to which the user or group of users that you want to find belongs. This field can hold up to 33 characters.
- ***Mailbox Number*** If networking is installed, this field can hold up to 28 characters. If it is not installed, it holds up to 18 characters. Session information for mailboxes at a specific NMS satellite location can also be retrieved by prefixing the mailbox number with the appropriate location code.
- ***SubMailbox*** This is a one-digit number identifying a submailbox if one exists. The user can input the numbers 1 to 8 to specify a submailbox. This field appears only on VMUIF systems.
- ***Session Type*** The session type is the action that occurred on the mailbox. The session types are grouped into the following categories:
  - — ***Call Answering*** This type of session is created when a message is left in a mailbox through Call Answering. This does not include sessions where a message is left in a mailbox using compose and send.
  - — ***Express Messaging*** This type of session is created when a message is received from someone using Express Messaging.
  - — ***Message Delivery*** This session type is created when a message is deposited in a mailbox as a result of compose and send (including messages from remote network sites).
  - — ***Selective Restore*** This session type is created when messages or PDLs are added to a mailbox as a result of a selective restore. It also reports the corresponding effect on the MWI.
  - — ***VS Audit*** A volume server audit session report is generated for each mailbox from which the audit deletes 1 or more messages, whether invoked manually, or run automatically in the nightly audit.

— ***Voice Messaging*** This type of session is created any time a user logs in to his or her mailbox. This session type includes activities such as logging in to listen to messages, to compose and send messages, or to record a new greeting.

The default is "Any," which includes all session types.

- ***Search for Mbox of*** Whether you wish to search for session information for the mailbox of the receiver or the sender. This field is presented only if the session type is chosen to be Message_Delivery. This enables you to trace the message from the sender to the recipient.
- ***Calling DN*** This is the DN of the phone that initiates the session. For example, if a user logs in to his or her mailbox from a remote phone, the Calling DN will be the DN of the remote phone, not the user's regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone. This field does not apply to Message Delivery, VS Audit, or Selective Restore.
- ***Called DN*** This is the DN that was called to initiate that session. For Logon Session and Express Messaging sessions, the Called DN is the Voice Messaging ACD-DN (the main Meridian Mail ACD-DN). For Call Answering sessions, this is the DN of the mailbox that had a message left in it. This field does not apply to Message Delivery, VS Audit, or Selective Restore.
- ***Report Start*** This is the start of the time period that you wish to search for session information. If left blank, the session trace report will begin with the oldest session still recorded in the OM billing files.
- ***Report End*** This is the end of the time period that you wish to search for session information. If left blank, the session trace report will end with the most recent session recorded in the OM billing files.

When you have finished entering the search criteria, select the [View] or [Print] softkey to initiate the search.

If you have entered enough criteria to identify one user, the session information for that user's mailbox is displayed (if you chose [View]) or printed (if you chose [Print]). A sample report is shown later in this chapter in the section titled "Session trace report."

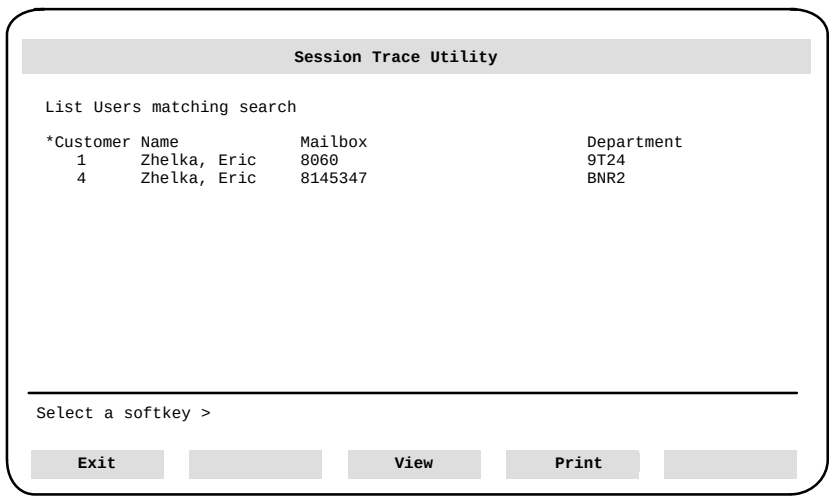
If you have not entered enough criteria to identify one user, a message on the screen informs you that multiple matches were found. The section titled “Select the user” discusses this situation.

Select the user (if multiple matches found)

If the search retrieves session information for more than one user, the [View] and [Print] softkeys change to [Cancel] and [List Matches].

Press [List Matches] to view a list of the users that matched the search criteria, or press [Cancel] to return to the User Selection and Session Trace Form. If you select [List Matches], the following screen (see Figure 9-3) is displayed.

Figure 9-3
List users matching search screen



Note: * Single customer systems do not show a value in this column.

Select the appropriate user (use the arrow keys to move to the appropriate line and press the space bar) and then press [View] or [Print]. A sample report is shown in the “Session trace report” section. If you do not wish to view session information for any of the matches, press [Exit] to return to the “User Selection” screen.

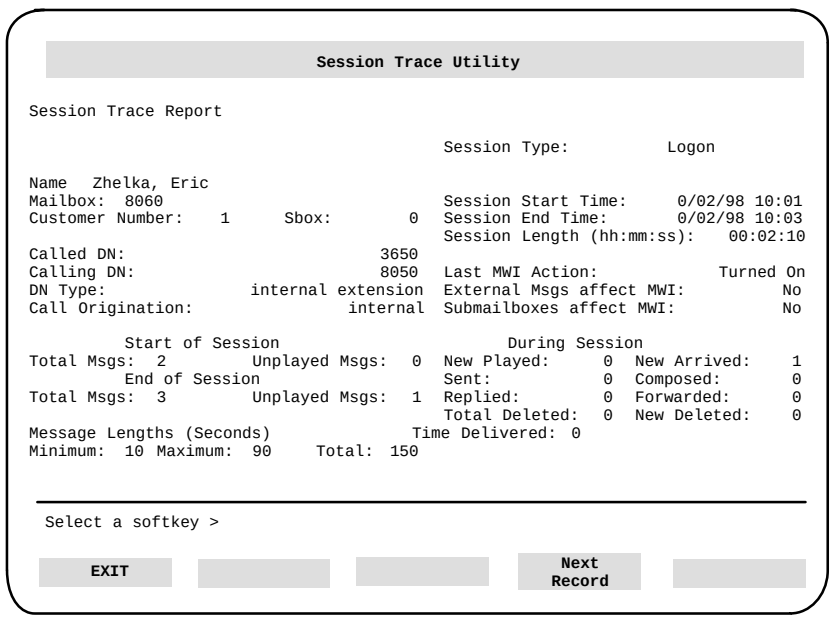
Session trace reports

The session trace report is displayed or printed when you press [View] or [Print] on the “User Selection and Session Trace Form” or “List users matching search” screens.

The Logon Session Trace Report

An example of the Logon Session Trace Report is shown in Figure 9-4.

Figure 9-4
Logon session trace report



Press [Exit] to return to the User Selection and Session Trace Form.

A session starts as soon as the mailbox is accessed. For example, a Logon Session starts as soon as the user logs in to the mailbox.

The fields in the Logon Session Trace Report are described below:

- ***Name*** This is the name of the user whose session information you have requested.
- ***Mailbox*** This is the mailbox of the user.

- ***Customer Number*** This is the customer group you have selected.
- ***Sbox*** This is a one digit number identifying a submailbox if one exists. Numbers available for submailboxes on the Session Trace Report are from 2 to 9.
- ***Session Type*** This identifies the type of session, in this case, Logon. If this was an invalid logon, then this field displays Invalid Logon.
- ***Session Start Time*** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time.
- ***Session End Time*** This is the date and time that the session ended. This is not the same as the Report End indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- ***Session Length (hh:mm:ss)*** The length of the session, reported in hours:minutes:seconds.
- ***Called DN*** This is the DN that was called to initiate that session. For Logon Session and Express Messaging sessions, the Called DN is the Voice Messaging ACD-DN (the main Meridian Mail ACD-DN). For Call Answering sessions, this is the DN of the mailbox that had a message left in it.
- ***Calling DN*** This is the DN of the phone that initiates the session. For example, if a user logs in to his or her mailbox from a remote phone, the Calling DN will be the DN of the remote phone, not the user's regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- ***DN Type*** The following strings are used to specify the DN type of the calling DN:
  - — international number
  - — national number
  - — special number
  - — location code call (example, ESN)
  - — coordinated dialing plan
  - — reserved

- internal extension
- route access code/member
- route access code only
- attendant code/member number
- ACD-DN position ID
- ACD and position and DNIS
- IANI ACD-DN and position ID
- in-band ANI
- ACD-DN

- ***Call Origination*** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- ***Last MWI Action*** The possible values and their implications are as follows:
  - ***Turned On*** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS, and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
  - ***Turned Off*** The last action in the session was to turn off the MWI. This would occur if all new messages were read and the MWI was not already on. If the MWI was off at the start of the session and remained off, this field would show Untouched. This never occurs during a selective restore session.
  - ***Untouched*** The state of the MWI was not changed throughout the session. The MWI either stayed on or stayed off through the entire session.
- ***External Msgs affect MWI*** The possible values are No and Yes. If set to Yes, then non–voice messaging messages affect the MWI. For example, in hotels that use the MWI to indicate text messages left at the front desk, as well as voice mail left through Meridian Mail, this field may be set to Yes.

- ***Submailboxes affect MWI*** The possible values are No and Yes. If set to Yes, then messages deposited in other submailboxes affect the MWI. If the MWI has been turned on or off as a result of activity in any submailboxes to this mailbox, this field displays Yes. Otherwise, this field displays No. This field is applicable only on VMUIF systems.
- ***Start of Session*** The following information appears under this heading:
  - ***Total Msgs*** The total number of messages in the mailbox at the start of the session.
  - ***Unplayed Msgs*** This is the number of unplayed messages in the mailbox at the start of the session. Unplayed messages are new messages. Old messages that have already been played during earlier sessions are not included.
- ***During Session*** The following information appears under this heading:
  - ***New Played*** This is the number of new messages played during the session. Any messages that have not been played yet are labeled as new messages. This includes messages received during or prior to this session but never played.
  - ***New Arrived*** This is the number of messages that arrived during the session.
  - ***Sent*** For Logon sessions, this field shows the number of messages that were sent from this mailbox using compose and send, reply, reply-all, and forward.
  - ***Composed*** This is the number of messages composed during the session.
  - ***Replied*** This is the number of messages created and sent using the reply or reply–all options on Meridian Mail (reply to received message).
  - ***Forwarded*** This is the number of messages forwarded during this session.
  - ***Total Deleted*** The total number of messages deleted during this session.
  - ***New Deleted*** The number of new messages deleted during this session.

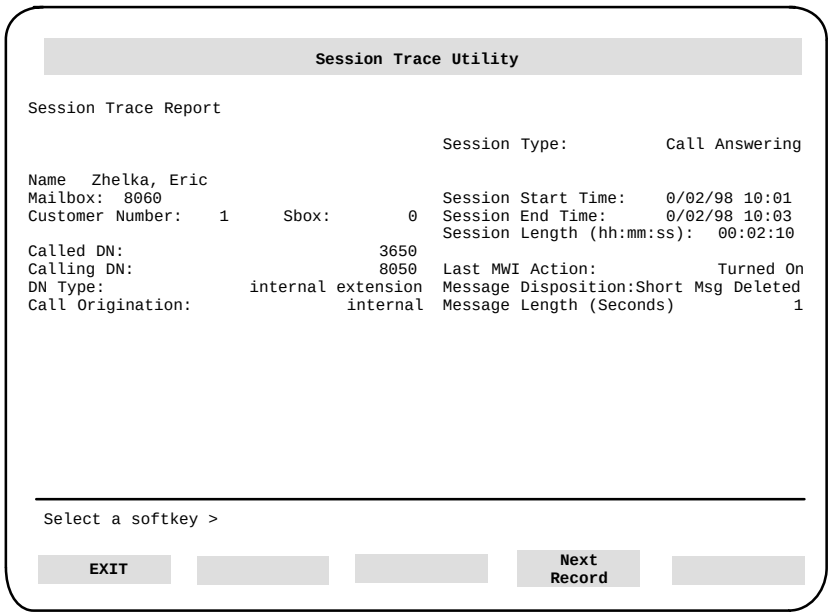
- — ***Time Delivered*** This is the number of messages composed with a programmed delivery time submitted during the session.

- ***End of Session*** The following information appears under this heading:
  - — ***Total Msgs*** This is total number of messages in the mailbox at the end of session. This includes any messages that were restored during this session, as well as any other messages that have arrived during this session.
  - — ***Unplayed Msgs*** The number of unplayed messages — that is, new messages in the mailbox at the end of the session. This includes any messages that were saved as a new VMUIF session.
- ***Message Lengths (Seconds)*** This is the shortest (Minimum) message, the longest (Maximum) message, and the total length of all messages composed or created during the session. These values are listed across the report beside the headings “Minimum,” “Maximum,” and “Total.”

The Call Answering Session Trace Report

An example of the Call Answering Session Trace Report is shown in Figure 9-5.

Figure 9-5
Call Answering session trace report



The fields in the Call Answering Session Trace Report are described below:

- ***Name*** This is the name of the user whose session information you have requested.
- ***Mailbox*** This is the mailbox of the user.
- ***Customer Number*** This is the customer group that the recipient belongs to.
- ***Sbox*** This is a one digit number identifying a submailbox if one exists. Numbers available for submailboxes on the Session Trace Report are from 2 to 9. This field appears only for VMUIF users.
- ***Session Type*** This identifies the type of session, in this case, Call Answering.

- ***Session Start Time*** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time.
- ***Session End Time*** This is the date and time that the session ended. This is not the same as the Report End indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- ***Session Length (hh:mm:ss)*** The length of the session, reported in hours:minutes:seconds.
- ***Called DN*** This is the DN that was called to initiate that session. For Call Answering sessions, this is the DN of the mailbox that had a message left in it.
- ***Calling DN*** This is the DN of the phone that initiates the session. For example, if a user calls from a remote phone, the Calling DN will be the DN of the remote phone, not the user's regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- ***DN Type*** The following strings are used to specify the DN type of the calling DN:
  - — international number
  - — national number
  - — special number
  - — location code call (example, ESN)
  - — coordinated dialing plan
  - — reserved
  - — internal extension
  - — route access code/member
  - — route access code only
  - — attendant code/member number
  - — ACD-DN position ID
  - — ACD and position and DNIS
  - — IANI ACD-DN and position ID

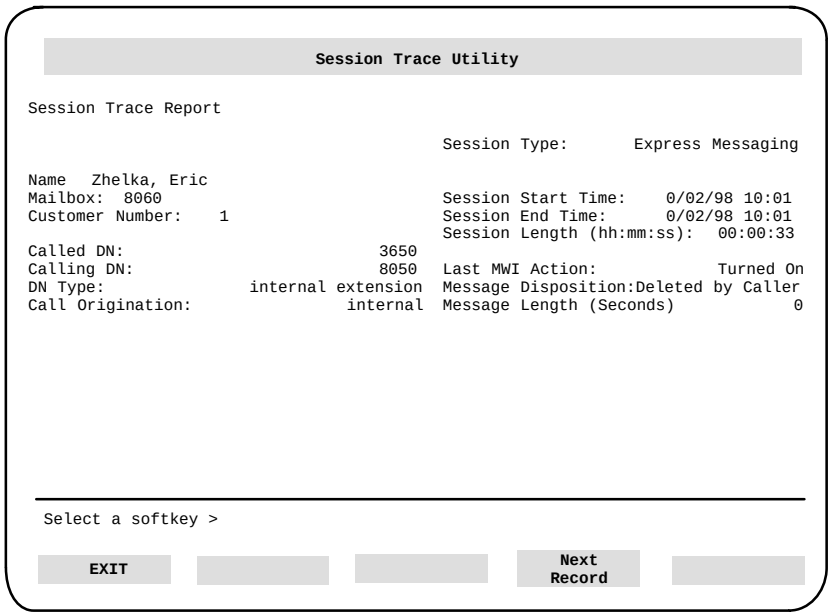
- in-band ANI
- ACD-DN

- ***Call Origination*** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- ***Last MWI Action*** The possible values and their implications are as follows:
  - ***Turned On*** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS, and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
  - ***Turned Off*** The last action in the session was to turn off the MWI. This would occur if all new messages were read and the MWI was not already on. If the MWI was off at the start of the session and remained off, this field would show Untouched. This never occurs during a selective restore session.
  - ***Untouched*** The state of the MWI was not changed throughout the session.
- ***Message Disposition*** The possible values and their implications are as follows:
  - ***Not Recorded*** The user did not record a message (that is, he or she hung up before the recording beep). Therefore no message was left.
  - ***Left*** The user left a message.
  - ***Short Msg Deleted*** The message that was left was too short and was therefore deleted by the system.
  - ***Deleted by Caller*** The message was initially recorded by the user and deleted before the end of the session. Therefore no message was left.
- ***Message Length (Seconds)*** The length of the left message.

The Express Messaging Session Trace Report

An example of the Express Messaging Session Trace Report is shown in Figure 9-6.

Figure 9-6
Express Messaging session trace report



The fields in the Express Messaging Session Trace Report are described below:

- ***Name*** This is the name of the user whose session information you have requested.
- ***Mailbox*** This is the mailbox of the user.
- ***Customer Number*** This is the customer group that the user belongs to.
- ***Session Type*** This identifies the type of session, in this case, Express Messaging.
- ***Session Start Time*** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time

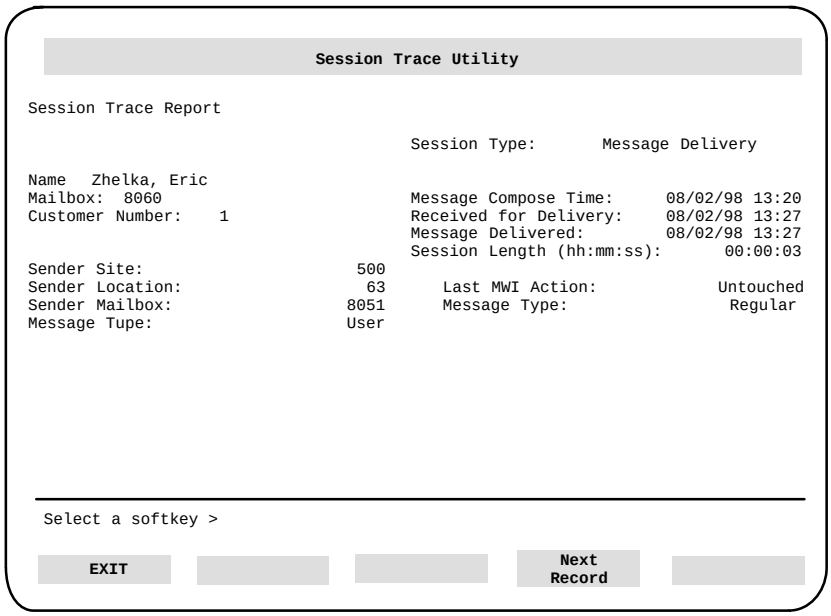
- ***Session End Time*** This is the date and time that the session ended. This is not the same as the Report End indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- ***Session Length (hh:mm:ss)*** The length of the session, reported in hours:minutes:seconds.
- ***Called DN*** This is the DN that was called to initiate that session. For Express Messaging sessions, the Called DN is the Express Messaging ACD-DN (the main Meridian Mail ACD-DN).
- ***Calling DN*** This is the DN of the phone that initiated the session. For example, if a user calls from a remote phone, the Calling DN will be the DN of the remote phone, not the user's regular phone. Even if the user goes on to call another DN from his or her mailbox which results in a Call Answering session, the Calling DN for the Call Answering session will be the DN of the remote phone.
- ***DN Type*** The following strings are used to specify the DN type of the calling DN:
  - — international number
  - — national number
  - — special number
  - — location code call (example, ESN)
  - — coordinated dialing plan
  - — reserved
  - — internal extension
  - — route access code/member
  - — route access code only
  - — attendant code/member number
  - — ACD-DN position ID
  - — ACD and position and DNIS
  - — IANI ACD-DN and position ID
  - — in-band ANI
  - — ACD-DN

- ***Call Origination*** If the call originated on the local switch, or any switch in an NMS network, this field will show Internal. If the call came in from outside the local switch (or outside the NMS network if you have NMS installed), this field will show External.
- ***Last MWI Action*** The possible values and their implications are as follows:
  - ***Turned On*** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox and the MWI was not already on. If the MWI was on at the start of the session, this field would show Untouched.
  - ***Untouched*** The state of the MWI was not changed throughout the session.
- ***Message Disposition*** The possible values and their implications are as follows:
  - ***Not Recorded*** The user did not record a message. Therefore no message was left.
  - ***Left*** The user left a message.
  - ***Short Msg Deleted*** The message that was left was too short and was therefore deleted by the system.
  - ***Deleted by Caller*** The message was initially recorded by the user and deleted before the end of the session. Therefore no message was left.
- ***Message Length (Seconds)*** The length of the left message.

The Message Delivery Session Trace Report

An example of the Message Delivery Session Trace Report is shown in Figure 9-7.

Figure 9-7
Message Delivery session trace report



The fields in the Message Delivery Session Trace Report are described below:

- ***Name*** This is the name of the user whose session information you have requested. This must be either the sender or the receiver. One or the other must be chosen; it is not possible to search for both.
- ***Mailbox*** This is the mailbox of the user. Note that when the session type is set to Any on the Find form, message delivery records are based on the receiver mailbox only. For example, if the mailbox field is set to 8050, message delivery records are returned for messages delivered to 8050, but not for messages sent by 8050.
- ***Customer Number*** This is the customer group that the user belongs to.

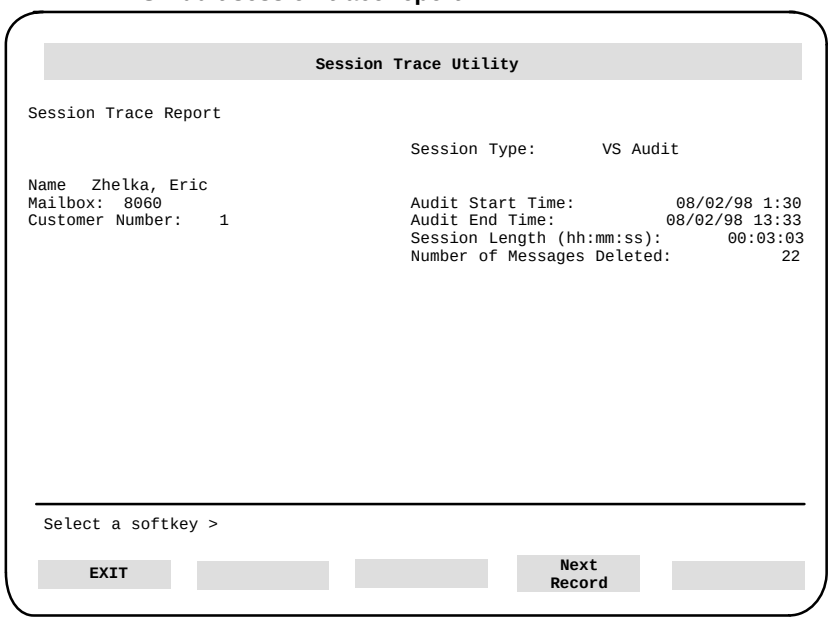
- ***Session Type*** This identifies the type of session, in this case, Message Delivery.
- ***Message Compose Time*** The time that the message was originally composed (that is, when the user pressed 75 to create the message).
- ***Received for Delivery*** This is the time that the message was received by the message transfer agent for delivery (that is, when the user pressed 79 to send).
- ***Message Delivered*** This is the time that the message was deposited into the recipient mailbox.
- ***Session Length (hh:mm:ss)*** The amount of time between the time when the MTA began to deliver the message and when it was placed in the mailbox. It is reported in hours:minutes:seconds.
- ***Sender Site*** The site from which this message was sent. If the sender is a local user, this field is set to 0. This field is set to other values only on systems with networking installed.
- ***Sender Location*** The location number of the sender of the message. This field is set to values other than 0 only when the sender's site has NMS installed.
- ***Sender Mailbox*** The mailbox number of the sender of the message.
- ***Sender Type*** The sender of the message. Possible types are as follows:
  - — ***User***
  - — ***System***
  - — ***Open AMIS User***
  - — ***Non User***
  - — ***Unknown*** Only for error conditions. This should never be seen.
- ***Message Type*** The type of message being deposited.
- ***Last MWI Action*** The possible values and their implications are as follows:
  - — ***Turned On*** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox and the user had the appropriate MWI Action in his or her COS.

— ***Untouched*** The state of the MWI was not changed throughout the session. This occurs if the recipient does not have the MWI Action set in his or her COS. Note that the Message Delivery record does not look at the existing status of the MWI. Therefore multiple messages deposited into a mailbox will have the same setting for this field.

The VS Audit Session Trace Report

An example of the VS Audit Session Trace Report is shown in Figure 9-8.

Figure 9-8
VS Audit session trace report



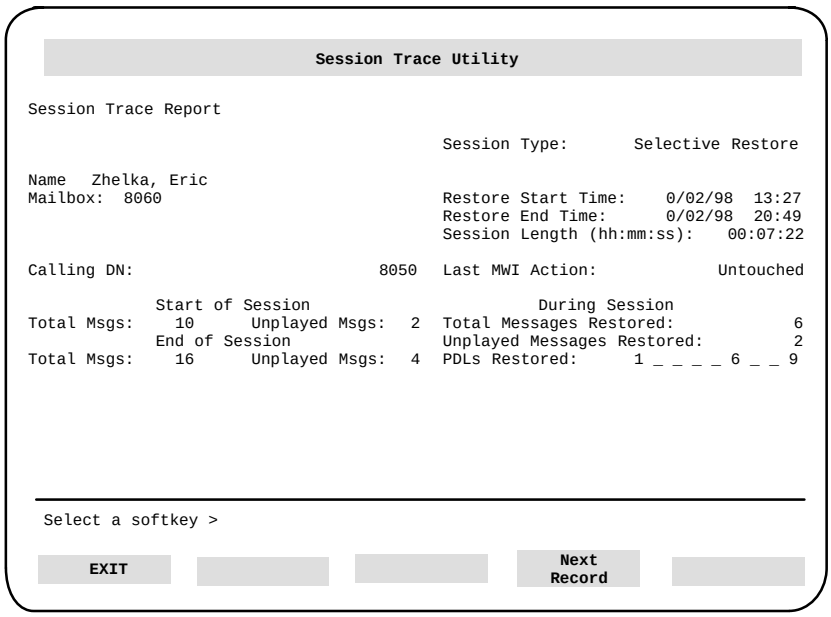
The fields in the VS Audit Session Trace Report are described below:

- ***Name*** This is the name of the user whose session information you have requested.
- ***Mailbox*** This is the mailbox on which the audit was performed.
- ***Customer Number*** This is the customer group to which the mailbox belongs.
- ***Session Type*** This identifies the type of session, in this case, VS Audit.
- ***Audit Start Time*** The time that the audit of this mailbox started.
- ***Audit End Time*** The time that the audit of this mailbox ended.
- ***Session Length (hh:mm:ss)*** The length of time taken by the audit.
- ***Number of Messages Deleted*** The number of messages deleted by the audit as a result of the read message expiry having been reached.

The Selective Restore Session Trace Report

An example of the Selective Restore Session Trace Report is shown in Figure 9-9.

Figure 9-9
Selective Restore session trace report



The fields in the Selective Restore Session Trace Report are described below:

- ***Name*** This is the name of the user who owns the mailbox that was restored.
- ***Mailbox*** This is the mailbox that was restored.
- ***Customer Number*** This is the customer group to which the mailbox belongs.
- ***Session Type*** This identifies the type of session, in this case, Selective Restore.

- ***Session Start Time*** This is the date and time that the session started. This is not the same as the Report Start indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session Start time
- ***Session End Time*** This is the date and time that the session ended. This is not the same as the Report End indicated on the "User Selection" screen since there may be several sessions retrieved within the Report Start/End range, each with a different Session End time.
- ***Session Length (hh:mm:ss)*** The length of the session.
- ***Last MWI Action*** Note that the selective restore does not know the status of the MWI when it adds messages. The possible MWI Action values and their implications are as follows:
  - ***Turned On*** The last action in the session was to turn on the MWI. This would occur if a new message was deposited into the mailbox, the user had the appropriate MWI Action in his or her COS.
  - ***Untouched*** The state of the MWI was not changed throughout the session. Note that the Selective Restore record does not look at the existing status of the MWI. Therefore multiple messages deposited into a mailbox will have the same setting for this field.
- ***Total Msgs (Start of Session)*** The total number of messages in the mailbox at the start of the session.
- ***Unplayed Msgs (Start of Session)*** The number of unplayed (new) messages in the mailbox at the start of the session.
- ***Total Msgs (End of Session)*** The total number of messages in the mailbox at the end of the session. This includes any messages that were restored during this session.
- ***Unplayed Msgs (End of Session)*** The number of unplayed (new) messages in the mailbox at the end of the session. This includes any messages that were restored during this session.
- ***Total Messages Restored*** The number of played and unplayed messages restored as a result of this operation.
- ***Unplayed Messages Restored*** The number of unplayed (new) messages restored as a result of this operation.
- ***PDLs Restored*** The personal distribution lists that were restored during this session.

Using session trace to perform diagnostics

The session trace information allows you to follow up on complaints by users regarding voice messages and the MWI. The following points describe some of the checks you can make to ensure that Meridian Mail is working properly, and some specific items to check for MWI-related complaints.

- If a user complains that a message was not delivered, the user may have forgotten to send the message after creating it. The number of unsent messages can be determined by adding the numbers recorded in the compose, reply, timed delivery submitted, and forwarded messages fields, and subtracting the number of messages sent (shown in the *Sent or Left* field).
- The delivery time of any Call Answering or Express Messaging messages that were placed in a particular mailbox can be confirmed through the session data.
- When a Call Answering or Express Messaging message is left in a mailbox, the session trace data will show this. The first Logon Session that follows the Call Answering or Express Messaging session should also show the existence of the Call Answering or Express Messaging message as a new message in the *Unplayed Msg Start of Session* field.

MWI diagnostics

- To check that the MWI is being turned on by call answering for a particular mailbox, leave a message on the mailbox using call answering. Then check the session information. Unless the MWI was already on, the last MWI action should be Turned On if the user has the appropriate COS setting. If the session information shows that the MWI was turned on but the lamp on the phone was not lit, there may be a problem with the telephone, and not with Meridian Mail.
- If a user complains that the MWI is on, but there are no voice messages, the following are two possible causes:
  - A message was left in another submailbox (VMUIF systems only) that caused the MWI to be turned on.

— A message was left using another messaging system, so there was no Meridian Mail voice message even though the MWI was turned on. For example, at a hotel, the front desk clerk may be able to turn on the guest's MWI to alert the guest about a message or note left at the front desk.

To explore these possibilities, check the session information for "External messages affect MWI" or "Messages in other SubMailboxes" that are affecting the MWI.

Procedure 9-1
Searching, selecting, and viewing a session trace report

Starting point: The TOOLS menu

1 Select Session Trace, and press <Return>.

The system displays a search screen titled "User Selection and Session Trace Form."

2 Enter search criteria on this form that will identify the particular session you wish to view.

3 Press [View] or [Print] to initiate the search, and display or print the session trace reports.

If more than one mailbox is found that matches the search criteria, a message is displayed informing you that multiple matches were found. The softkeys then change to [Cancel] and [List Matches].

4 Press [Cancel] to return to the "User Selection" screen, or [List Matches] to see a list of the matching mailboxes (then go to step 5).

If a single matching mailbox is found, the Session Trace Report is displayed (go to step 6).

5 On the "List user matching search" screen, use the arrow keys to move the cursor to the line with the mailbox you want to select and press the space bar. Then press [View] or [Print] to either display or print the Session Trace Report for the selected mailbox.

6 Press [Next Record] to view the next session record, or follow step 7 to exit the tool.

7 Press [Exit] until the TOOLS menu reappears.

Chapter 10: Audit all volumes

When users delete large files or when many files are opened at the same time, enough disk space may not be freed up. System audits, which typically begin every morning at 1:30 a.m., make this space available. These overnight audits are sufficient for most normally loaded systems. However, if your system is heavily loaded and there is a lot of traffic, you may have to perform additional audits with this utility. If SEERs with the return code 1103 are being generated, this is an indication that the server is full and an audit is in order.

While the Audit All Volumes tool is running, the console will not accept any input. The audit will take from 1 to 10 minutes depending on the number of users on the system and the system size.

Procedure 10-1
Auditing all volumes

Starting point: The TOOLS menu

1 Select Audit all volumes, and press <Return>.

Auditing begins immediately. While the audit is running, the system displays messages telling you what volume is currently being audited. When all volumes have been audited, the system displays a message indicating that auditing is complete, and the TOOLS menu is redisplayed.

Note: While the Audit all volumes tool is running, the console will not accept any input.

Chapter 11: Rebalance directory

The organization directory is organized as a main index file with many secondary index files. The secondary files contain the actual entries for users. In terms of balance, the optimal situation is where each secondary index file contains 68 uniquely indexed entries. If many users are added at one time, the index files can become unbalanced.

The Rebalance directory tool rebalances the index files for the organization directory in order to speed up searches and updates to its entries. Note that while the rebalancing tool is running, the following administrative tasks and user-performed tasks cannot be executed:

- adding, changing, or deleting users, classes of service, customer groups, VSDNs, or voice services
- recording a personal verification for the first time. Rerecording a personal verification is allowed.
- fax item maintenance

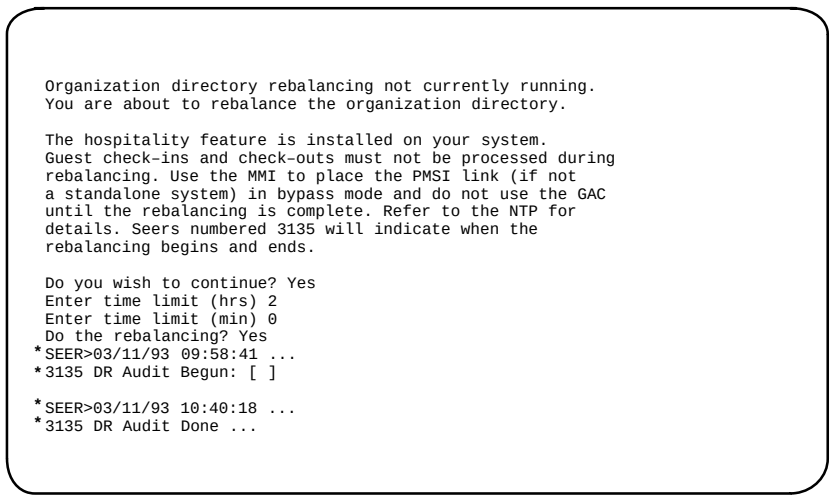
Sites with Hospitality systems should run this tool immediately after the initial setup of the system. For most Hospitality systems, you should not have to run the rebalancing tool again. However, if the system administrator notices that access to the organization directory has slowed (for example, more than seven seconds to update the name of a guest, or logon sessions taking longer to initiate), then the rebalancing tool should be run again.

On non-Hospitality systems, it is a system default for the directory rebalance to run automatically every night (usually at 3:30 a.m.). No setup is required by the administrator. However, if many updates have been made to the directory, then it may help to run the tool during the day right after the updates are done. For example, if many users or voice services are added during the day and system performance decreases (for example, the system is noticeably slower as you attempt to add more users), then a directory rebalance may speed up the system. During the rebalancing, updates are disabled. SEER number 3135 will indicate when the rebalancing has started and stopped.

For Hospitality systems, the benefit of automatic nightly rebalancing is lost because the names are constantly changing as guests check in or out. As a result, the directory rebalancing is not run automatically every night.

Figure 11-1
Sample run (prompts and responses) for the Rebalance tool (hospitality system)

Note: The screen below appears, after "Rebalance directory" is selected from the TOOLS menu.



```
Organization directory rebalancing not currently running.
You are about to rebalance the organization directory.

The hospitality feature is installed on your system.
Guest check–ins and check–outs must not be processed during
rebalancing. Use the MMI to place the PMSI link (if not
a standalone system) in bypass mode and do not use the GAC
until the rebalancing is complete. Refer to the NTP for
details. Seers numbered 3135 will indicate when the
rebalancing begins and ends.

Do you wish to continue? Yes
Enter time limit (hrs) 2
Enter time limit (min) 0
Do the rebalancing? Yes
*SEER>03/11/93 09:58:41 ...
*3135 DR Audit Begun: [ ]

*SEER>03/11/93 10:40:18 ...
*3135 DR Audit Done ...
```

Note: *These lines include additional numbers and data not shown here. Also, SEERs are printed to the screen only if no printer is connected.

Procedure 11-1
Rebalancing the directory in a Hospitality system

Note: Hospitality is not available on MSM systems. See Procedure 11-2 for instructions on rebalancing systems that do not contain Hospitality.

Starting point: The TOOLS menu

1 Select Rebalance directory, and press <Return>.

The system displays some help text, followed by the prompt

```
Do you wish to continue?
```

Note 1: Run this tool when
a) all the users and rooms have been added on a newly installed Hospitality system
b) access to the organization directory is slow (for example, more than seven seconds to update the name of a guest)

Note 2: Before running this tool, first choose a period when the traffic in terms of check-ins and checkouts is low. Then, put the PMSI link into bypass mode, and instruct staff not to use the Guest Administration Console for check-ins, and so on, until the rebalancing is completed.

2 If you have satisfied the required conditions for running this tool (see Step 1), then answer Yes and press return. If you respond with No, the rebalancing is not started and you are returned to the TOOLS menu.

If you respond with Yes, the system prompts you for a time limit (first hours, and then minutes):

```
Enter time limit (hrs)
```

```
Enter time limit (min)
```

3 Enter a time limit (for example, 2 hours, 0 minutes) for the rebalancing to finish. Large systems (for example, 5 nodes, 8000 rooms) could take up to 12 hours or longer if no time limit is enforced. This time delay may hinder the normal operation of the hotel. The rebalancing usually takes less than one hour. The default for this tool is two hours.

If the rebalancing does not finish within the enforced time limit, rerun the rebalancing tool on successive days until it completes.

If the time limit is reached, a 3135 SEER with a timeout message is printed. The next time the rebalancing is run, it will start from the beginning again, but it will not have to redo the rebalancing already done. If the rebalancing does finish with no problems before the time limit is reached, a 3135 SEER with the message "DR audit completed" is printed.

4 After you set a time limit, the following prompt appears:

```
Do the rebalancing?
```

Enter Yes to begin the rebalancing. SEER 3135 will print once to indicate that the rebalancing ("DR Audit") has begun, and then once more to indicate that either the rebalancing has finished or the timeout limit has been reached.

Note: If you must stop a rebalancing in progress, reselect the Rebalance Directory utility from the TOOLS menu. It will offer you the option to stop. See Procedure 11-3 for more details.

5 After rebalancing, take the PMSI link out of bypass mode. If any check-ins or checkouts have taken place since the rebalancing started, then put the system into resynch mode, and run a database swap.

6 Following the database swap, take the system out of resynch mode to make the system fully operational.

Figure 11-2
Sample run (prompts and responses) for the Rebalance tool (non-hospitality system)

Note: The screen below appears, after “Rebalance directory” is selected from the TOOLS menu.

```
Organization directory rebalancing not currently running.
You are about to rebalance the organization directory.

If you proceed, directory updates will be disabled until the
rebalancing is complete. Seers numbered 3135 will indicate
when the rebalancing begins and ends.

Do you wish to continue? Yes
Enter time limit (hrs) 2
Enter time limit (min) 0
Do the rebalancing? Yes
*SEER>03/11/93 09:58:41 ...
*3135 DR Audit Begun: [ ]

*SEER>03/11/93 10:40:18 ...
*3135 DR Audit Done ...
```

Note: *These lines include additional numbers and data not shown here. Also, SEERs are printed to the screen only if no printer is connected.

Procedure 11-2
Rebalancing the directory in a non-Hospitality system

Starting point: The TOOLS menu

1 Select Rebalance directory, and press <Return>.

The system displays some help text, followed by the prompt

`Do you wish to continue?`

Note: Run this tool when system performance slows down significantly while adding (or after adding) many users in one day. A rebalancing (once completed) will speed up the entry process, but you will not be able to add users while the rebalancing tool is still running.

2 If you have satisfied the required conditions for running this tool (see Step 1), then answer Yes and press return. If you respond with No, the rebalancing is not started and you are returned to the TOOLS menu.

If you respond with Yes, the system prompts you for a time limit (first hours, and then minutes):

```
Enter time limit (hrs)

Enter time limit (min)
```

3 Enter a time limit (for example, 2 hours, 0 minutes) for the rebalancing to finish. Large systems (for example, 5 nodes) could take up to 12 hours or longer if no time limit is enforced. The rebalancing usually takes less than one hour. The default for this tool is two hours. The default for the automatic nightly rebalancing is three hours.

If the rebalancing does not finish within the enforced time limit, rerun the rebalancing tool.

If the time limit is reached, a 3135 SEER with a timeout message is printed. The next time the rebalancing is run (for example, using this tool or the automatic nightly rebalancing), it will start from the beginning again but it will not have to redo the rebalancing already done. If the rebalancing does finish with no problems before the time limit is reached, a 3135 SEER with the message "DR audit completed" is printed.

4 After you set a time limit, the following prompt appears:

```
Do the rebalancing?
```

Enter Yes to begin the rebalancing. SEER 3135 will print once to indicate that the rebalancing ("DR Audit") has begun, then, once more to indicate that either the rebalancing has finished or the timeout limit has been reached.

Note: If you must stop a rebalancing in progress, reselect the Rebalance Directory utility from the TOOLS menu. It will offer you the option to stop. See Procedure 11-3 for more details.

Procedure 11-3
Stopping the rebalancing process

Starting point: The TOOLS menu

1 Select Rebalance directory, and press <Return>.

If the rebalancing tool is already running, the system informs you of this and asks you if you wish to stop the rebalancing:

```
The directory is currently being rebalanced.

Do you wish to stop the rebalancing?
```

2 Enter Yes to stop the rebalancing. The rebalancing tool will stop when it has finished the directory files it is currently rebalancing. If the rebalancing is not running (that is, the system prompts and messages are similar to those shown in Figure 11-1), then enter No to the prompt to indicate that you do not wish to continue.

Note: If you stop the rebalancing, the next time you run the rebalancing tool it will have to start again at the first directory file, but it will not have to redo the rebalancing already done. The work done so far is not wasted.

3 For Hospitality systems, after rebalancing, take the PMSI link out of bypass mode. If any check-ins or checkouts have taken place since the rebalancing started, then put the system into resynch mode, and run a database swap. Following the database swap, take the system out of resynch mode to make the system fully operational.

Chapter 12: COS conversion

The COS conversion tool allows you to assign users who have a personal Class of Service (COS) to a defined COS.

Users who are not part of a defined COS are given a COS labeled personal. These users can be referred to as unassigned because they are not part of a defined COS. The mailbox attributes for users with a personal COS cannot be manipulated or revised as a group the way you can for users who are part of a defined COS. As a result, it is beneficial to assign users who have a personal COS to one of the defined COSs.

For complete details on Class of Service administration, please read the Class of Service chapter in the *System Administration Guide*.

Applications for the COS conversion tool

There are four basic reasons for running this tool.

1 You have defined COSs on your system that your organization has determined are required to properly manage the users on your system. Now you want to quickly assign users to a defined COS that matches the users' mailbox attributes.

2 You have started assigning users to the defined COSs (either using this tool or using the Class of Service facility described in the *System Administration Guide*). Now you want to finish the process by assigning the remaining unassigned users to a defined COS.

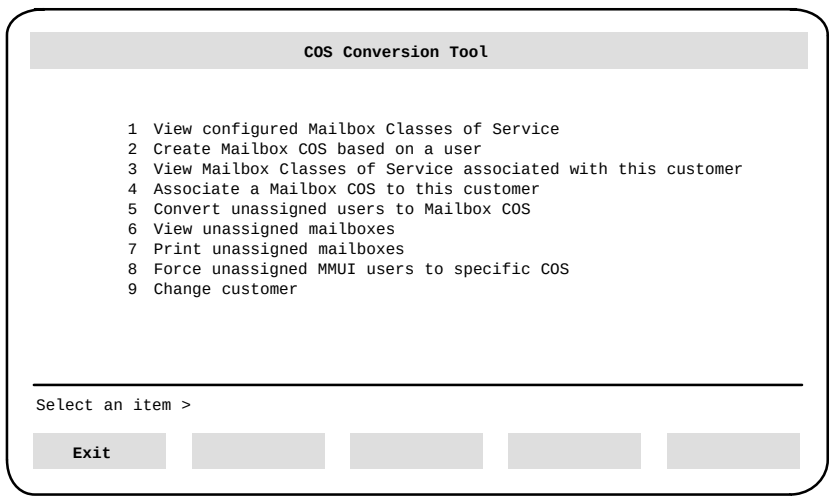
3 Your organization has no preset needs in terms of Class of Service groupings. All you want to do is create COSs that match the mailbox attributes already set up for most users so that you can group those users under a matching defined COS. As discussed, once you have your users assigned to a COS, their mailbox attributes can be modified as a group to suit the needs of your organization. This is the benefit of assigning users to a defined COS. See the Class of Service chapter in the *System Administration Guide* for details on modifying a COS.

4 You wish to assign all remaining personal COS users to a defined COS, whether or not they match one of the defined COSs. The Force unassigned MMUI users to specific COS option allows you to do this. This option is not available to VMUIF customers. This option is discussed in greater detail in the section Force unassigned MMUI users to a specific COS near the end of this chapter.

Accessing the tool

To access the COS conversion tool, select COS conversion from the TOOLS menu. On a multi-customer system, you are prompted for a customer group number. After you enter an existing customer group number, the COS conversion tool functions are listed in a menu (see Figure 12-1).

Figure 12-1
COS Conversion menu



Steps for assigning COSs

Follow the steps below to assign a COS to currently unassigned users. If after following these steps, there are still unassigned users, you may wish to use the “Force unassigned MMUI users” option which is described in the section Force unassigned MMUI users to a specific COS.

Note: If you have not yet defined any COSs, start at step 2.

Procedure 12-1
Assigning COSs

Starting point: The COS Conversion Tool menu

1 Select Convert unassigned users to Mailbox COS, and press <Return>.

This function searches for unassigned users and looks for a defined COS that exactly matches the user’s mailbox attributes. If a match is found, the COS is assigned to the user. If some users are still unassigned, repeat this step.

2 Define new COSs, and assign (enable) the COSs to the appropriate customer groups. You can either use the Class of Service facility described in the *System Administration Guide*, or use this tool to create new COSs (see steps 3 to 5).

Note: If the maximum number of COSs allowed for a customer group (15 COSs) has already been associated with this customer, you may want to remove one or more unused or unnecessary COSs from the customer group (see the *System Administration Guide*). This will allow you to add a COS that may match some of the unassigned users.

3 Select View unassigned mailboxes, and press <Return>.

This option allows you to view unassigned users. Note the mailbox number of one or more users whose mailbox attributes you would like to use as the basis for a new COS.

4 Select Create Mailbox COS based on a user, and press <Return>.

This option allows you to create a COS based on an unassigned user you selected in step 3.

5 Select Associate a Mailbox COS to this customer, and press <Return>.

This option allows you to associate the newly created COS with the customer group you are working on. For single-customer systems, this would be customer 1.

6 Repeat this procedure.

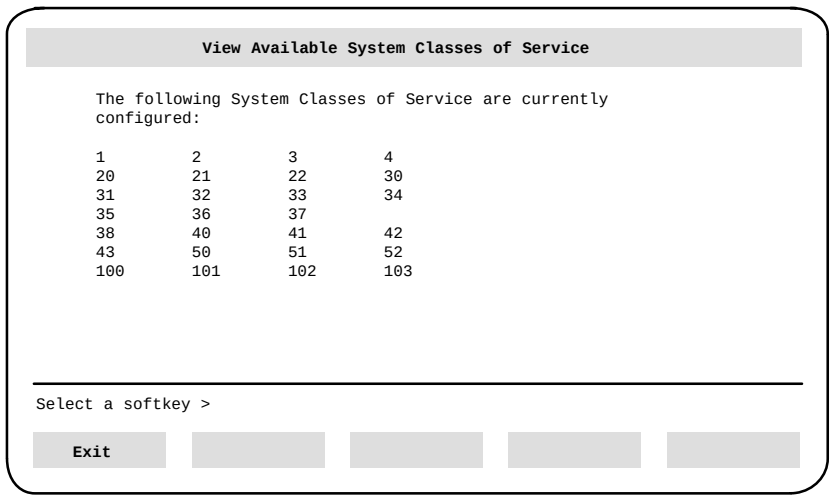
The COS conversion tool functions, including the menu items referred to in the procedure above, are described in the remainder of this chapter in the order that they appear in the COS conversion tool menu.

View configured mailbox classes of service

When you select item 1 from the COS Conversion menu, the COS numbers for all the configured classes of service on your system are listed on the screen as shown in Figure 12-2. To see the classes that are available for a particular customer group, refer to the "View COS associated with this customer group" section.

> ***Note:*** On a single-customer system, a maximum of 15 classes of service may be defined, while on a multi-customer system, a maximum of 127 classes of service may be defined, but only 15 can be associated with one customer at one time.

Figure 12-2
View configured mailbox classes of service



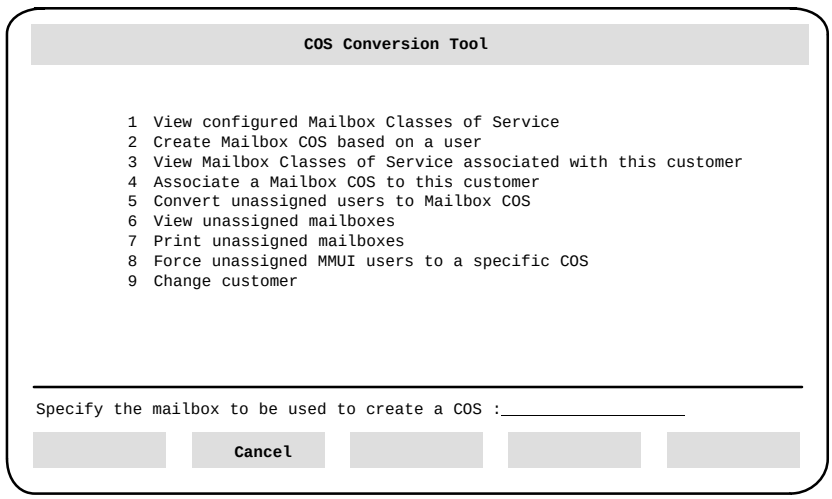
Create a COS based on one user's mailbox

This option allows you to use one user's mailbox attributes as the basis for a new COS. One situation where you might want to use this option is if you know that several mailboxes have the same attributes. Use this option to create a new COS that is based on one of these mailboxes. When you run

the convert unassigned users function, all the mailboxes that match the new COS will be assigned to that COS. Another use for this option is to use existing mailboxes to quickly create a COS rather than using the Class of Service Administration screens and keying in all the required data.

An example of the COS Conversion menu with the “Specify the mailbox” prompt is shown in Figure 12-3.

Figure 12-3
Create a COS based on a user



Procedure 12-2
Creating a COS based on a user

Starting point: The COS Conversion Tool menu

1 Select Create Mailbox COS based on a user, and press <Return>.

A prompt appears at the bottom of the screen asking for the mailbox number that will be the basis for the new COS:

```
Specify the mailbox to be used to create a COS:
```

2 To specify a mailbox number, go to step 2a. To cancel, go to step 2b.

a. Enter a valid mailbox number and press <Return>.

A new COS is created. A confirmation message is displayed indicating what number has been assigned to the new COS. For

example
```
COS 5 has been created.
```

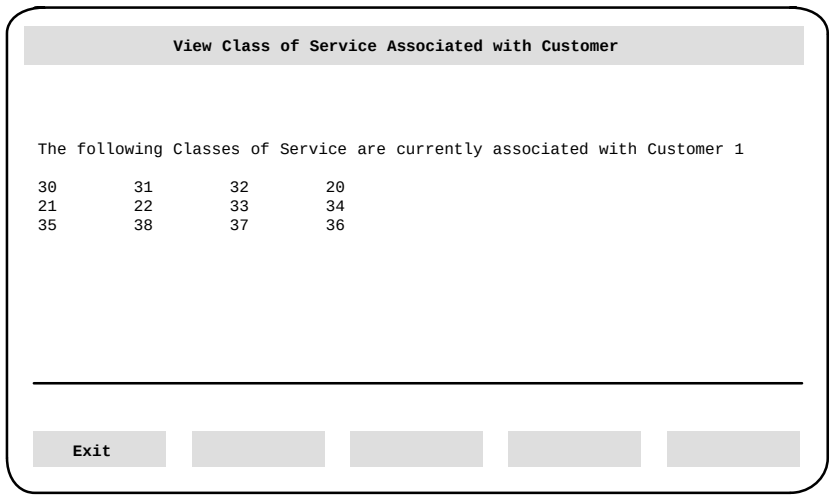
b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

View COSs associated with this customer

When you select this item from the COS Conversion menu, all the COSs that are available for this customer group are displayed as shown in Figure 12-4.

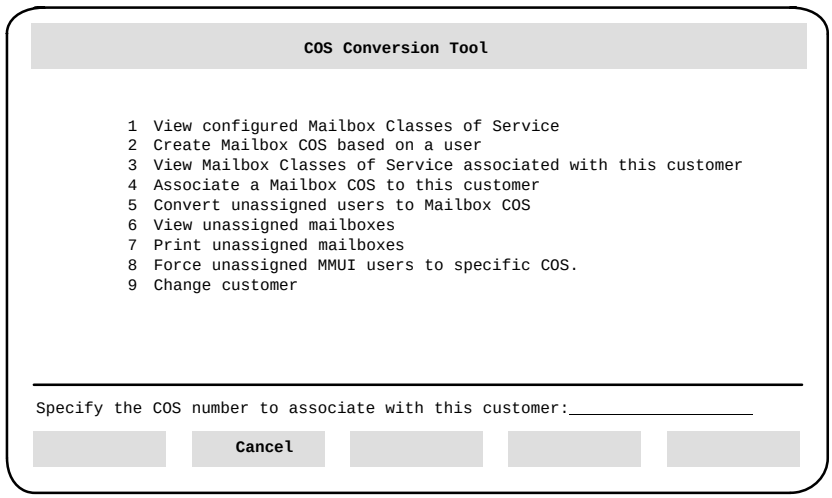
Figure 12-4
View Mailbox Classes of Service associated with this Customer



Associate a COS with this customer

A maximum of 15 COSs can be assigned to a customer group. If you do not have 15 COSs already assigned to the customer you are working on, you can add a COS to this customer's list of available COSs by selecting item 4 from the COS Conversion menu (see Figure 12-5).

Figure 12-5
Associate a COS with this customer



Procedure 12-3
Associating a COS with the customer

Starting point: The COS Conversion Tool menu

1 Select Associate a Mailbox COS to this customer, and press <Return>.

The following prompt appears at the bottom of the screen:

`Specify the COS number to associate with this customer:`

2 To specify a COS number, go to step 2a. To cancel, go to step 2b.

a. Enter a valid COS number and press <Return>.

A confirmation message is displayed indicating that the COS number has been associated with the customer group that you are currently working on.

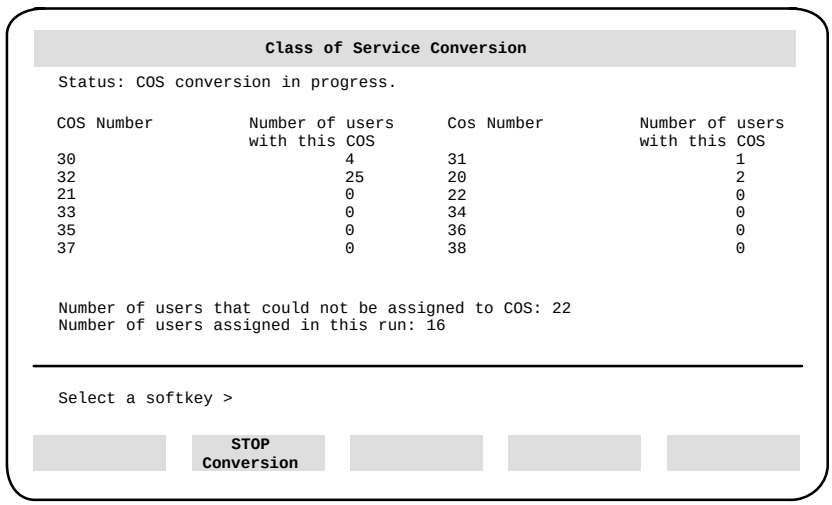
b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

Convert unassigned users to a matching COS

This option from the COS Conversion menu assigns users who currently have a personal COS to one of the configured COSs that is associated with the customer group and that match the user's mailbox attributes. The user's mailbox attributes must match a COS exactly in order to be assigned to that COS. Some mailboxes will not match any of the available COSs and will not be assigned. The screen display that appears when you select this function is shown in Figure 12-6 (shown how it appears during the conversion process).

Figure 12-6
Convert unassigned users to a defined COS



The following information is displayed:

- ***COS Number*** These are the numbers for the COSs associated with this customer. These numbers do not change.
- ***Number of users with this COS*** This is the number of users currently assigned to the corresponding COS number to the left. The numbers in this column are updated periodically as the tool reads in users. This column essentially counts the number of users assigned to each COS.

When the tool reads in a user with a personal COS, it searches for a matching COS and, if one is found, the user is assigned to that COS. The Number of users with this COS column is then updated.

To stop the conversion process, press [STOP Conversion]. This stops the conversion at the last personal COS user record read. Once the conversion is completed, this softkey selection disappears and you can press [Exit] to return to the COS Conversion menu.

The result of the conversion is shown in the two lines at the bottom of the screen: namely, the number of users that could not be assigned (no matching COS found), and the number of users assigned to a COS during this run (matching COSs found for this number of users). At the end of the run, the "Number of users with this COS" column shows the total number of users within this customer group that have been assigned to a COS, including those users assigned during this conversion run.

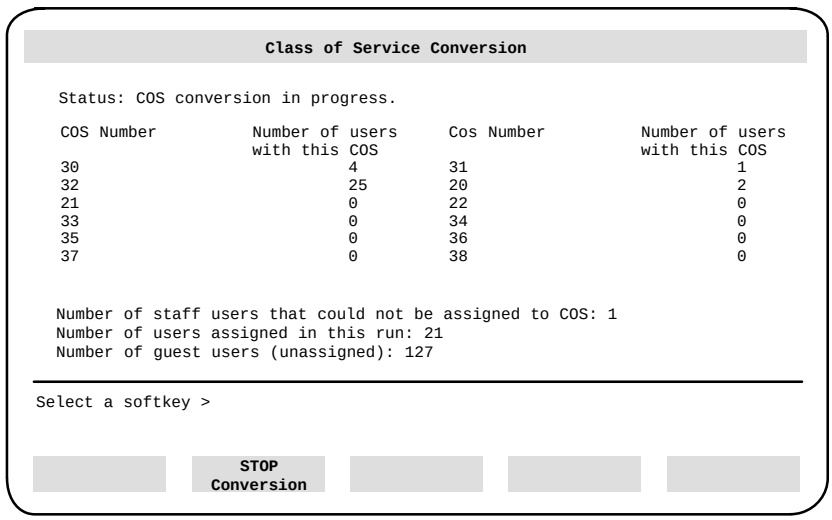
Convert unassigned users on a Hospitality system

On a Hospitality system, the Convert users option functions slightly differently:

- Guest users with a personal COS are not converted to a defined COS. These guest users are counted among the guest users unassigned (see the last line of the screen example in Figure 12-7).
- Guest users that were already assigned a COS are counted in the "Number of users with this COS" column.
- Staff users are treated the same as users on a non-Hospitality system. If they have a personal COS but their mailbox attributes match those of an available COS for the customer group, then they are assigned to the matching COS.
- The status lines at the bottom of the screen display are different:
  - "Number of staff users that could not be assigned to COS" applies only to staff users.
  - "Number of users assigned in this run" also applies only to staff users.
  - "Number of guest users (unassigned)" is the number of guest users with a personal COS.

The screen display that appears on Hospitality systems is shown in Figure 12-7. As in the non-Hospitality system, the [STOP Conversion] softkey stops the process. Any users assigned up to the point where you used the [STOP Conversion] softkey stay assigned.

Figure 12-7
Convert unassigned users to a defined COS on a Hospitality system



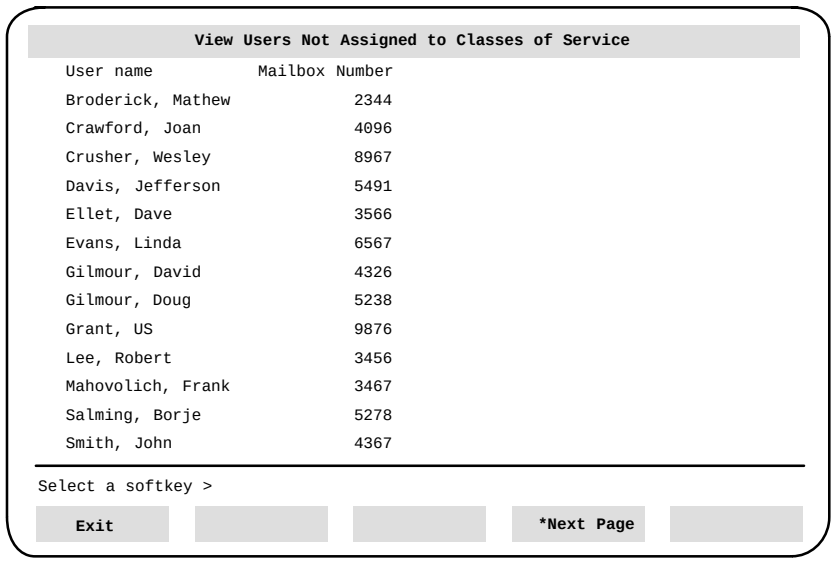
View users who are not assigned to a COS

When you select this option from the COS Conversion menu, all users (in the customer group you are working on) who are not assigned to a COS are listed (user's name and mailbox number). An example display is shown in Figure 12-8.

Note 1: If your system has more than one user volume, users will be sorted alphabetically by user volume instead of strictly alphabetically.

Note 2: If the customer group being searched is a Hospitality customer, guest users with nothing entered for the name fields will be listed after users with name data.

Figure 12-8
View unassigned mailboxes



Note: *Appears when the information fills more than one screen.

Print users who are not assigned to a COS

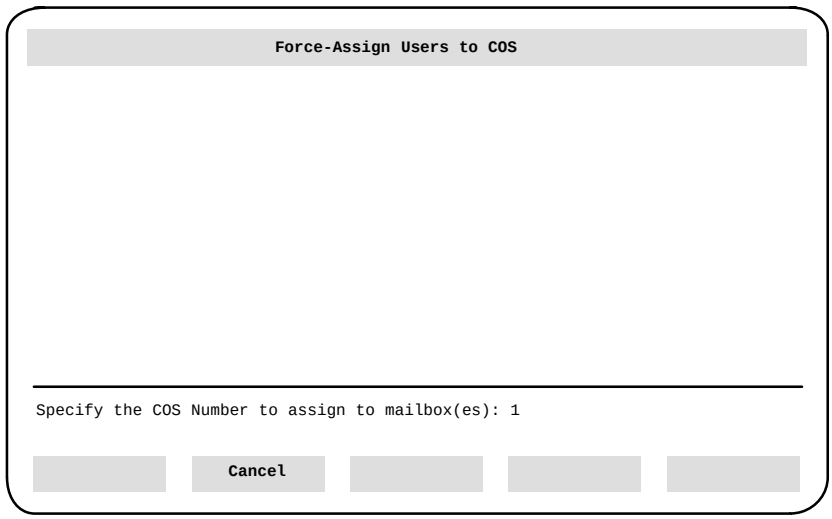
When you select item 7 from the COS Conversion menu, all users who are not assigned to a COS are printed (user's name and mailbox number). Before the printing begins, the softkeys [Cancel Printing] and [Continue Printing] are displayed. Select [Continue Printing] to start the print job. Select [Cancel Printing] to cancel the print user's request or to interrupt the printing at any point.

Force unassigned MMUI users to a specific COS

Item 8 from the COS Conversion menu allows you to force the assignment of users who have a personal COS to one of the defined COSs associated with the customer group, regardless of the user's current mailbox attributes. This allows you to clean up any personal COS users left after running the conversion (see the section entitled "Convert unassigned users to a matching COS"). This will leave the customer with no personal COS users. However, the newly assigned users will experience mailbox attribute changes if their mailbox attributes did not already match the attributes of the selected COS. The initial screen display that appears when you select this function is shown in Figure 12-9.

Note: This option is *not* available to customers with the VMUIF feature. All Hospitality customers have the MMUI feature by default.

Figure 12-9
Force unassigned users to a COS—initial screen



Procedure 12-4
Forcing unassigned COS users to a COS

Starting point: The COS Conversion Tool menu

1 Select Force unassigned MMUI users to specific COS, and press <Return>.

The Force–Assign Users to COS screen is displayed, and a prompt appears at the bottom of the screen asking for the COS number to assign:

```
Specify the COS number to assign to mailbox(es):
```

2 To specify a COS number, go to step 2a. To cancel, go to step 2b.

a. Enter a valid COS number and press <Return>.

A new softkey, [Continue], is displayed, along with the following message:

```
CAUTION:  The command you have selected will
force assign every Personal COS user in customer
2 to COS 1

Hit the appropriate softkey to cancel or
continue.
```

Go to step 3.

b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

3 To confirm that you want to continue, go to step 3a. To cancel, go to step 3b.

a. Press [Continue].

The conversion process begins. See Figure 12-10 for a conversion example on a non-Hospitality system. See Figure 12-11 for a conversion example on a Hospitality system. Go to step 4.

b. Press [Cancel].

You are returned to the COS Conversion menu and no change is made.

4 Once the conversion is completed, press [Exit] to return to the COS Conversion menu. You can press [STOP Force–Assign] while the conversion is running to stop the conversion at the last personal COS user record read.

Figure 12-10
Force unassigned users to a COS on a non-Hospitality system

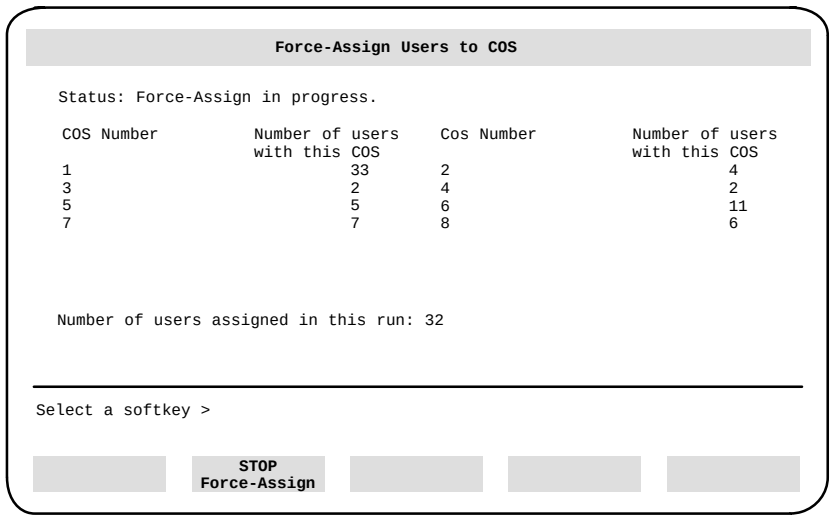
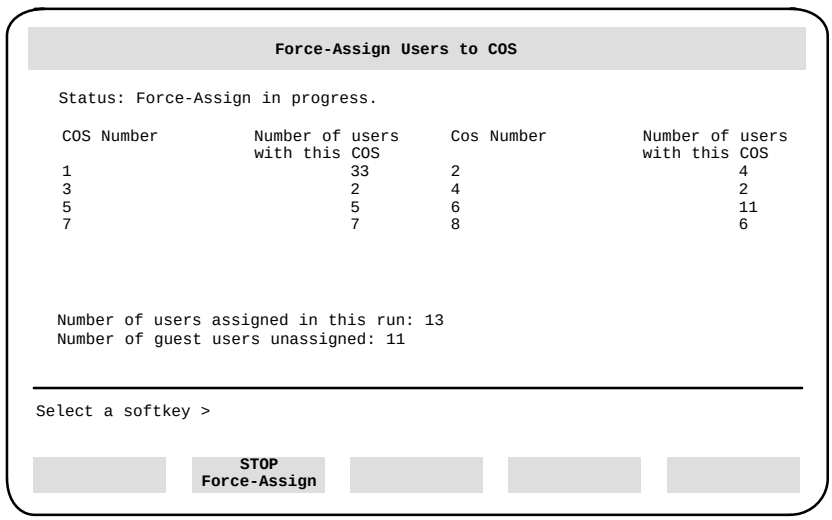


Figure 12-11
Force unassigned users to a COS on a Hospitality system



The number of users assigned to the specified COS is shown at the bottom of the screen (Number of users assigned in this run).

For Hospitality systems, the “Number of guest users (unassigned)” field at the bottom of the screen shows the number of personal COS guest users that still remain in this customer. They are exempt from being assigned a COS using “Force unassigned users,” just as they are exempt from the normal COS Convert procedure.

Change customer

This option only appears on multi-customer systems. This function allows you to switch to a different customer group.

Procedure 12-5
Changing customer

Starting point: The COS Conversion Tool menu

1 Select Change customer, and press <Return>.

A prompt appears at the bottom of the screen asking for the number of the new customer group:

```
Please specify customer:
```

2 To specify a customer number, go to step 2a. To cancel, go to step 2b.

a. Enter a valid customer number and press <Return>.

The customer group you are working on is switched to the customer specified by the new number.

b. Press [Cancel].

The COS Conversion Tool screen is redisplayed.

Chapter 13: Display system record

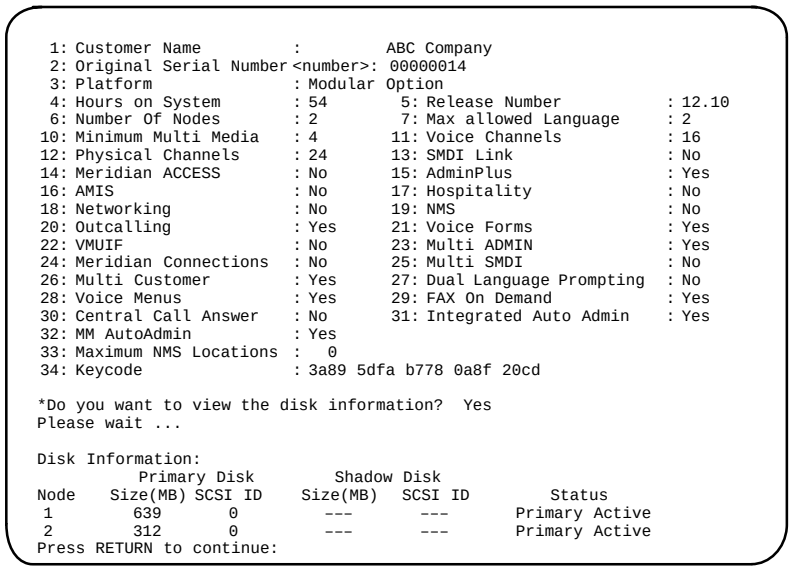
The Display system record tool identifies the installed features, number of recording (storage) hours, and disk sizes on your system, among other items. This information is required when filling out a Site Profile form.

When you select this tool from the TOOLS menu, the system record display appears (see Figure 13-1). The display indicates if a feature has been purchased with a Yes or No listed beside the feature name.

> ***Note:*** The customer name listed by this tool is the customer name used during installation. The customer name may have been modified since then.

You will be asked if you want to view the disk information. If you select Yes, the sizes of all disks installed on the system will be displayed. Please note, there is a delay of approximately a minute from the time Yes is selected until the information is displayed.

Figure 13-1
System record display



```
 1: Customer Name          :         ABC Company
 2: Original Serial Number<number>: 00000014
 3: Platform               : Modular Option
 4: Hours on System        : 54        5: Release Number           : 12.10
 6: Number Of Nodes        : 2         7: Max allowed Language     : 2
10: Minimum Multi Media    : 4        11: Voice Channels           : 16
12: Physical Channels      : 24       13: SMDI Link                : No
14: Meridian ACCESS        : No       15: AdminPlus                : Yes
16: AMIS                   : No       17: Hospitality              : No
18: Networking             : No       19: NMS                      : No
20: Outcalling             : Yes      21: Voice Forms              : Yes
22: VMUIF                  : No       23: Multi ADMIN              : Yes
24: Meridian Connections   : No       25: Multi SMDI               : No
26: Multi Customer         : Yes      27: Dual Language Prompting  : No
28: Voice Menus            : Yes      29: FAX On Demand            : Yes
30: Central Call Answer    : No       31: Integrated Auto Admin    : Yes
32: MM AutoAdmin           : Yes
33: Maximum NMS Locations  :   0
34: Keycode                : 3a89 5dfa b778 0a8f 20cd

*Do you want to view the disk information?  Yes
Please wait ...

Disk Information:
          Primary Disk         Shadow Disk
Node    Size(MB) SCSI ID    Size(MB)   SCSI ID         Status
 1        639       0         ---       ---       Primary Active
 2        312       0         ---       ---       Primary Active
Press RETURN to continue:
```

Note: *After you select yes and press <Return>, the system may take up to three minutes to refresh the screen and display the additional information.

Most of the fields are self-explanatory. A few of the fields which may not be self-explanatory are described below.

- ***8: Full Service*** This is the maximum number of full service channels allowed on your system. This number is defined in your system's keycode and reflects how many full service channels were purchased with your system.
- ***9: Basic Service*** This is the number of basic service channels initially installed on your system. You can reduce or increase the number of basic service channels using the Channel Allocation Table (see "System Status and Maintenance" chapter in the *System Administration Guide*).

- ***10: Multi Media*** This is the minimum number of multimedia ports that must be configured on your system. This number is defined in your system's keycode and reflects how many multimedia channels were purchased with your system.
- ***11: Voice Channels*** The maximum number of voice channels installed on your system. This number is defined in your system's keycode and reflects how many voice channels were purchased with your system.
- ***15: AdminPlus*** This optional feature of Meridian Mail enables the Meridian Mail Reporter software package to collect detailed accounting and billing operational measurements (OM) data for users. Refer to *Meridian Mail General Description* (NTP 555-7001-100).
- ***32: Keycode*** The code used during the software configuration procedure that defines your system and the purchased features. Refer to the *System Installation and Modification Guide* (NTP 555-7001-215) for more information.

In addition, when you select Yes to view the disk information and press <Return>, the tool displays information about the disks on each node.

> ***Note:*** The system may take up to three minutes to refresh the screen and display the disk information after you select Yes and press <Return>.

The following information is displayed after you press <Return>:

- disk size and SCSI ID of the primary disk
- disk size and SCSI ID of the shadow disk (if this is a shadowed system)
- status of the disk, which will be one of the following:
  - ***Primary Active*** The primary disk is active. If this is a shadowed system, this means that there is a problem with the shadow disk, or that the shadow disk is not synchronized properly.
  - ***Shadow Active*** The shadow disk is active. This means that there is a problem with the primary disk, or that the primary disk is not synchronized properly.
  - ***Disks Shadowed*** The primary disk is shadowed and synchronized.
  - ***No Disk*** There is no physical disk in that node.

Chapter 14: Universal Link Message Analyzer (ULMA)

The universal link message analyzer (ULMA) is a monitoring tool designed to monitor the following links:

- ACCESS
- AdminPlus
- PMSI
- SMDI
- T1
- MSLink

Its purpose is to capture the transferred data, and to assist in debugging configuration problems. It allows Meridian Mail specialists to monitor information remotely via modems, and in some cases may eliminate the need to use a protocol analyzer. It is, however, not a replacement of a protocol analyzer.

Feature Limitations

The following is a list of feature limitations:

- Only one link can be monitored within each link monitor at a time, but multiple links can be monitored simultaneously with separate instances of the link monitor.
- Real-time output to the console is limited by baud rate as described in the table below.

Table 14-1
Allowable Baud Rates

	Allowable Baud Rates				
ACCESS	n/a	4800	9600	19200	38400
AdminPlus	2400	4800	9600	n/a	n/a
AML	2400	4800	9600	n/a	n/a
PMSI	2400	4800	9600	n/a	n/a
SMDI	2400	4800	9600	n/a	n/a
T1	2400	4800	9600	n/a	n/a
MSLink	2400	4800	9600	19200	38400

- Light load conditions are advisable, otherwise not all received messages will be displayed. The log files will, however, catch all the transmitted information.
- Only one log file per link is allowed. This should be sufficient because an append option is provided which allows more than one log session to be logged into the log file.
- Setting a view string filter may have serious performance impact on log viewing if the specified string has a low occurrence rate within the logged messages. It takes approximately 30 seconds to search every 1000 messages.
- Scrollback is not provided in view/capture link messages screen.
- ULMA does work with high traffic links when the data is routed to files less than 1 Mbyte. ULMA has a limitation when logging data on high traffic links to very large files (greater than 1 Mbyte) and will lose some of the messages. Message loss occurs on heavily loaded AML links and ACCESS links. It is not expected to be a problem for SMDI, PMSI, or T1 links based on lab results.
- There is no single means to list all current log files, other than by invoking each link monitor.

Using ULMA

The Universal Link Monitor can be accessed from the ETAS Level Menu. (ULMA is also available at the TOOLS level, however, the AML link cannot be monitored from there.) At the ETAS level, all supported links can be monitored. Each time ULMA is selected it is forked into a separate window. This allows multiple links to be monitored at the same time using more instances of the Link Monitor.

> ***Note:*** The maximum number of Link Monitors that can be running simultaneously depends only on the available resources.

Procedure 14-1
Using ULMA

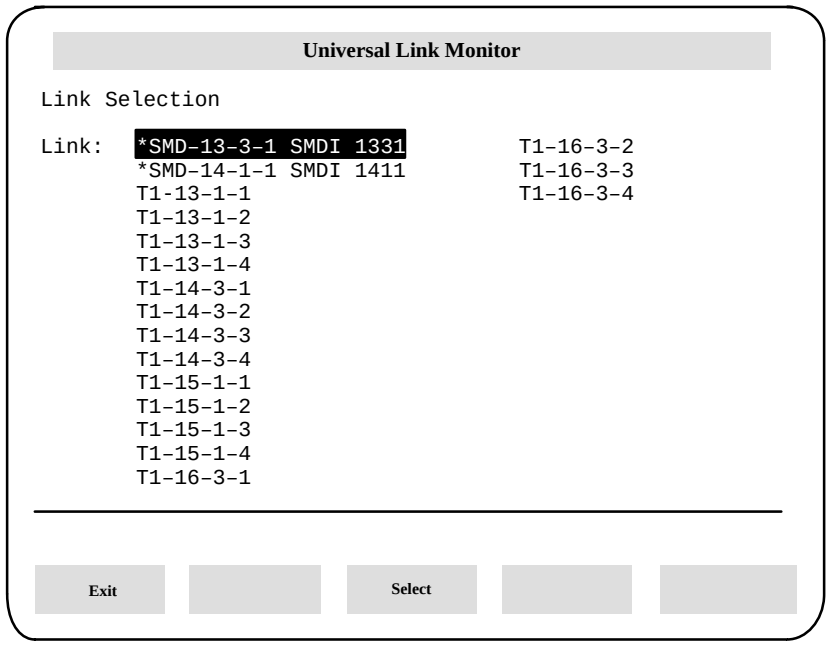
Starting point: ETAS main menu

1. Select ULMA from the menu.
   The Link Selection screen is displayed. See Figure 14-1.
2. Position the cursor beside the link you want to monitor.
3. Highlight the link.
4. Press [Select].
   The Universal Link Monitor Menu appears. See Figure 14-2.

Link Selection Screen

The Link Selection screen allows the user to select a particular link to monitor. All supported links found on the system will be displayed. Once a link is selected, the Universal Link Monitor Menu appears as shown in Figure 14-2 .

Figure 14-1
Link selection screen



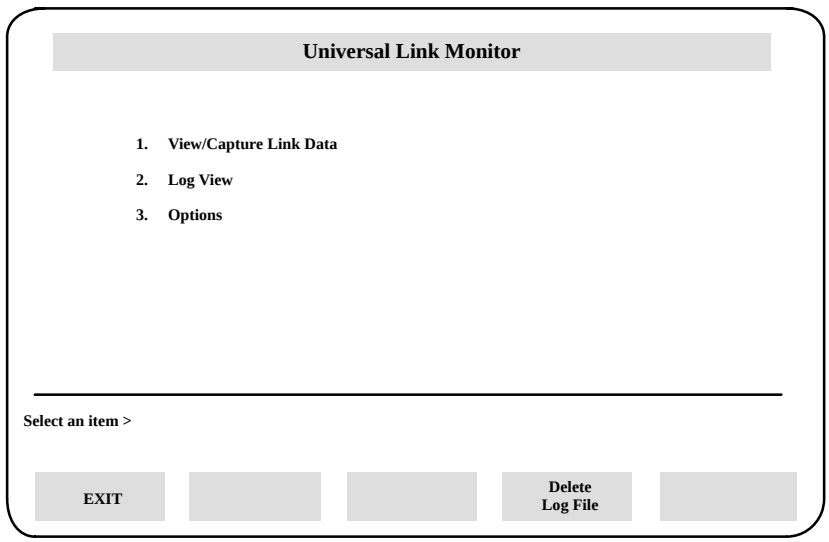
The following softkeys are available:

- ***Exit*** Terminates the Universal Link Monitor screen and removes its window.
- ***Select*** Selects the link that is currently highlighted and enters the Universal Link Monitor Menu. An on screen message indicates whether the selected link is down (the link is not responding), or already in use by another Link Monitor instance (The link is already being monitored by another Link Monitor). If the link is down, you will need to select another link.

Universal Link Monitor menu

This menu provides access to link monitoring, log file viewing, and option setting. Once you have selected a link, the Universal Link Monitor menu appears as shown in Figure 14-2 . ULMA is forked into its own window so you can always go back to the MMI by pressing <Control>–<W>.

Figure 14-2
Universal Link Monitor menu



The following options are available:

- ***View/Capture Link Data*** Enters the View/Capture Link Data screen where link messages will be displayed in real-time and can be captured to a log file.
- ***Log View*** Enters the Log View screen where link messages previously captured into a log file can be viewed, searched for, and printed.
- ***Options*** Enters the Options screen where log file related options and other monitoring options can be set.

The following softkeys are available:

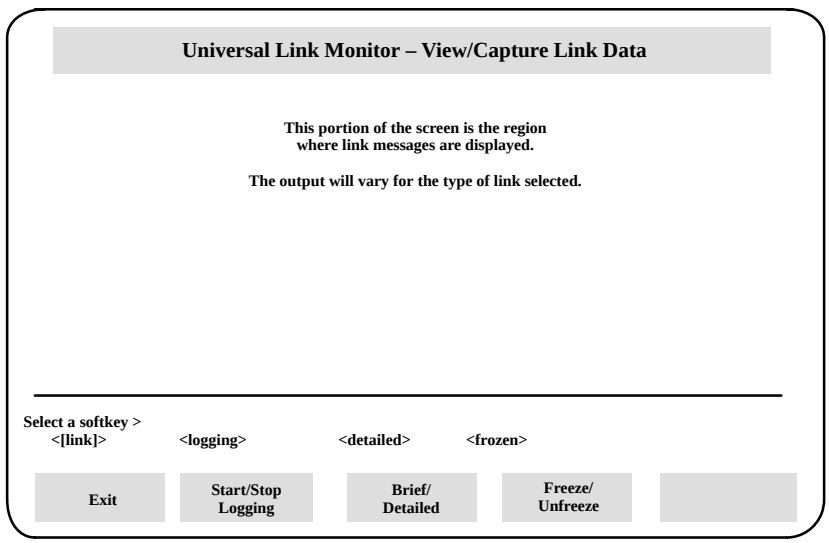
- ***Exit*** Terminates the Universal Link Monitor menu session and returns you to the Link Selection screen.

- ***Delete Log File*** Delete the existing log file for the currently selected link. If a log file doesn't exist for the link, the softkey will not be shown.

The View/Capture Link Data Screen

This screen allows you to view link messages in real time and captures them if desired. The link messages can be displayed either in brief or detailed format. Once you select the View/Capture Link Data option from the Universal Monitor Menu, the View/Capture Link Data screen appears as shown in Figure 14-3.

Figure 14-3
View/Capture Link Data Screen



On this screen <[link]> denotes where the currently selected link name and hardware TN appears. This value is composed of the link type name and link hardware location. In addition to the <[link]> status item, three other items appear namely <logging> ,<detailed>, and <frozen>. These items will always appear regardless of the link type.

- ***<[link]>*** The currently selected link name and hardware TN. The format is the link type name, followed by a hyphen (-), followed by the link hardware location (node #-card #-port #).

- ***<logging>*** This status item appears if logging is in progress. This status may be changed by using the [Start/Stop Logging] softkey. Initially logging is not active and the <not logging> status item appears.
- ***<detailed>*** This status item indicates whether the detailed message output format is active which means that all message information is visible. This status may be changed by using the [Brief/Detailed] softkey. The default mode is <brief> which means messages are displayed in a one line per message format.
- ***<frozen>*** This status item indicates that the display does not show any new link messages and the scrollback is disabled. This status may be changed by pressing the [Freeze/Unfreeze] softkey. The default mode is <viewing>.

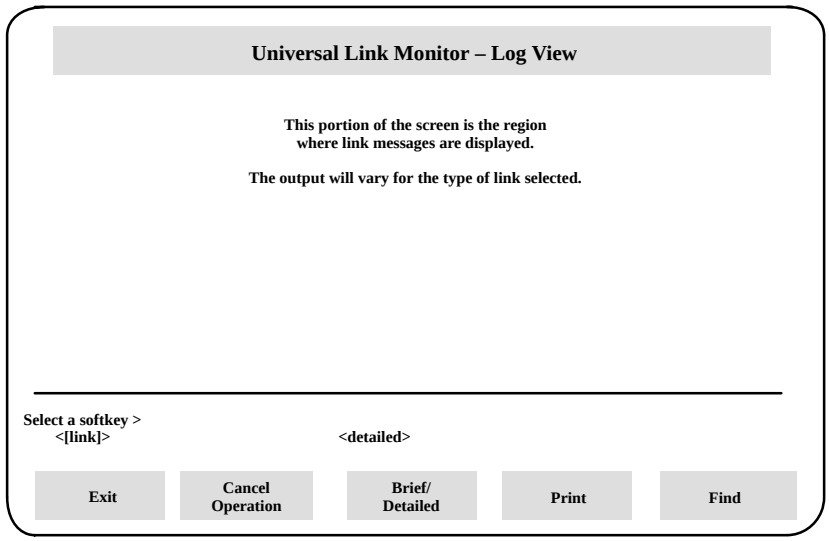
The following softkeys are available:

- ***Start/Stop Logging*** Toggles the log to disk process.
- ***Brief/Detailed*** Toggles between the brief and detailed output formats.
- ***Freeze/Unfreeze*** Toggles displaying of new messages on the screen. When the display is unfrozen, messages that occur while frozen will not appear on the screen.
- ***Exit*** Return to the Universal Link Monitor menu. If link message capturing was in progress, it is stopped.

The Log View Screen

This screen allows you to view and print previously logged link messages. When the Log View screen option is entered, messages from the beginning of the log file are displayed. You can then scroll through the messages, search for a specified message, or print a sequence of messages. The output format can also be specified.

Figure 14-4
Log View Screen



Notice that in addition to the <[link]> status item one other item appears namely <detailed>. These items will always appear regardless of the link type. If there are more messages than the screen can accommodate, you can move up or down a screenful at a time, by pressing the up and down arrow keys.

- ***<[link]>*** The currently selected link name and hardware TN. The format is the link type name, followed by a hyphen (-), followed by the link hardware location (node #-card #-port #).
- ***<detailed>*** This status item indicates whether the detailed message output format is active which means that all message information is visible. This status may be changed by using the [Brief/Detailed] softkey. The default mode is <brief> which means messages are displayed in a one line per message format.

The following softkeys are available:

- ***Cancel Operation*** Cancels the previous or next page and Find log repositioning operations if they are in progress.
- ***Brief/Detailed*** Toggles between the brief and detailed output formats.

- ***Print*** Prints a specified number of link messages to the printer or screen.
- ***Find*** Searches for a string within the link messages.
- ***Exit*** Returns to the Universal Link Monitor menu.

Log View Screen-Print option

The Print option is selected from the Log View screen via the [Print] softkey. You are then prompted for the number of messages to print starting from the message displayed at the top of the screen. Once printing is completed or interrupted, log viewing is resumed.

If you want to print, press the [Print] softkey and enter the number of messages to be printed at the "Number of Messages to Print" prompt. (The range is from 1 to 99 999 and the default is 100.)

The following softkeys are available:

- ***Cancel*** Cancels the selected print operation and returns you back to log viewing.
- ***Print to Console*** Prints the entered number of messages to the ULMA display in a continuous mode.
- ***Print to Printer*** Prints the entered number of messages to the SEER, or reports, printer. While printing is in progress, access to other link monitors or MMI is not possible.

  You can cancel printing at any time.

Log View Screen-Find option

The Find option allows you to search for a specific string within a log message. This is useful because searching for a specific time, message type, DN number, or direction can be done. Once the find operation is completed log viewing is resumed at the "found" position in the log.

If you want to find a string, press the [Find] softkey and enter the search string at the "Search Expression" prompt. Case does not matter.

Search expressions can be built up using the following three logical operators:

- the exclamation mark (!) which means "not"
- the ampersand (&) which means "and"

- the vertical bar (|) which means “or”

For example, on an AML system, you can search for everything except the poll messages with the search string “!poll”. You can search for time requests with the string “time & request”.

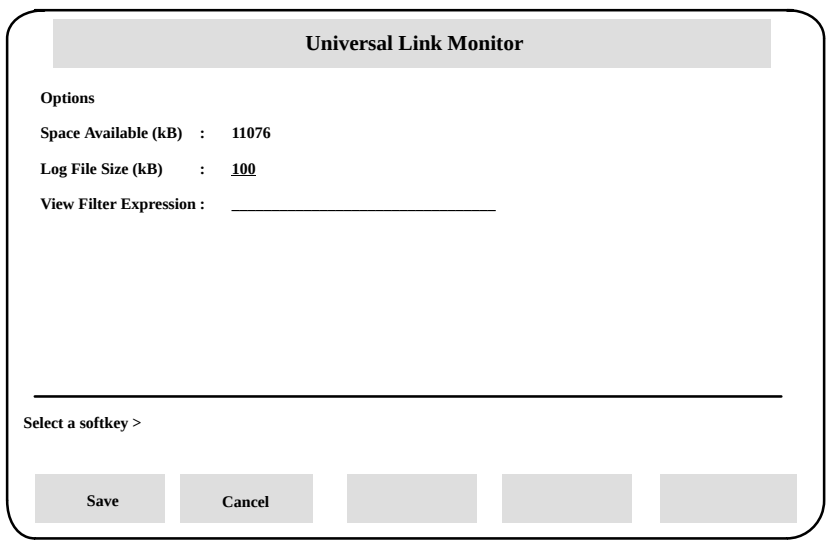
The following softkeys are available:

- ***Find*** Begins the search. The search can also be started by pressing the <Return> key.
- ***Cancel*** Cancels the selected find operation and returns you back to log viewing at the interrupted search position.

The Options Screen

The Options screen allows you to set log file related options and other monitoring options.

Figure 14-5
Options Screen



The following status fields are displayed:

- ***Space Available*** Read-only field. It shows the amount of free space on the volume where the log files are stored.

- ***Log File Size*** Specifies the maximum size that the log file can be. Once this file size is reached and logging continues, the oldest logged messages are deleted as new ones are logged.

  The file size can range from 10 Kbytes to 4500 Kbytes with a default value of 100 Kbytes.

- ***View Filter Expression*** Specifies the string filter to be used when viewing messages. If a string is specified in this field, only link messages containing that string will be shown during a real-time or log view sessions. The string can contain the same logical operators as for log file searching: the exclamation mark (!) meaning “not,” the ampersand (&) meaning “and,” and the vertical bar (|) meaning “or.” For example, AML poll messages can be suppressed with the string “!POLL.”

  The view filter expression is empty by default and can be a maximum of 40 characters.

The following softkeys are available:

- ***Save*** Stores the newly selected options for further capture operations. The changes are, however, not permanent. They will be reset to their defaults once the program is exited and reentered.
- ***Cancel*** Discards any changes made to the options, and sets them back to what they were prior to entering the Options menu.

Link messages

The following list outlines the various link messages which are displayed in the brief output format:

- ***Timestamp area*** Title line contains the date portion of the timestamp. Each message contains its log time which is accurate to centiseconds.
- ***Delta time difference*** Title line contains the time difference (TDiff) area. Each message contains a delta time difference corresponding to the time taken to send the message. This area is PMSI specific.
- ***Message direction area*** Title line shows the names of devices connected to the link (for example MM, PBX etc). The PMSI link shows three devices. Each link message contains an arrow indicating the direction of flow between any two devices. In AML, SMDI and TI links, this area also contains the message type. This area contains the API names for the ACCESS, ADMINPlus, and MSLink.

- ***Error Area*** Title line labels the Error area. Any errors detected in the message will be shown here. This area is PMSI specific.
- ***Data area*** Title line labels the Data area. Any additional message data is shown here.

The following is a list of messages which appear in the detailed message output format:

- ***First line*** This line consists of a timestamp, log date, message direction and message type (or API name).
- ***Date line*** This line is available for some of the links and contain the same information as the data area in brief message format.
- ***Raw data line*** Raw message dump allows you to view the entire message in a raw format.
- ***Last line*** This line gives a detailed description of the message function.

Chapter 15: Change local site ID

The Change local site ID tool can only be used if you have Networking installed on your system (although the option will show up in the TOOLS menu even if it is not installed). It allows the administrator to change the local site ID (if, for example, it was entered incorrectly when the site was defined).

The site ID you specify must already be defined as a remote site. You will, therefore, have to create a dummy remote site using Networking Administration (described in the *Meridian Networking Installation and Administration Guide* [NTP 555-7001-244], the *Virtual Node AMIS Networking Installation and Administration Guide* [NTP 555-7001-245], or the *Enterprise Networking Installation and Administration Guide* [NTP 555-7001-246]) before using this tool. The tool will redefine the current local site as a remote site, and the remote (dummy) site as the local site.

Modifying 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.

What to do before you begin

If you need to change your local site ID, there are a number of things you must do:

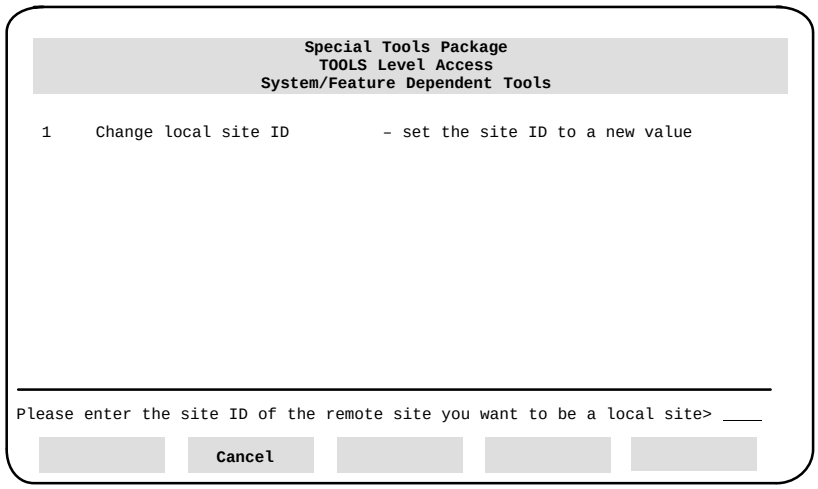
- Print out the local site information.
- List the remote site IDs to make sure that no other site has the same ID number you plan to use. See the *Networking Installation and Administration* guides for details.
- Add a remote (dummy) site with the site ID you have chosen. See *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
- Enter anything you want in the rest of the fields for the remote (dummy) site via the Add Site screen. It is not important what you add at this time.

ATTENTION

Be certain that no networking messages are queued, and that all other sites disable networking messages to this site.

- Perform the site ID change using procedure 15–1.

Figure 15-1
Change Local Site ID screen



Note: Other tools may also be listed here depending on your system type or what features are installed.

Changing the local site ID

Use the following procedure to change your local site ID.

Procedure 15-1
Changing the Local Site ID

Starting point: The TOOLS menu

1 Select Other and press <Return>.

2 Select Change local site ID and press <Return>.

The system displays the Change Local Site ID screen, and prompts you to enter the ID of the remote (dummy) site that you added earlier. This ID will identify the new local site.

3 Enter the site ID and press <Return>.

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 the remote site.

Note: You can press [Cancel] to remove the selection.

4. Display the Remote Site Maintenance – List Sites screen and delete the site with the old local site ID. See the *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
5. Modify your new local site. Replace all the fields with the correct values for the local site from the original local site printout. See the *Enterprise Networking Installation and Administration Guide* (NTP 555-7001-246) for details.
6. Inform the administrators at the other sites of the change.

Chapter 16: Configure GACs

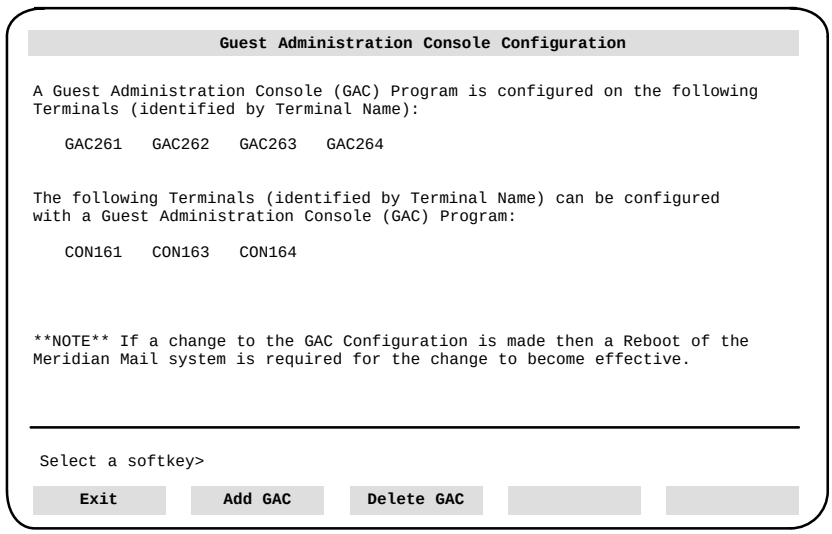
Note: This tool is available only on those systems with Hospitality Voice Services (HVS).

The Guest Administration Console (GAC) configuration tool allows you to view or change the number of Guest Administration Consoles (see Figure 16-1). The tool lists the currently configured GAC programs and terminal data ports, and provides the means to add or delete a GAC on an appropriately equipped terminal.

This tool requires about 160 Kbytes of memory. If you do not have enough memory available, disable the last voice card on node 1. To disable the voice card, go to the System Status and Maintenance menu, select the Card Status option, highlight the card you want to disable, and press the [Disable Card] softkey. For more information, see the "System Status and Maintenance" chapter in the *System Administration Guide*.

Note: To change the GAC Dataport speed, refer to Chapter 4, Procedure 4-8, "Setting parameters for the terminal data port."

Figure 16-1
The Guest Administration Console Configuration screen



Procedure 16-1
Adding a GAC

Starting point: The TOOLS menu

Note 1: If there are no available terminal ports, an existing unused data port must be configured using the hw_modify tool. Change the data type of the data port to hd_termdata so that the data port can be used for GAC. No more than four Guest Administration Terminals should be installed on a system, and no more than two should be installed on Node 1.

Note 2: Disable the last voice card on node 1 if you do not have sufficient memory.

1 Select Other, and press <Return>.

2 Select Configure GACs, and press <Return>.

The Guest Administration Console Configuration screen appears.

3 Press [Add GAC].

You are prompted for the name of the terminal that you want to add.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.

4 Enter the name of one of the terminals listed in the bottom half of the screen that you want to configure with the GAC program, and press <Return>.

The new GAC terminal name will begin with GAC and end with a suffix that you define here. You are now prompted for that suffix.

5 Enter a new suffix for the new GAC terminal, and press <Return>.

The terminal name is added to the top part of the screen, to the list of terminals that have been configured with the GAC program.

6 Press [Exit] to return to the TOOLS menu.

7 Reenable the last voice card on node 1. (See the "System Status and Maintenance" chapter in the *System Administration Guide* for more details on enabling or disabling cards.)

8 Reboot the system for the change to take effect.

Procedure 16-2
Deleting a GAC

Starting point: The TOOLS menu

Note 1: Disable the last voice card on node 1 if you do not have sufficient memory.

1 Select Other, and press <Return>.

2 Select Configure GACs, and press <Return>.

The Guest Administration Console Configuration screen appears.

3 Press [Delete GAC].

You are prompted to specify the name of the terminal that you want to delete.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.

4 Enter the name of the terminal from which you want to delete the GAC program. Press <Return>.

The terminal name is removed from the top of the screen and moved to the bottom to the list of terminals that can be configured with the GAC program.

5 Press [Exit] to return to the Other submenu of the main TOOLS menu.

6 Reenable the last voice card on node 1.

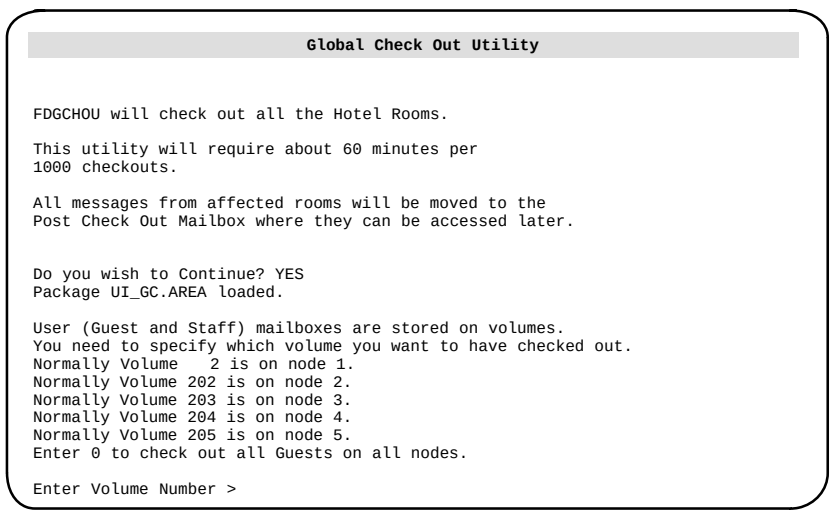
7 Reboot the system for the change to take effect.

Chapter 17: Check out all rooms

Note: This tool is only available on those systems with Hospitality Voice Services (HVS).

This tool allows you to check out all hotel rooms at one time. This tool is only required when a system restore operation has been performed, so that the messages of the previous room occupant are not restored to a new guest's mailbox.

Figure 17-1
The Global Check out screen



Procedure 17-1
Checking out all rooms

Starting point: The TOOLS menu

1 Select Other, and press <Return>.

2 Select Check out all rooms, and press <Return>.

The Global Checkout screen appears.

3 To check out all rooms, go to step 3a. To return to the TOOLS menu, go to step 3b.

a. Press the up or down arrow key until Yes appears next to the prompt “Do you wish to Continue?” Then press <Return>.

b. Press the up or down arrow key until No appears next to the prompt “Do you wish to Continue?” Then press <Return>.

The TOOLS menu is displayed.

4 If Yes is selected, the information shown in Figure17-1 is displayed. You must choose a volume to be checked out, one volume at a time, or select the option to check out all guests.

Note: On Card Option systems, only node 1 and volume 1 exist.

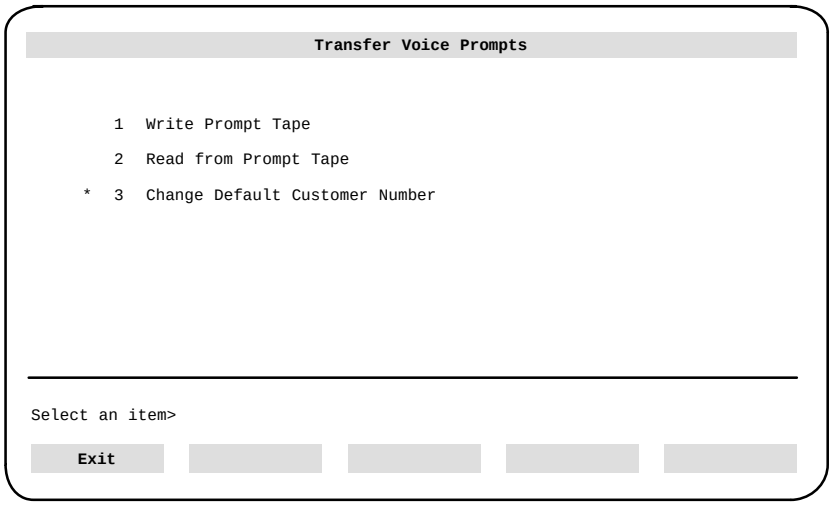
Chapter 18: Transfer voice prompts

The Transfer voice prompts tool is designed to facilitate the transfer of voice prompt files between mailboxes or Meridian Mail systems.

> ***Note:*** This tool is available only if the Meridian ACCESS Enable feature is installed on your system.

When you select “Transfer voice prompts” from the TOOLS Level menu, the Transfer Voice Prompts screen (see Figure 18-1) is displayed.

Figure 18-1
The Transfer Voice Prompts screen



Note: *This item always shows on the menu however, it is applicable only if the Multi-Customer feature is installed.

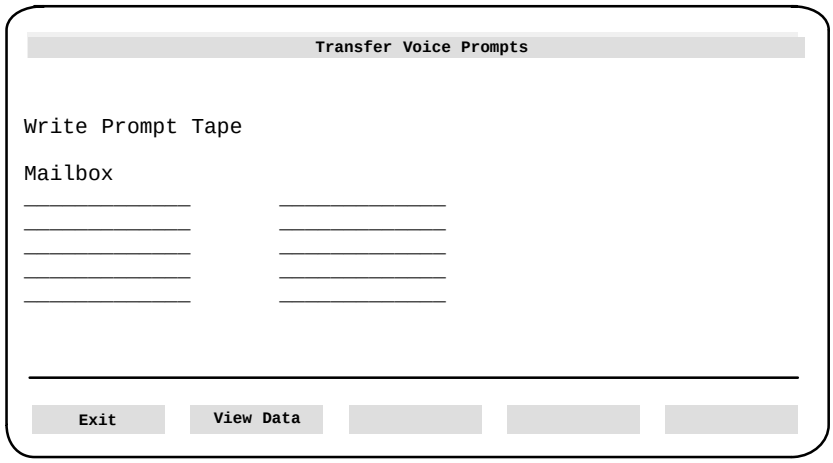
Write Prompt Tape

Only voice prompt files can be written to a prompt tape. (Files cannot be appended to the end of an existing tape.) This tool begins its write operation at the beginning of the tape. Figure 18-2 shows the Write Prompt Tape screen.

For the write operation to work properly, the system must have enough free disk space to store a copy of all the voice prompt files. One method to free up disk space is to run the “Audit all volumes” tool. For other suggestions on how to reduce the amount of disk space used, or to find out how much disk space is currently being used, consult the “Disk Usage Detail” report section in the “Operational Measurements” chapter of the *System Administration Guide* appropriate to your system.

Note: If the Multi-Customer feature is installed, specify the appropriate customer number before using this command.

Figure 18-2
The Write Prompt Tape screen



You may specify up to 10 different mailbox numbers (identifying the mailboxes containing the voice prompt files) in the available fields. If you want to write the files of more than 10 mailboxes to tape, you will have to perform more than one tape dump operation. You are also limited to writing a maximum of 16 files onto one tape.

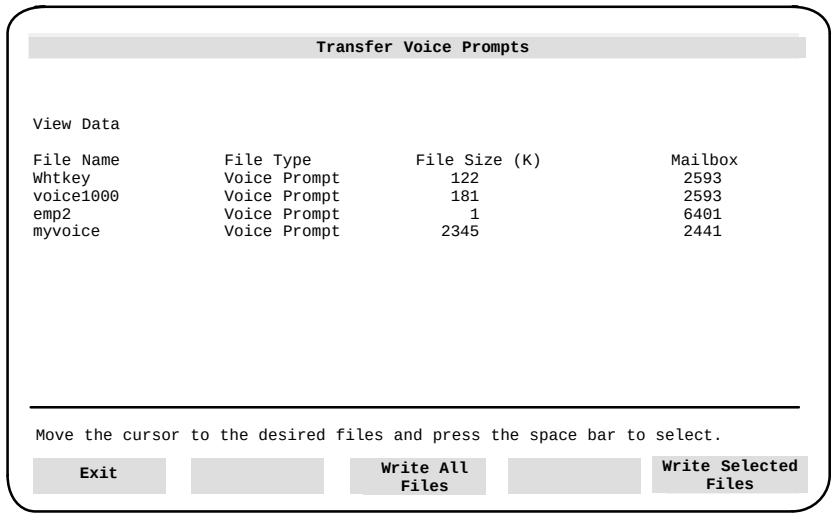
Mailbox numbers are validated as you enter them. Only valid input will be accepted. If the entry is invalid, an error message will be displayed. Mailboxes are also validated for the existence of voice prompt files.

> ***Note:*** If Networking is installed on your system, only mailboxes at the local site are considered valid.

Once the mailbox numbers have been entered, press [View Data] to display a screen (see Figure 18-3) listing the entered mailbox numbers and all the files associated with them.

If duplicate filenames show up on the View Data screen (more than one mailbox has the same filename associated with it), then these files must be written to tape separately. Select one of the duplicate filenames for one write operation (press [Write Selected Files]), and then select the other file for the next write operation.

Figure 18-3
The View Data screen



The following fields are displayed on this screen:

- ***File Name*** The names of the files associated with the mailbox numbers entered in the Write Prompt Tape screen appear here. The total number of files associated with the (up to 10) mailboxes cannot exceed 16.
- ***File Type*** This is the type of file associated with the mailbox numbers entered in the Write Prompt Tape screen. Currently, the only valid file type is Voice Prompt.
- ***File Size*** This is the size of the files (in kilobytes) associated with the mailbox numbers entered in the Write Prompt Tape screen.
- ***Mailbox*** This is the mailbox number as entered in the Write Prompt Tape screen.

Procedure 18-1
Transferring files to tape

Starting point: The Transfer Voice Prompts screen

1 Select Write Prompt Tape from the Transfer Voice Prompts screen.

The Write Prompt Tape screen is displayed.

2 Enter the mailbox numbers of the mailboxes containing the voice prompt files you wish to transfer to tape.

If the total number of voice prompt files contained in the specified mailboxes exceeds 16, you will not be able to enter any more mailbox numbers. In this case, you will have to perform more than one tape dump operation.

3 Press [View Data].

The View Data screen is displayed.

Note 1: A number of error conditions may be reported during the tape dump process such as tape write errors and tape media failures. Error messages are displayed to notify you of such conditions and a [Retry] softkey is displayed so that you may try the tape dump again.

Note 2: If duplicate filenames show up in the View Data screen, the duplicate files must be written to tape separately. Use the [Write Selected Files] option discussed in Step 4b.

4 To transfer all the files listed in the View Data screen to tape, go to step 4a. To transfer one or more (but not all files listed) to tape, go to step 4b.

a. Press [Write All Files]. All of the files listed on the screen are transferred to tape.

The files are converted to the required format. After a short delay, a new screen is displayed, prompting you to insert the tape and press [OK] to start writing to tape.

b. Use the up or down arrow key to move the cursor to the desired file. Press the <Space Bar> to select it. Repeat this step for all files that you want to transfer to tape.

Once all of the files you want to transfer are selected, press [Write Selected Files].

The files are converted to the required format. After a short delay, a new screen is displayed, prompting you to insert the tape and press [OK] to start writing to tape.

5 Insert the tape.

6 Press [OK] to start writing to tape. The [Cancel] softkey appears. Press [Cancel] if you need to abort an active tape dump at any time during the transfer process.

The files are transferred to tape. The output from the program that transfers the files is displayed on the screen as the transfer occurs.

Note: The active utility program looks in up to four text volumes for space to hold the temporary file that is created during the transfer process. This space is released as soon as the tape is made. If there is not enough temporary space available on your system, you will be notified with a message indicating the amount of space required to complete the transfer.

When the transfer is complete, the following message is displayed:

```
*** MAKETAPE volume completed ***
```

7 To make extra copies of the tape, wait until the above message is displayed and then press [Retry/Another Copy] to make extra copies of the current tape. If you do not need more copies, go to step 8.

8 To transfer more files from the mailboxes already displayed on the View Data screen, go to step 8a. If you want to specify a new group of mailboxes from which you wish to transfer voice prompt files, or if you do not want to do another tape transfer at this point, go to step 8b.

a. Press [Cancel].

You are returned to the View Data screen (see Figure 18-3).

To transfer files to another tape, go to step 4b.

b. Press [Exit].

You are returned to the Write Prompt tape screen (see Figure 18-2).

From this screen, you may delete the current mailboxes and enter a different set of mailboxes (go to step 2), or you may return to the Transfer Voice Prompts menu (see Figure 18-1) by pressing [Exit].

Use the [Exit] softkey on the Transfer Voice Prompts menu screen to return to the TOOLS menu.

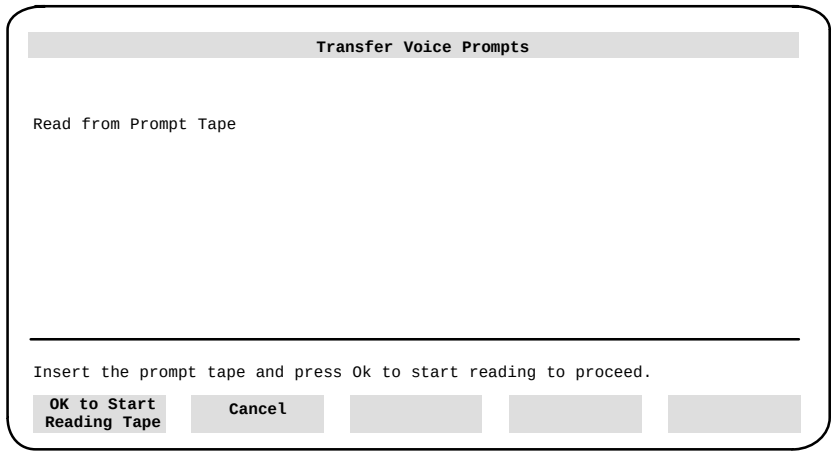
Read Prompt Tape

Read Prompt Tape scans all files on the tape and processes them according to your specifications.

When you select the Read Prompt Tape option from the Transfer Voice Prompts menu, the Read from Prompt Tape screen is displayed (see Figure 18-4).

Note: If the Multi-Customer feature is installed, specify the appropriate customer number before using this command.

Figure 18-4
The Read from Prompt Tape screen



Procedure 18-2
Reading voice prompts from tape

Starting point: The Transfer Voice Prompts menu

Note: There must be enough memory and temporary space on your system to accommodate the temporary files that are created during this process. If additional memory is required in an active system, channels can be courtesied down to get required memory. It is recommended that the higher numbered channels are courtesied down first.

1 Select Read from Prompt Tape from the Transfer Voice Prompts screen.

The Read from Prompt Tape screen (see Figure 18-4) appears.

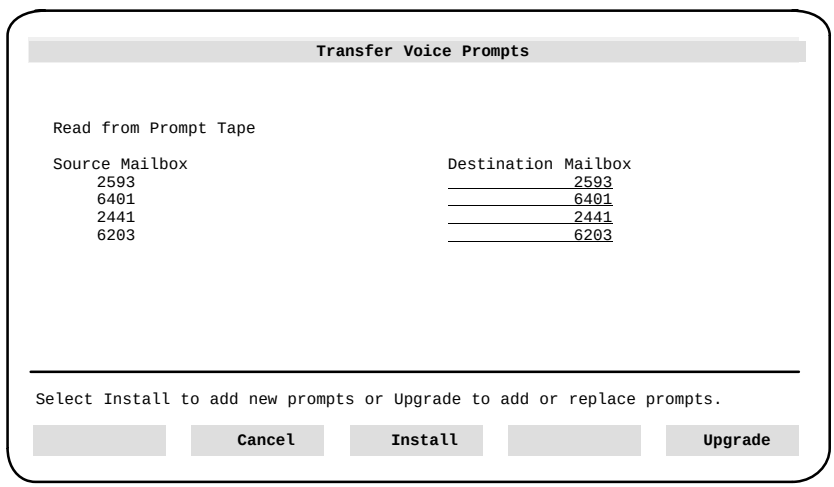
2 Insert the prompt tape.

3 Press [OK].

The tape is read and verified. If an incorrect tape has been inserted, or if there are any errors during the process, you will be notified by a screen message and given the opportunity to retry the operation.

When the correct tape is inserted, the screen shown in Figure 18-5 is displayed. This mailbox information is obtained from the tape.

Figure 18-5
Source and Destination Mailboxes



The Destination Mailbox fields are prefilled with the source mailboxes as the default data. The Destination Mailbox fields can be edited to indicate the mailboxes to which prompts are to be copied. If a Destination Mailbox field is left blank, the contents of the corresponding source mailbox will not be copied to any mailbox.

4 Press [Install] or [Upgrade] to transfer the source mailboxes to the destination mailboxes.

If you press [Upgrade], any existing files with the same name will be overwritten.

If you press [Install], you will be informed that there are existing files having the same name, and they will not be overwritten.

Press [Cancel] to abort all action.

You are returned to the Transfer Voice Prompts menu.

Change default customer number

This command only applies if the Meridian Mail Multi-Customer feature is installed. When this item is selected, you are prompted to enter the customer number to be used when referencing mailboxes in the read or write commands. No validation is performed on the number you enter, so be sure to enter the correct customer number.

Chapter 19: ACCESS diagnostics

The ACCESS diagnostics tool can be used to diagnose or monitor system activity, or both, related to Meridian ACCESS running on a UNIX processor.

> ***Note:*** This tool is available only if the Meridian ACCESS Enable feature is installed on your system.

The diagnostic tool includes a group of commands which allow you to verify

- if an ACCESS link is operational
- link stability
- the ACCESS port number and link version of the application processor (Release 2 or 3)
- the number of link outages that have occurred
- if application traffic is present
- whether the Meridian ACCESS tasks are running
- whether the applications processor link handler is running

Figure 19-1 shows the initial screen that is displayed when the diagnostic tool is loaded from the TOOLS menu. The last line on the screen displays the current command.

ACCESS components

There are three primary components on each side of the ACCESS link. They are briefly discussed in the following sections. If you require a more detailed description, refer to the Overview in the *Meridian ACCESS Configuration Guide* (NTP 555-7001-315).

Meridian Mail components

Toolkit

There is a Toolkit (TK) for each voice port on the system. The Toolkit is responsible for executing API commands received across the Meridian ACCESS link.

Toolkit Master

The Toolkit Master (TKM) acts as a resource manager for Toolkit tasks. There will be a Toolkit Master for each node configured to have an ACCESS link.

Toolkit Communications

The Toolkit Communications (TC) task is responsible for driving the Meridian ACCESS link. It implements a proprietary protocol that supports variable size packets, checksum error handling, virtual channels, and retransmission on errors. Valid command packets received are passed on to the appropriate toolkit task. There will be a TC for each node configured to have an ACCESS link.

Application processor components

ACCESS link handler

This task provides functionality equivalent to the Toolkit Communications task for the applications processor side. The link handler is split into two tasks: one receives data and the other handles the output.

ACCESS Application Programming Interface library

This is the ACCESS object code library containing ACCESS Application Programming Interface (API) procedures that are accessed by the applications. Most procedures translate into commands that are put into a data packet and passed on to the link handler.

Application

This is the ‘C’ program written by either Nortel or a third-party developer which uses ACCESS API procedures to answer calls when they arrive. The application controls the interactive voice response (IVR) service being provided.

Meridian ACCESS Diagnostics screens

The Meridian ACCESS Diagnostics (MADT) screens provide information concerning the stability and status of all ACCESS links. The main Meridian ACCESS Diagnostic screen which is available through the TOOLS menu provides a list of current links, while softkeys allow you to select more extensive levels of detail or to reset counters.

Procedure 19-1
Accessing the main Meridian ACCESS Diagnostics screen

Starting point: The TOOLS menu

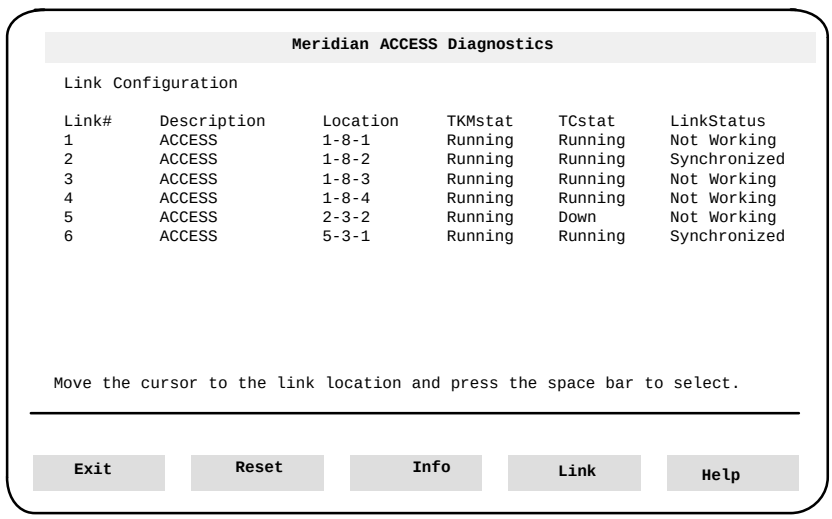
1 Select Other and press <Return>.

The System/Feature Dependent Tools menu is displayed.

2 Select ACCESS Diagnostics and press <Return>.

The main Meridian ACCESS Diagnostics screen (see Figure 19-1) is displayed.

Figure 19-1
The Main Meridian ACCESS Diagnostics screen



3 Use the up and down arrow keys to highlight the ACCESS link you wish to view, then press the space bar to select the link. Each link entry provides the following information:

— link number

— link type name (ACCESS)

— link hardware location (in the format <node#>-<card#>-<port#>)

— TKM status

— Toolkit communication status

— status of the link (not working, synchronized)

4 Select one of the softkeys to perform the appropriate action. Refer to Table 19-1 for an explanation of each action.

Table 19-1
MADT softkeys

Softkey	Action
Exit	Return to the TOOLS level menu.
OM Reset	Reset the packet counters of the highlighted link to zero. An informational message is displayed once the operation is complete. See Figure 19-2.
OM Info	Displays the MADT Link Information screen. See Figure 19-3.
Link Test	Determines if the link handler on the applications processor is operational for the highlighted link. A status message is displayed on the MADT Link Information screen. See Figure 19-4.
Help	Displays MADT Help screen. See Figure 19-6.

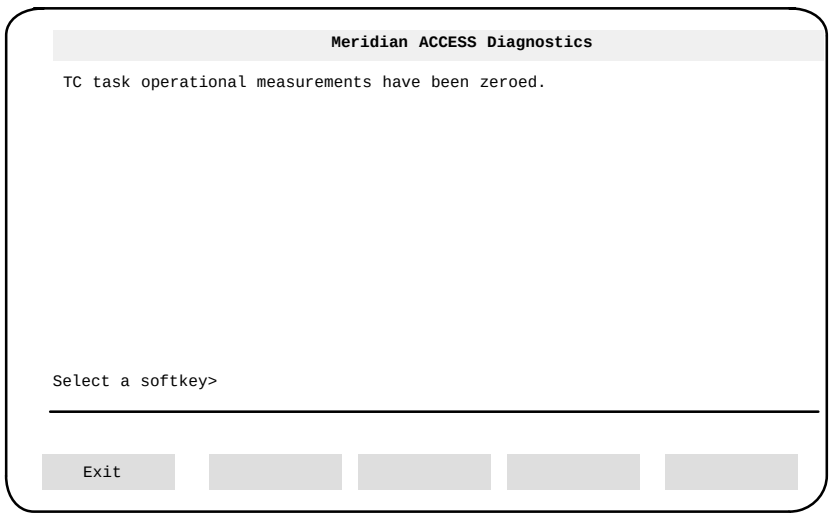
5 When you have finished running diagnostics, select the EXIT command to return to the TOOLS menu.

OM Reset

The Meridian ACCESS Diagnostics Reset Information screen is accessed by selecting <OM Reset> from the Main ACCESS Diagnostics screen. The screen indicates whether the operational measurements (OMs) have been reset. Refer to Figure 19-2.

If the reset is properly executed, the message “TC task operational measurements have been zeroed” is displayed, and the counters are reset to zero. If the reset cannot be accomplished, an appropriate message will be displayed.

Figure 19-2
OM Reset screen



OM Info

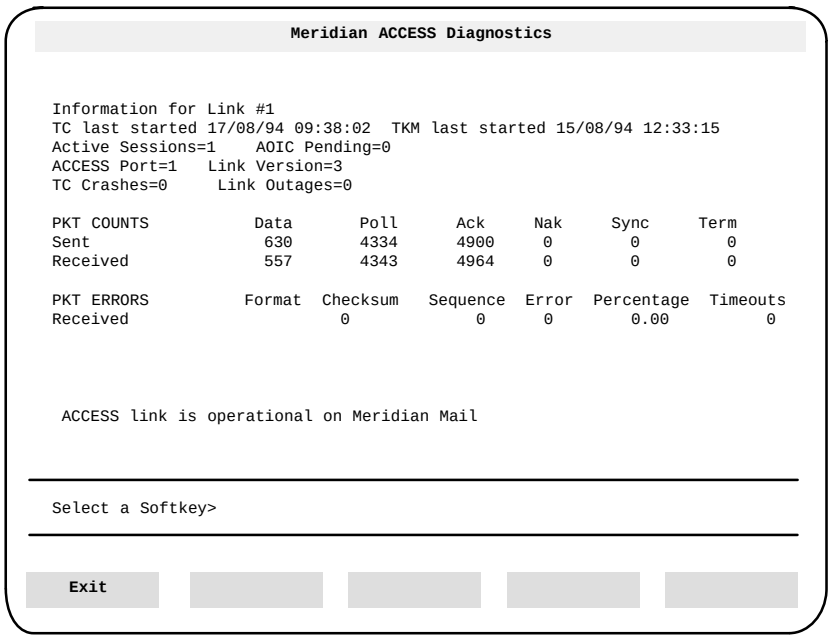
The Meridian ACCESS Diagnostics Link Information screen is accessed by selecting <OM Info> from the Main ACCESS Diagnostics screen. The screen provides read-only access to statistics regarding the stability of the link. Refer to Figure 19-3.

There are several indicators in the OM data which can help to determine link stability, such as the number of errors detected. There are several types of errors that occur. For each type, a total is calculated. These totals are then used to calculate the link error rate. It is quite normal to have some errors. The error rate will be slightly higher for more heavily used links.

Note: If the error rate remains greater than 0.01 percent, action should be taken. On a system that has been up and running normally, the error rate should not fluctuate greatly. However, during installation or configuration changes, you may experience a higher error rate for several reasons:

- The ACCESS RS-232 cable is too long (for example, greater than 15.15 meters [50 feet]).
- The application processor cannot cope with link traffic. This is probably the case if the majority of received errors are “Naks.”
- Application traffic needs to be reduced. This is probably the case if the majority of errors are on the receiving (Meridian Mail) side.

Figure 19-3
The Meridian ACCESS Diagnostics Link Information screen



At the top of the screen, a variety of fields display information regarding the stability and status of the link.

- ***TC last started*** This is an indication of whether the TC task is running. When the TC task is running, the link is either in operational mode or attempting to synchronize with the UNIX processor. If the link is operational, then the link handler on the UNIX processor is up and running.
- ***TKM last started*** This is an indication of whether the TKM task is running.

  Note: For the TC to be running, the TKM must be present.

- ***Active Sessions*** Self-explanatory.
- ***AOIC Pending (Acquire on Incoming Calls)*** This field indicates whether a port has been acquired to run the application.

- ***ACCESS port*** This is the number of the data port.
- ***TC Crashes*** Self-explanatory.
- ***Link Outages*** Self-explanatory.

PKT COUNTS

- ***Data*** The total number of data packets.
- ***Poll*** The number of sanity poll packets (sent only when the link is idle).
- ***Ack*** The number of acknowledgement packets.
- ***Nak*** The number of negative acknowledgement packets.
- ***Sync*** The number of synchronization request packets.
- ***Term*** The number of shutdown link request packets.

PKT ERRORS

- ***Format*** The number of packets received in the wrong format.
- ***Checksum*** The number of packets received containing checksum errors.
- ***Sequence*** The number of packets received out of sequence.
- ***Error Percentage*** The link receive error rate, calculated by dividing the total number of packets received by the number of packet transmission errors.
- ***Timeouts*** UNIX workstation responses not received.
- ***Link status*** The report indicates whether the ACCESS link is operational. If the link cable is unplugged, it may take up to 30 seconds to detect this.

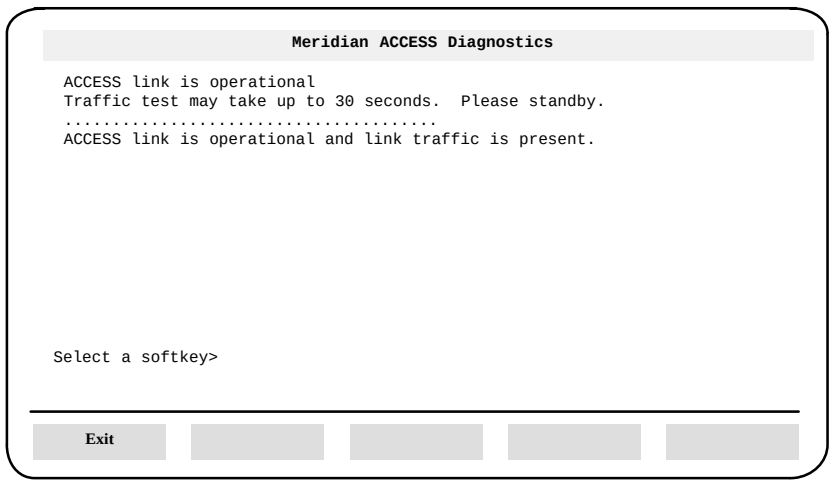
Link Test

This softkey performs the necessary checks and displays a report on the status of ACCESS software running on the applications processor.

When <Link Test> is running, it monitors the link and reports if any application traffic was detected. If the link appears operational but no link traffic is detected within 30 seconds, the link handler on the applications processor is not functioning correctly.

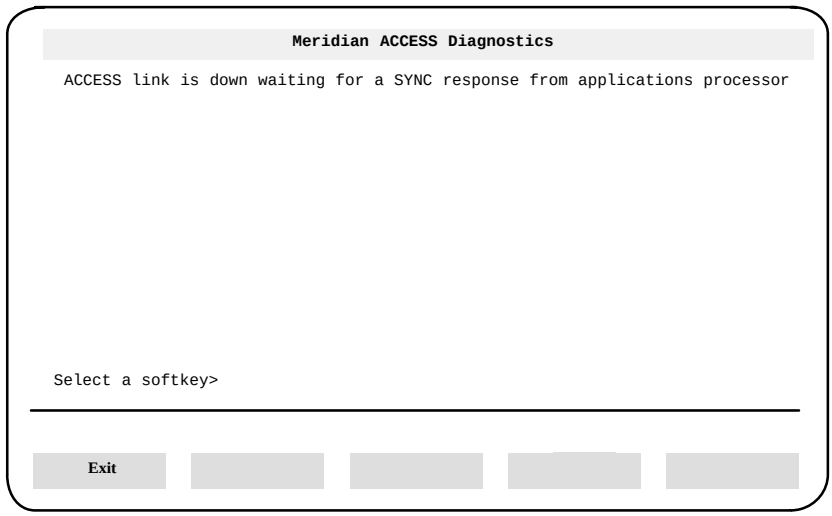
Figure 19-4 shows the output for the <Link Test> softkey when the system is operating normally and one or more applications are active.

Figure 19-4
Link Test screen



When the Link Information screen indicates that the link is not operational, selecting <Link Test> simply confirms this as shown in Figure 19-5.

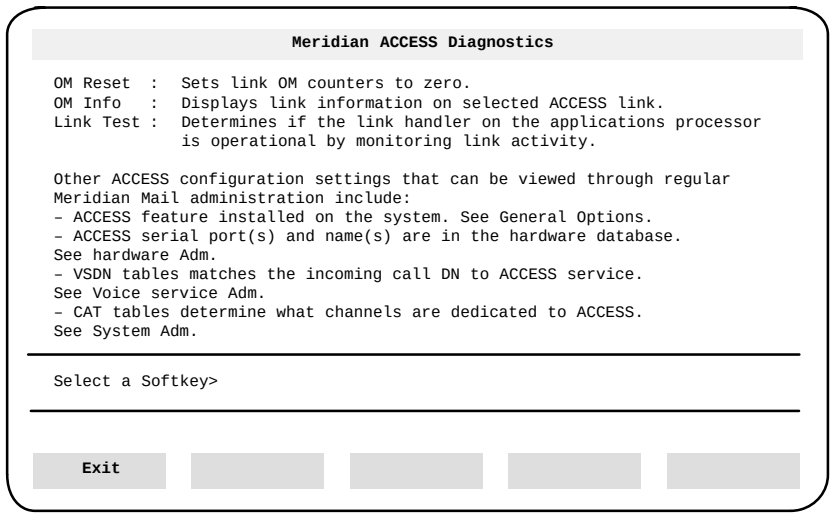
Figure 19-5
Link Test output screen (link not operational)



Help screen

This softkey displays the Meridian ACCESS Diagnostics Help screen.

Figure 19-6
The Meridian ACCESS Diagnostics Help screen



Diagnosing ACCESS configuration problems

If results indicate that there may be a configuration problem on Meridian Mail, it is useful to know the actual configuration requirements of ACCESS on Meridian Mail. The following sections discuss configuration parameters which can be checked.

Procedure 19-2
Verifying ACCESS is enabled on Meridian Mail

Proceed as follows to check if ACCESS is enabled on your Meridian Mail.

1. Select General Administration from the Meridian Mail Main Menu.
2. Select General Options from the next menu displayed.

   Meridian ACCESS will be listed under the Available Features portion of the screen.

ACCESS link cable

The ACCESS link cable should be connected to the data ports that are configured as MMLink in Meridian Mail. If you are unsure whether the ACCESS link cable is correctly connected, compare the physical cables to the dataports appearing on the Dataport Configuration screen. See "Dataport configuration" for more information.

Viewing hardware database settings

Procedure 19-3
Viewing hardware database settings

1. Select Hardware Administration from the Meridian Mail Main Menu to view hardware database settings.
2. Select Data Port Configuration from the next menu displayed.

   This screen displays a list of configured system data ports only, one of which should be of device type MMLink.
3. Select the item in the list and press the [View] softkey to view the port setting.

The data port that is configured for ACCESS must have the following settings:

— *Device Type must be set to MMLink.*

— *Baud Rate must be set to 4800 or 9600. Refer to the* ACCESS Configuration Guide *(NTP 555-7001-315) for further information.*

— *Data Port Location must be specified.*

Chapter 20: Configure MATs

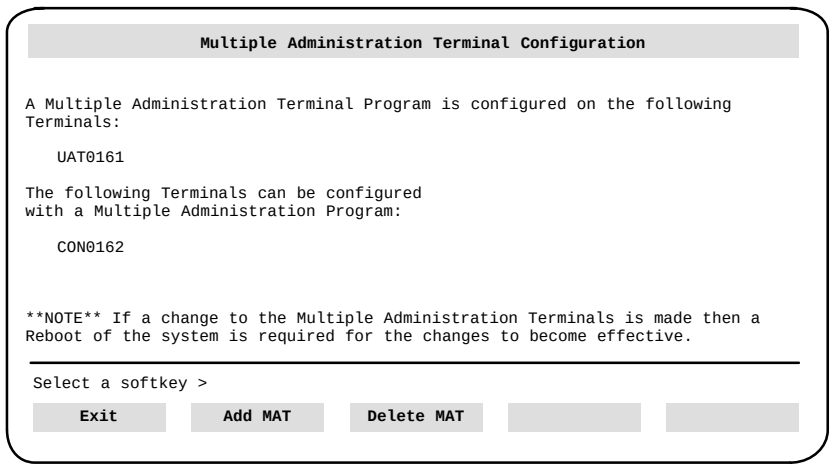
The Configure MATs tool allows you to view or change the number of Multiple Administration Terminals (MATs). The tool lists the currently configured MATs and provides a means for adding the MAT program to a terminal or deleting it from one. Terminals are normally defined as MAT terminals during installation. Therefore, this tool is only used in the event that you need to change the configuration that was created during installation.

> ***Note:*** This tool is available only if the Multiple Administration Terminals feature is installed on your system.

The Configure MATs option is displayed when you select “Other” from the main TOOLS menu. When you select Configure MATs from this submenu, the screen shown in Figure 20-1 is displayed.

> ***Note:*** To change the MAT Dataport speed, refer to Chapter 4, Procedure 4-8, “Setting parameters for the terminal data port.”

Figure 20-1
The Multiple Administration Terminal Configuration screen



A terminal name is displayed in this screen for any data port that is defined as “Terminal” in the hardware database. The first part of the screen displays all terminals that have been configured with the Multiple Administration Terminal Program. The bottom portion of the screen displays those terminals that can be configured with the program. The following procedures describe how to add and delete the MAT program.

Procedure 20-1
Adding a MAT

Starting point: The TOOLS menu

> ***Note:*** If there are no available terminal ports, an existing unused data port must be configured using the Modify hardware tool. No more than three Multiple Administration Terminals can be installed on a system.

1 Select Other and press <Return>.

2 Select Configure MATs and press <Return>.

The Multiple Administration Terminal Configuration screen appears.

3 Press [Add MAT].

You are prompted to specify the name of the terminal that you want to add.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, press [Cancel] to quit the operation.

4 Enter the name of one of the terminals that can be configured with a Multiple Administration Program. Press <Return>.

You are prompted to provide a suffix for the new terminal name. All terminals configured with the Multiple Administration Terminal program begin with UAT.

5 Enter the suffix for the new terminal name (the standard naming convention for UAT is UATnncp where nn is the node number, c is the card number, and p is the port number. You do not have to follow this convention, but only alphanumeric input will be accepted).

The terminal name is added to the top of the screen where the configured terminals are listed.

6 Press [Exit] to return to the Others submenu of the main TOOLS menu.

7 Reboot the system for the change to take effect.

Procedure 20-2
Deleting a MAT

Starting point: The TOOLS menu

1 Select Other and press <Return>.

2 Select Configure MATs and press <Return>.

The Multiple Administration Terminal Configuration screen appears.

3 Press [Delete MAT].

You are prompted to specify the name of the terminal that you want to delete.

A new softkey, [Cancel], is displayed. If you do not wish to proceed, [Cancel] to quit the operation.

4 Enter the name of one of the terminals that is currently configured with a Multiple Administration Program. Press <Return>.

The terminal name is removed from the top of the screen and moved to the list of terminals that can be configured with the Multiple Administration Program. The name is changed from UATxxx to CONxxx.

5 Press [Exit] to return to the main TOOLS menu.

6 Reboot the system for the change to take effect.

Chapter 21: Add or delete many users

Note: This tool is available only on Card Option systems.

The Add or Delete many users tool allows you to do the following:

- Assign a Class of Service (COS) and a hospitality user class (if applicable) to the group of mailboxes you wish to add; this is the Set Parameters option and must be run before you run the Add User or Delete User options.

  Note: On multi-customer systems, the Set Parameters option also prompts for the customer group that you wish to delete from or add to.

- On a system with NMS installed, the prompts are all the same; however, the administrator will be allowed to put the location prefix in front of the starting mailbox number. A line is output to the screen for information purposes only.

  ```
  *>mbox = < > Loc = < >    Site = < >
  ```

- Add or delete a group of consecutive user mailboxes, rather than adding or deleting them one at a time through User Administration (see the “User Administration” chapter in the *System Administration Guide*, or the *Customer Administration Guide* for Multi-Customer systems).
- This utility cannot be used to add remote voice users. If a prefix of a remote site is tried, the following error message will be displayed:

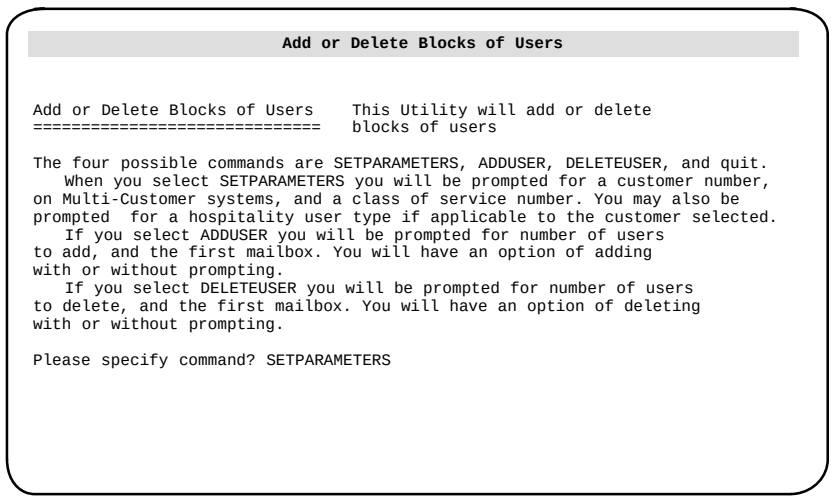
  ```
  cannot add remote voice users with this utility.
  ```

Card Option systems may be installed with user mailboxes already added. If the number of mailboxes or the mailbox numbers are not appropriate, you can delete the existing mailboxes and then add a group of new ones with this tool (or add them one at a time in User Administration).

For example, your system may come with mailbox numbers that are four digits in length whereas you require three digit mailbox numbers. Rather than changing each mailbox individually, it would be easier to delete the existing block of mailboxes and add a new block using a numbering plan that is appropriate.

When you select the Add/delete many users item from the TOOLS menu, the screen shown in Figure 21-1 is displayed.

Figure 21-1
The Add or Delete Blocks of Users screen

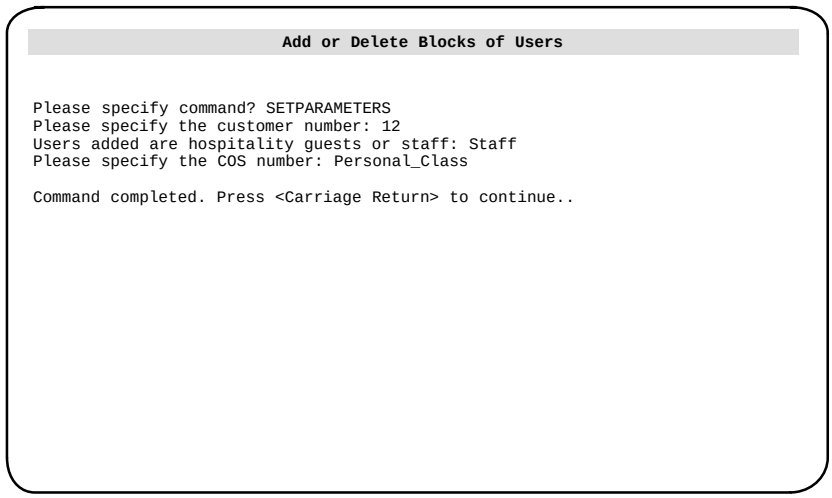


The Set Parameters option must be run first before adding or deleting. Following that, typically, administrators will want to delete a block of users, and then add a new block of users that will have the parameters that were set during the Set Parameters option.

Set Parameters

Figure 21-2 provides an example of the prompts and responses for the Set Parameters option.

Figure 21-2
Set parameters for a block of users



Note 1: On single-customer systems, the Set Parameters option does not prompt for a customer number. Similarly, the prompt for a hospitality user class does not appear on non-Hospitality systems.

Note 2: The specified hospitality user class and Class of Service is assigned to any users added through the Add User option of this tool. However, the hospitality user class and Class of Service do not affect the Delete User option. When you run Delete User, mailboxes are deleted regardless of the hospitality user class or Class of Service selected here.

Delete a block of users

Figure 21-3 provides an example of the prompts and responses for the Delete User option. This option allows you to delete up to 1000 users (mailboxes). On multi-customer systems, these users are deleted from the customer group specified when you ran the Set Parameters option.

By specifying a starting mailbox number and how many users you want to delete, you define a range of mailboxes to be deleted. For example, if the starting mailbox number is 1000 and you specify 50 mailboxes to delete, mailboxes from 1000 to 1049 will be deleted.

If some of the mailboxes within the specified range did not exist (for example, mailboxes 1010 to 1015 were never set up), then they are skipped over. No additional mailboxes are deleted to compensate for the skipped mailboxes. The range of mailboxes to delete would remain 1000 to 1049.

Also, mailboxes within the specified range will be deleted regardless of the hospitality user class or Class of Service selected when you ran the Set Parameters option.

If you want a printout of the deleted users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

A success or failure message is displayed after each attempted deletion.

Figure 21-3
Delete a block of users

```
                    Add or Delete Blocks of Users


Please specify command? DELETEUSER
Please specify how many users are to be deleted: 4
Please specify the start mailbox number: 2221
Are you sure you want to delete these users? YES
Do you want to be prompted for each user deletion? YES
Do you want to Delete User with Mailbox 2221? YES
User with Mailbox 2221 has been deleted.
Do you want to Delete User with Mailbox 2222? NO
Do you want to Delete User with Mailbox 2223? YES
User with Mailbox 2223 has been deleted.
Do you want to Delete User with Mailbox 2224? YES
User with Mailbox 2224 does not exist.

Command completed. Press <Carriage Return> to continue..
```

Add a block of users

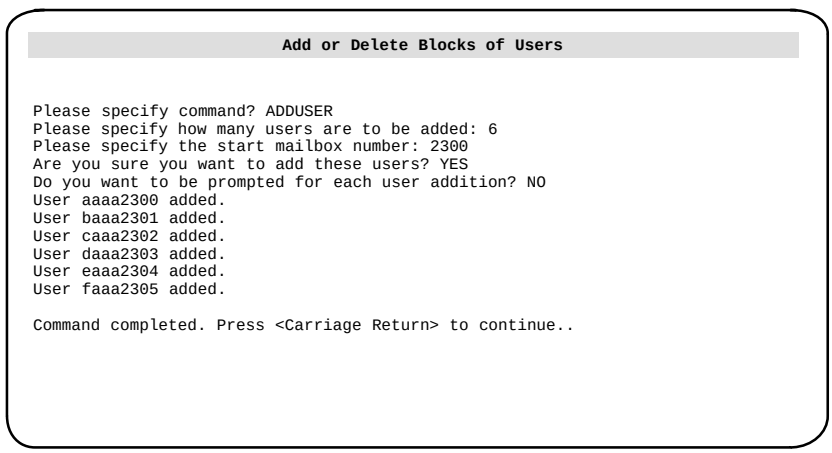
Figure 21-4 provides an example of the prompts and responses for the Add User option. This option allows you to add up to 1000 users (mailboxes). On multi-customer systems, these users are added to the customer group specified when you ran the Set Parameters option.

On non-Hospitality systems, the mailbox number is preceded by a default surname created for the new mailbox that is sequentially generated starting with “aaaa” as shown in Figure 21-4. Note that the surname is not part of the mailbox number. It is displayed beside the mailbox number so that you can see what default surname has been assigned to the new mailbox.

The added users will have the Class of Service that was selected when you ran the Set Parameters option.

If you want a printout of the added users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

Figure 21-4
Add a block of users



Adding users on Hospitality systems

Figure 21-5 provides an example of the prompts and responses for the Add User option on a Hospitality system. You can add up to 1000 users at one time.

The added users will have the Class of Service and the hospitality user class that was selected when you ran the Set Parameters option.

If you want a printout of the added users, press <Control><W> to access the CobraVT window. Then press <P> to turn on the printer. All screen messages and displays are printed. To turn off the printer, press <Control><W> to access the CobraVT window. Then press <P> to toggle off the printer.

Figure 21-5
Add a block of users to a Hospitality system

```
                    Add or Delete Blocks of Users


Please specify command? ADDUSER
Please specify how many users are to be added: 6
Please specify the start mailbox number: 2300
Are you sure you want to add these users? YES
Do you want to be prompted for each user addition? NO
Guest User 2300 added.
Guest User 2301 added.
Guest User 2302 added.
Guest User 2303 added.
Guest User 2304 added.
Guest User 2305 added.

Command completed. Press <Carriage Return> to continue..
```

Procedures for setting parameters, deleting users, and adding users

The Set Parameters option must be run first. After that, you can run Add User or Delete User.

Procedure 21-1
Setting parameters for adding or deleting users

Starting point: The TOOLS menu

1. Select Other and press <Return>.
2. Select Add/Delete Many Users and press <Return>.

   The SETPARAMETERS option is the default, and should be the option that appears first in response to the prompt "Please specify command?" Press <Return> to select this option.
3. If this is a multi-customer system, the following prompt appears:

   ```
   Please specify the customer number:
   ```

   Enter the customer number that you plan to delete from or add to.
4. Next, if this is a Hospitality system, the following prompt appears:

   ```
   Users added are hospitality guests or staff:
   ```

   Use the up or down arrow keys to select "guests" or "staff."
5. Next, you are prompted for a COS number:

   ```
   Please specify the COS number:
   ```

   The default is Personal_Class. Use the up or down arrow keys to change this selection to one of the other COSs assigned to this customer. Except for Personal_Class, only the COS number appears for the other choices.

   Once you have completed this step, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.
6. Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

Procedure 21-2
Deleting a block of users

Starting point: The Add or Delete Blocks of Users screen

1 Use the up or down cursor key to select the DELETEUSER command and press <RETURN>. The following prompt is displayed:

```
Please specify how many users are to be deleted:
```

2 Enter the number of users that you want to delete.

The following prompt is displayed:

```
Please specify the start mailbox number:
```

3 Enter the start mailbox.

If the end of the block of users exceeds the maximum mailbox number, the following message appears (go to step 2 to continue):

```
This block will exceed the maximum Mailbox number
threshold.
Please choose another (lower) start Mailbox number,
or reduce the number of users to be deleted.
Please specify how many users are to be deleted:
```

If the block of users to be deleted does fit into the mailbox limitations, the following prompt is displayed (go to step 4 to continue):

```
Are you sure you want to delete these users?
```

4 To continue, use the up or down arrow keys to select Yes and press return.

To cancel the operation, select No. The Add or Delete Blocks of Users screen remains displayed, but the users are not deleted.

If you choose to continue, the following prompt is displayed:

```
Do you want to be prompted for each user deletion?
```

5 Use the up or down cursor to select Yes if you want to be prompted before each user is deleted, or select No if you want all users to be deleted without any prompting.

Once the deletion steps have been completed, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.

6 Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

Procedure 21-3
Adding a block of users

Starting point: The Add or Delete Blocks of Users screen

1 Use the up or down cursor key to select the ADDUSER command and press <Return>. The following prompt is displayed:

```
Please specify how many users are to be added:
```

2 Enter the number of users that you want to add.

The following prompt is displayed:

```
Please specify the start Mailbox number:
```

3 Enter the start mailbox.

If the end of the block of users exceeds the maximum mailbox number, the following message appears (go to step 2 to continue):

```
This block will exceed the maximum Mailbox number
threshold.
Please choose another (lower) start Mailbox number,
or reduce the number of users to be added.
Please specify how many users to be added.
Please specify the start Mailbox number:
```

If the block of users to be added does fit into the mailbox limitations, the following prompt is displayed (go to step 4 to continue):

```
Are you sure you want to add these users?
```

4 To continue, use the up or down arrow keys to select Yes and press <Return>.

To cancel the operation, select No. The Add or Delete Blocks of Users screen remains displayed, but the users are not added.

If you choose to continue, the following prompt is displayed:

```
Do you want to be prompted for each user addition?
```

5 Use the up or down cursor to select Yes if you want to be prompted before each user is added, or select No if you want all users to be added without any prompting.

Once the “add user” steps have completed, you are prompted to press <Return> to continue. After you press <Return>, the initial Add or Delete Blocks of Users screen is displayed.

6 Once you have returned to the initial screen display, you can select the same command again or a different command; or you can select QUIT to return to the TOOLS menu.

Chapter 22: RN Administration

The Remote Notification (RN) Administration tool allows you to change the parameters that control the interaction between Meridian Mail and the remote notification device selected by the user. When the user sets up RN on his or her mailbox, the user is asked to select a *telephone type*, which can be a remote telephone, tone only pager, voice pager, numeric pager, or paging service.

> ***Note:*** The Remote Notification Administration tool is available only if the Outcalling feature is installed on your system.

If you are unclear about how remote notification works on Meridian Mail, please read the *Voice Messaging User Guide* which describes various Meridian Mail features, including remote notification. Also refer to the *Outcalling Application Guide* (NTP 555-7001-320) which describes how the system administrator sets up outcalling features on the system.

When a user selects one of the pagers or the paging service to be the paging device, Meridian Mail must interact first with the paging company which then calls the pager. Therefore, the requirements of the paging company must be considered when defining the parameters for these paging devices. When the paging device is a phone, Meridian Mail calls the remote phone directly (no paging company is involved).

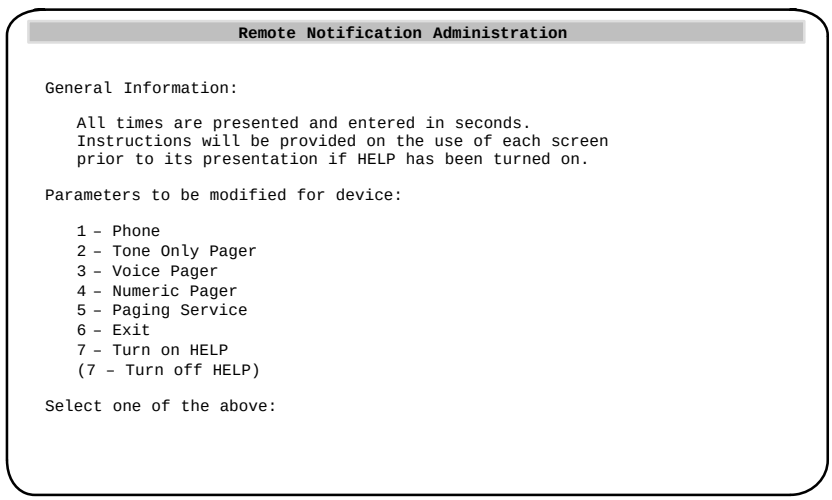
> ***Note 1:*** The parameters that you define using this tool take effect only when the system administrator sets the Numeric Pager Data Terminator field to “E” (see the *Outcalling Application Guide* for details). Otherwise, the default parameters (as shown in this chapter) are used, regardless of the last parameter values defined through this tool.

Note 2: When the user sets up remote notification for his or her mailbox, the user may mistakenly indicate that the paging device they are using is a tone only pager, for example, when it is actually a remote telephone. As a result, the option to play Meridian Mail prompts is available for paging devices such as the tone-only pager, numeric pager, and paging service.

The RN Administration main menu

When you select RN Administration from the TOOLS menu, the following screen (see Figure 22-1) appears.

Figure 22-1
Remote Notification Administration menu



When you select one of the menu items 1 to 5, the system prompts you to fill in values for the various parameters for that device.

Selecting item 7 turns the HELP feature on. Select item 7 a second time if you wish to turn HELP off. If HELP is turned on, help text is displayed when you return to this screen and before the prompts begin when you select one of the items 1 to 5.

The prompts, the allowable answers, and the default answers are presented in table form in the rest of this chapter.

Note: If a parameter value has already been changed during a previous use of the RN Administration tool, then the default response shown in this document is replaced by the last value defined for that parameter.

However, if the system administrator has not set the Numeric Pager Data Terminator field to E, the RN parameters revert back to the original default responses shown in this document regardless of the last parameter values defined through this tool.

Phone (item 1)

These parameters determine how the RN feature works when the selected paging device is a phone.

Table 22-1
RN Feature with phone

Prompt number	Prompt	Possible answer	Default answer
1	Silence Detection Timeout (in seconds):	1–30	20
2	Is this value correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

1 The "Silence Detection Timeout," when the paging device is a phone, is how long RN waits for the person answering the phone to finish his greeting (for example, *"Good morning. Nortel ...")* before RN sends its message. The person answering the phone may not be ready to receive the RN message until he finishes speaking. The RN message, in this case, would be, *"Hello, <Custom Call Answering Greeting> has received a message for ...."* If the timeout is reached before the person finishes his greeting, RN will continue anyway.

2 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Tone-Only Pager (item 2)

These parameters determine how the RN feature works when the selected paging device is a tone only pager. A tone only pager can only make an audio signal (a beep or tone) when it is reached.

Table 22-2
RN Feature with tone-only pager

Prompt number	Prompt	Possible answer	Default answer
1	Silence Detection Timeout (in seconds):	1–30	20
2	Delay before playing Prompts or Disconnecting (in seconds):	0–30	0
3	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
4	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

1 The Silence Detection Timeout is how long RN waits for the paging company to finish its greeting (for example, *"you have reached xxx paging company ..."*) before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the RN greeting and any other data that is being sent to this paging device. If the timeout is reached before the paging company's greeting is done, RN will continue anyway.

2 Some paging companies require a delay following the silence detection before receiving the RN/Meridian Mail prompts or disconnecting. A tone only pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to suppress the prompts (see point 3) so that the phone lines are not tied up unnecessarily while the prompts are playing.

3 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.

Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt).

As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.

4 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Voice Pager (item 3)

These parameters determine how the RN feature works when the selected paging device is a voice pager. A voice pager can play a voice message when the pager is reached and activated.

Table 22-3
RN Feature with voice pager

Prompt number	Prompt	Possible answer	Default answer
1	Silence Detection Timeout (in seconds):	1–30	20
2	Delay before playing Prompts (in seconds):	0–30	0
3	Max Length for Voice Notification:	1–6000	20
4	Skip Greeting Character:	up to 2 digits, 0–9, #, or *	*
5	Delay before sending Skip Greeting Character:	*0–200	100
45	Are these values correct? (Yes/No):	Yes, No	No

* This value is in centiseconds.

The prompts are explained in more detail below.

1 The Silence Detection Timeout is how long RN waits for the paging company to finish its greeting (for example, *"you have reached xxx paging company ..."*) before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the RN message or data. The RN message or data would include the RN greeting (*"Hello, <Custom Call Answering Greeting> has received a message for ..."*) and any other data that is required for this paging device. If the timeout is reached before the paging company's greeting is done, RN will continue anyway.

2 Some paging companies require a delay following the silence detection before receiving the RN/Meridian Mail prompts. Although a voice pager can receive and play a voice message or prompt, it does not allow the user to log in to Meridian Mail.

Note: If a user has selected something other than a phone as the paging device (for example, a voice pager), but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail.

3 There are two types of notfication possible for a voice pager: notification only, and both the notification the contents of the voice message. In this field, you specify the maximum length in seconds that a voice message can be played out on a voice pager. The valid range is from 1 to 6000 seconds.

4 The Skip Greeting Character field enables you to specify which keypad character is used to skip the greeting of a voice paging system. This skip character is necessary because some paging systems allow a subscriber to record a very long greeting, which may exceed the Silence Detection Timeout limit of 30 seconds on a Meridian Mail system. The valid values are 0 to 9, #, *, and blank. In the TOOLS level, you can instead specify a two–digit skip character (instead of one).

5 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Numeric Pager (item 4)

These parameters determine how the RN feature works when the selected paging device is a numeric pager. A numeric pager can display a digital message (callback number).

Note that RN on Meridian Mail sends a predefined callback number to the numeric pager that simply alerts the user that Meridian Mail has a message waiting. The user defines this callback number when setting up remote notification for his or her mailbox.

Table 22-4
RN Feature with numeric pager

Prompt number	Prompt	Possible answer	Default answer
1	Callback Number Prefix:	up to 2 digits, or #, or *	no prefix
2	Callback Number Terminator:	up to 2 digits, or #, or *	#
3	Callback Number Separator:	up to 2 digits, #, *, or blank	*
4	Silence Detection Timeout (in seconds):	1–30	20
5	Delay before sending Callback Number Prefix (in seconds):	0–30	2
6	Delay between sending Prefix and sending Data (in seconds):	0–30	0
7	Delay before playing Prompts or Disconnecting (in seconds):	0–30	3
8	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
9	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

1 The Callback Number Prefix is sent to the paging company before the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number prefix).

2 The Callback Number Terminator is sent to the paging company after the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number terminator).

3 The Callback Number Separator enables you to specify the keypad character used to insert a separator (such as a blank) between the callback number and the caller's number. The valid values are 0–9, #, *, and blank. Its default value is is *. You do not need to complete this field if the notification type is Callback only. It is required only if the notification type is Callback and Caller Number (the user receives both the callback number and the caller's number).

4 The "Silence Detection Timeout" is how long RN waits for the paging company to finish its greeting (for example, *"you have reached xxx paging company ..."*) before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the RN greeting and any other data that is being sent to this paging device. If the timeout is reached before the paging company's greeting is done, RN will continue anyway.

5 Some paging companies require a delay following the silence detection before receiving the callback information. The value entered for this field is the delay between the silence detection and sending the Callback Number Prefix (or the callback number if there is no prefix).

6 For some paging companies that require a Callback Number Prefix, it may be necessary for Meridian Mail to wait a short time after sending the Callback Number Prefix before sending the callback number. The Callback Number Terminator is then sent after the callback number.

7 Some paging companies require a delay before receiving the RN/Meridian Mail prompts or disconnecting. A numeric pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to reduce this delay and suppress the prompts (see point 8), so that the phone lines are not tied up unnecessarily while the prompts are playing.

8 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.

Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt). As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.

9 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Paging Service (item 5)

These parameters determine how the RN feature works when the selected paging device is a paging service. A paging service requires a Pager Identification Number (PIN) to identify the pager. The PIN is defined when the user sets up RN on his or her mailbox. For a paging service, the callback number is defined by the system administrator using the Outcalling Administration function.

Table 22-5
RN Feature with paging service

Prompt number	Prompt	Possible answer	Default answer
1	Paging Service PIN Prefix:	up to 2 digits, or #, or *	no prefix
2	Paging Service PIN Terminator:	up to 2 digits, or #, or *	#
3	PIN prompt Silence Detection Timeout (in seconds)	1–30	20

—continued—

Table 22–3 (continued)
RN Feature with voice pager

Prompt number	Prompt	Possible answer	Default answer
4	Callback Number Prefix:	up to 2 digits, or #, or *	no prefix
5	Callback Number Terminator:	up to 2 digits, or #, or *	#
6	Callback Number Separator:	up to 2 digits, #, *, or blank	*
7	Callback Number Prompt Silence Detection Timeout (in seconds)	1–30	20
8	Delay before sending Prefix (in seconds):	0–30	2
9	Delay between sending Prefix and sending Data (in seconds):	0–30	0
10	Delay before playing Prompts or Disconnecting (in seconds):	0–30	3
11	Play Prompts to the paging system? (Yes/No):	Yes, No	Yes
12	Are these values correct? (Yes/No):	Yes, No	No

The prompts are explained in more detail below.

1 The PIN Prefix is sent to the paging company before the PIN is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a PIN prefix).

2 The PIN Terminator is sent to the paging company after the PIN is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a PIN terminator).

3 The PIN Prompt Silence Detection Timeout is how long RN waits for the paging company to finish its PIN prompt before continuing with the RN procedure. While the paging company's greeting is playing, the paging company may not be ready to receive the next RN data that is being sent to this paging device. If the timeout is reached before the paging company's prompt is done, RN will continue anyway.

4 The Callback Number Prefix is sent to the paging company before the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number prefix).

5 The Callback Number Terminator is sent to the paging company after the callback number is sent. Valid characters are the digits 0–9, #, *, or any combination of these (or blank if the paging company does not require a callback number terminator).

6 The Callback Number Separator enables you to specify the keypad character used to insert a separator (such as a blank) between the callback number and the caller's number. The valid values are 0–9, #, *, and blank. Its default value is is *. You do not need to complete this field if the notification type is Callback only. It is required only if the notification type is Callback and Caller Number (the user receives both the callback number and the caller's number).

7 The Callback Number Prompt Silence Detection Timeout is how long RN waits for the paging company to finish its callback number prompt before continuing with the RN procedure. While the paging company's callback number prompt is playing, the paging company may not be ready to receive the next RN data that is being sent to this paging device. If the timeout is reached before the paging company's prompt is done, RN will continue anyway.

8 Some paging companies require a delay before receiving the PIN or callback information. The value entered for this field is the delay between the silence detection and sending the PIN prefix, and the delay between the callback number prompt (played by the paging service) and sending the Callback Number Prefix.

9 For some paging companies that require a PIN prefix or Callback Number Prefix, it may be necessary for Meridian Mail to wait a short time after sending the Prefix before sending the PIN or the callback number. The value entered here is the delay between sending the PIN prefix and sending the PIN, and the delay between sending the Callback Number Prefix and the callback number.

10 Some paging companies require a delay before receiving the RN/Meridian Mail prompts or disconnecting. A paging service pager is not equipped to receive the RN/Meridian Mail prompts, so you may want to reduce this delay and suppress the prompts (see point 11) so that the phone lines are not tied up unnecessarily while the prompts are playing.

11 Respond No if you do not want the RN/Meridian Mail prompts to play. Respond Yes if you do want the prompts to play.

Note: If a user has selected something other than a phone as the paging device, but the number provided to RN reaches a touch tone phone, the notified user is still able to log in to Meridian Mail if the prompts are allowed to play (respond Yes to this parameter prompt). As a result, you may wish to allow the prompts to play even if the selected paging device is not a phone. If your greater concern is not to tie up the line any longer than necessary, suppress the login prompts by responding No for paging devices other than a phone.

12 Select Yes to confirm or save any changes made to the parameters for this device. Use the cursor arrows to toggle the selection between No and Yes, and press return when the selection you want is displayed.

If you do not confirm that the entered values are correct by selecting Yes, the parameter values are returned to their previous state.

Chapter 23: Change console port speed

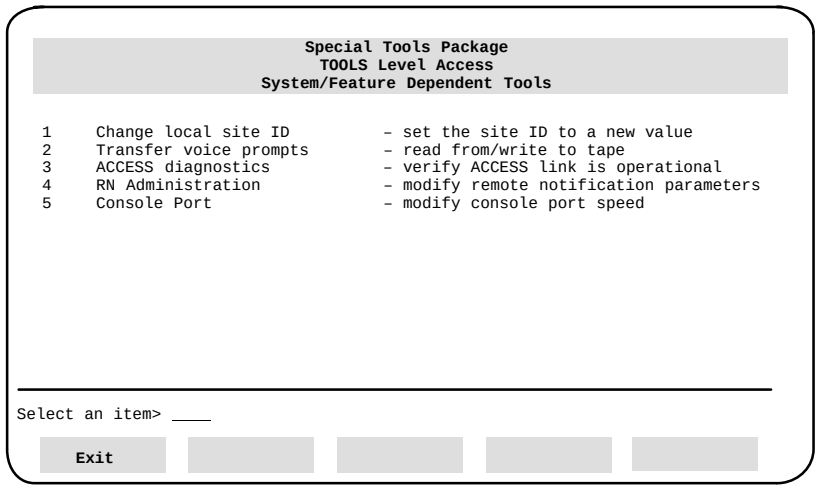
Console Port Speed Configuration Utility

The Console Port Speed Configuration utility (see Figure 23-2) is accessed either through the System Operation utilities menu on the Install/data tape or the System/Feature Dependent Tools menu (see Figure 23-1) of the MMI. This utility is used to change the administration terminal baud rate.

> ***Note:*** The Console Port Speed Configuration utility is not available on MSM and Card Option systems.

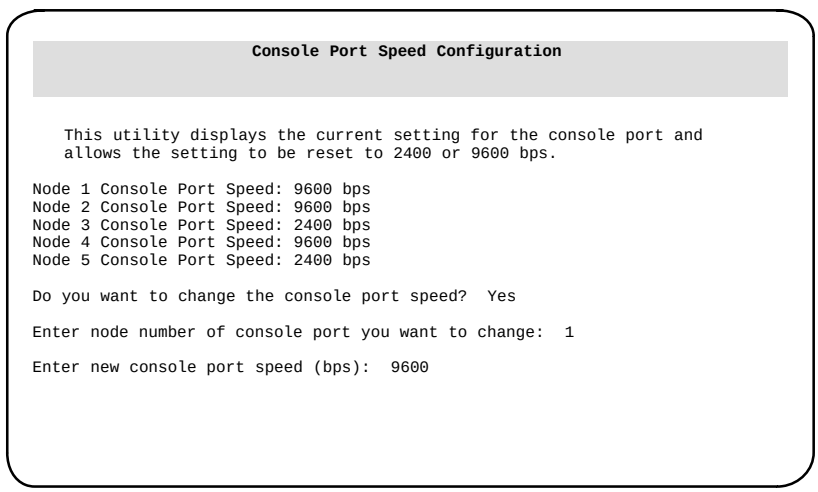
The Console Port Speed Configuration screen (see Figure 23-2) displays the default console port speed stored in the Non-volatile RAM (NVRAM) of the MMP40 card. The utility permits you to change the speed to either 2400 or 9600 bps.

Figure 23-1
Feature Dependent Tools screen



Note: Other tools may also be listed here depending on your system type or what features are installed.

Figure 23-2
Console Port Speed Configuration screen



***Note*:** The second prompt is displayed on multi-node systems only.

The following fields are displayed on this screen:

- ***Node X Console Port Speed*** This field indicates the current setting for the console port speed stored in the NVRAM for the indicated node. Values that can be displayed in this field are 2400 and 9600. If the stored value in NVRAM is invalid, the system displays 2400 bps.
- ***Do you want to change the console port speed?*** To exit the utility without changing the console port speed, select NO. Select YES to reset the console port speed to either 2400 or 9600 bps.
- ***Enter node number of console port you want to change*** This prompt is displayed for only multi-node systems. Enter the number of the node being modified. The default value is 1.
- ***Enter new console port speed (bps)*** Enter the appropriate console port speed to reset the value to 9600 or 2400 bps. The default value for this field is 9600.

  Note: For node 1 only, this is an online operation, and a system reboot is not required. For non-prime nodes, if an online change is required, use "Modify Hardware" at the TOOLS level. A warning message indicates that the speed of the attached device (terminal or modem) should be adjusted.

Procedure 23-1
Selecting the Console Port Speed Configuration

Starting point: The TOOLS menu

1. Select Other from the Tools Level Access screen and press <Return>.
2. Select Console Port and press <Return>.
3. Enter Yes to the prompt "Do you want to change console port speed?"
4. Enter node number being modified at the prompt, "Enter node number of console port you want to change."
5. Enter required port speed (2400 or 9600) at the prompt, "Enter new console port speed (bps)."
6. If the change is to the node 1 console, adjust the baud rate in the terminal setup of the connected terminal when prompted.

Chapter 24: Synchronize Disks

Disk shadowing is a mass storage technique in which the same data is duplicated onto a pair of disks in real time. It is used to

- reduce the chance of data loss and downtime due to disk failure
- double disk read throughput

This feature can be installed on the following system types:

- Modular GP
- Modular Option
- EC
- Option 11 EC
- MSM

It is not available on other systems.

Note: The Disk Synchronization tool is available only on MSM systems. To execute a disk synchronization on the other systems listed above, use the Disk Maintenance option which is documented in the "System Status and Maintenance" chapter in the *System Administration Guide*.

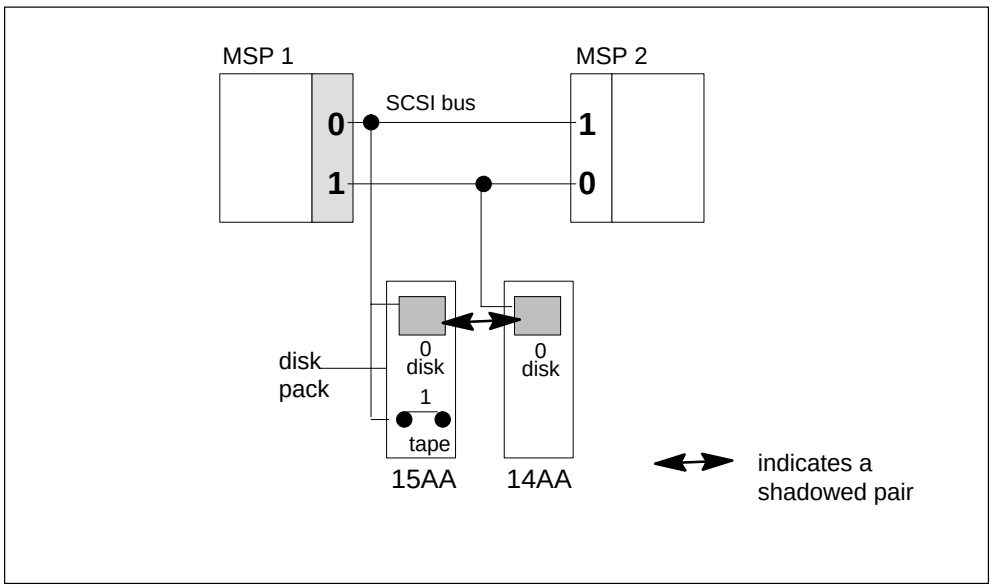
Disk shadowing on an MSM system

This section discusses disk configurations and the various commands associated with disk shadowing on an MSM system.

Disk configurations

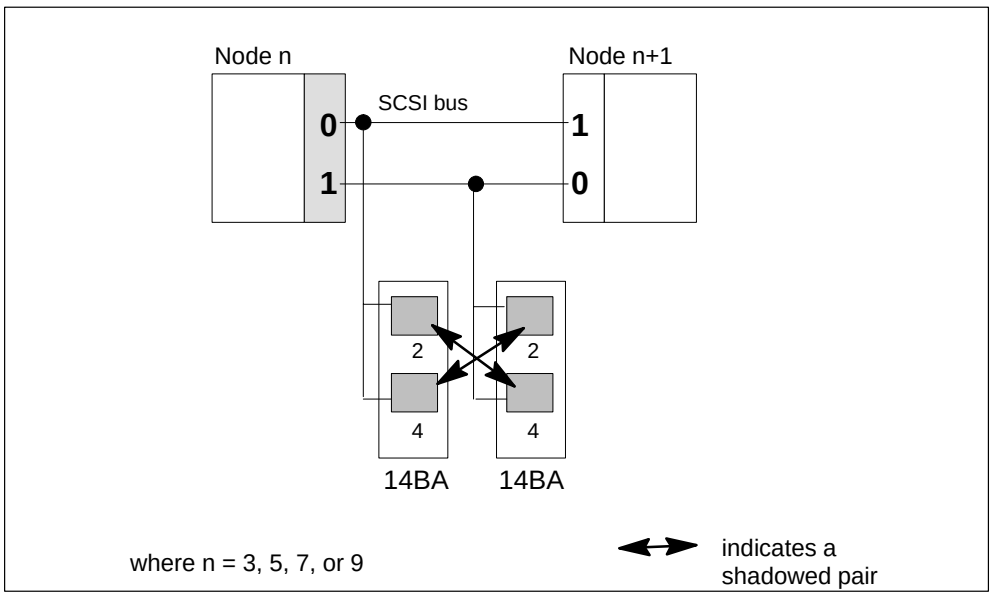
All MSMs come with disk shadowing. The configuration on nodes 1 and 2 is shown in Figure 24-1. The configuration on nodes 3 to 10 is shown in Figure 24-2.

Figure 24-1
MSM configuration on nodes 1 and 2



Note: The 0s and 1s are SCSI IDs.

Figure 24-2
MSM configuration on nodes 3 to 10



Note the following:

- Each disk pack contributes a disk to each shadowed pair.
- Each node can access its partner's disk drives as a result of SCSI bus coupling, where node n+1 and node n are partners.

The last point gives rise to the following bus and SCSI device numbering scheme:

- Bus 0 on a node is bus 1 on its partner.
- SCSI IDs normally run from 0 to 7. The device number of a device on bus 0 is simply its SCSI ID. The device number of a device on bus 1 is its SCSI ID plus 8.

Procedure 24-1
Using the Disk Sync Utility

Starting point: The TOOLS menu

1. Select Synchronize Disks, then press <Return>.

   The command line at the bottom of the screen shows

   Type node number

2. Enter the node number of the disk that is to be synced, then press <Return>.

   After a brief pause, the utility is loaded and the screen returns to the selection menu.

3. Press <Control><W>.

   The CobraVT window opens.

4. Use the cursor keys to move to SYNCDISKSx, (where x is the node number originally selected) then press <Return>.

5. Execute the commands shown under the heading Commands, which follows.

Commands

All of the following commands print out a return code. 0 indicates normal completion; anything else indicates an error.

enable *src mem*

A shadowed pair is brought online by synchronizing the contents of the two disks that comprise it. This operation is referred to as *syncing* and is started by the enable command.

src specifies the location of the disk pack containing current data. Since there is only one disk pack on a SCSI bus, *src* refers to a bus, and can be either 0 or 1.

The enable command automatically distinguishes between the single-disk AA packs and the dual-disk BA packs. In particular, the enable command will sync both shadowed pairs related to a BA pack.

The enable command automatically checks that the *src* disk is online and that the target disk is large enough to hold the file system of the *src* disk.

mem gives the maximum amount of memory that enable is allowed to use. The default value of 64 kbytes is recommended.

CAUTION
Risk of data loss
Do not set the maximum memory to a value greater than 64 kilobytes on a live system.

fenable *src mem*
This is similar to the enable *src mem* command except that there are no checks for the *src* disk being online and the target disk being large enough to hold the file system from the *src* disk.

CAUTION
Risk of data loss
Syncing from the wrong source will result in lost data. Also, syncing is usually done from disk packs with enabled disks unless you are trying to clear SEER 6608.

The enable command automatically checks that the *ss* disk is online and that the *dd* disk is large enough to hold the file system of the *src* disk.

enable –1 *ss dd mem*
This form of the enable command syncs a given disk pair and is invoked by specifying –1 for *src*. *ss* is the device number of the disk to sync from, *dd* is the device number of the disk to sync to, and *mem* is the maximum amount of memory allowed.

fenable –1 *ss dd mem*
This is similar to the enable –1 *ss dd mem* command except that there are no checks for the *ss* disk being online and the *dd* disk being large enough to hold the file system from the *ss* disk.

disable *id*
A disk in a shadowed pair can be taken off-line either by the system (automatically, in the event of a failure) or by the disable command (manually). The first method sets off a major alarm, the second does not.

find *id*

id is the number of the device to be checked. If this device is a disk, it will be spun up and its size (in 512-byte blocks) will be printed. This command may be used to verify that a node is able to communicate with all of its disks.

fsize *id*

This command displays the size of the file system (in 512-byte blocks) for the device specified by *id*. The device must be online. if it is not online, an error will be returned.

info *node*

This command displays a summary of a node's view of its disks. This information can be used to check if the node's disks are in sync (both disks enabled), and if a node's view of its disks is consistent with its partner's view.

CAUTION
Risk of data loss

Do not sync from both members of a node pair at the same time.

For example, on node 3 of an MSM, one might get the following output:

```
node 3

disk pair 0
boot region:          32–2031
file region:2032–2936592
disk 2:  RW
disk 12: RW

disk pair 1
boot region:          32–2031
file region:2032–2936592
disk 10:  —
disk 4:  RW
```

Both disks in a disk pair are enabled and in sync when the "disk *n*:" fields both show RW. RW indicates that the disk has both Read and Write capability enabled. R– indicates Read only, while –W indicates Write only.

"—" indicates that neither Read nor Write capability has been enabled. The value in the "disk *n*:" fields is also referred to as the disk's state.

Also, a node can access the same disks as its partner, where node n+1 and node n are partners. Following our example, node 4 accesses the same disks as node 3:

```
node 4

disk pair 0
boot region:          32–2031
file region:2032–2936592
disk 2:  —
disk 12: RW

disk pair 1
boot region:          32–2031
file region:2032–2936592
disk 10:  RW
disk 4:  RW
```

Notice from the disk states that disk pair 0 on a node is disk pair 1 on its partner. In the example above, disk pair 0 on node 3 (disk 2 and disk 12 from the node 3 perspective) is the same as disk pair 1 on node 4 (disk 10 and disk 4 from the node 4 perspective).

init

This command should be used to put the system back into a normal state if a sync operation is interrupted.

node

This command displays the ordinal number of the node that this utility is running on.

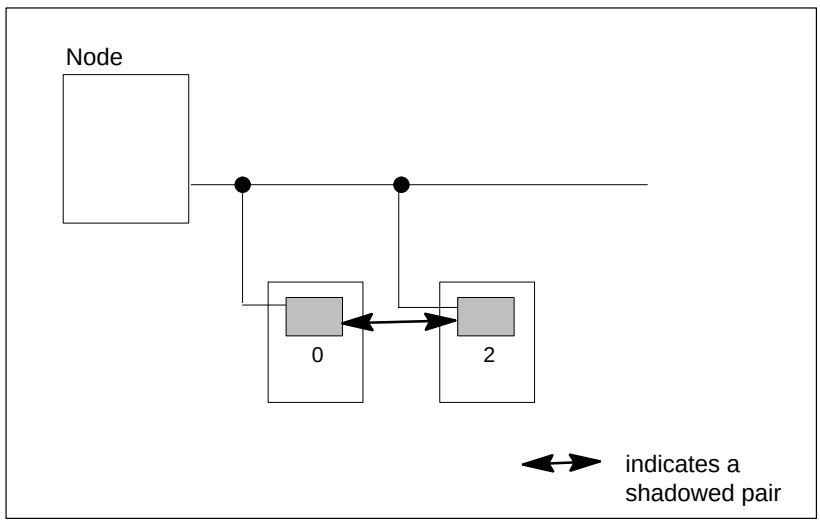
Disk shadowing on Modular GP, Modular Option, EC, and Option 11 EC systems

This section discusses disk configurations and the various commands associated with disk shadowing on Modular GP, Modular Option, EC, and Option 11 EC systems.

Disk configurations

If disk shadowing is present, the disk configuration is as shown in Figure 24-3.

Figure 24-3
Disk configuration for Modular GP, Modular Option, EC, and Option 11 EC



Commands

All of the following commands print out a return code. 0 indicates normal completion; anything else indicates an error.

enable *src dst mem*

A shadowed pair is brought online by synchronizing the contents of the two disks that comprise it. This operation is referred to as syncing and is started by the enable command.

src specifies the SCSI ID of the disk containing current data. When installing disk shadowing for the first time, this would be the drive that was there. When replacing a failed drive, this would be the surviving drive.

For Meridian Mail Modular GP, Modular Option, EC, and Option 11 EC systems, disks are individually replaced. As a result, *src* refers to a disk and can be either 0 or 2.

The enable command automatically checks that the *src* disk is online and that the *dst* disk is large enough to hold the file system of the *src* disk.

dst specifies the SCSI ID of the drive to be brought online.

mem gives the maximum amount of memory that enable is allowed to use. The default value of 64 kilobytes is recommended.

CAUTION
Risk of data loss

Do not set the maximum memory to a value greater than 64 kilobytes on a live system.

fenable *src dst mem*

This is similar to the enable *src dst mem* command except that there are no checks for the *src* disk being online and the *dst* disk being large enough to hold the file system from the *src* disk.

CAUTION
Risk of data loss
Syncing from the wrong source will result in lost data.

disable *id*

A disk in a shadowed pair can be taken offline either by the system (automatically, in the event of a failure) or by the disable command (manually). The first method sets off a major alarm, the second does not.

find *id*

id is the number of the device you want to check. If this device is a disk, it will be spun up and its size (in 512-byte blocks) will be printed. This command may be used to verify that a node is able to communicate with all of its disks.

fsize *id*

This command displays the size of the file system (in 512-byte blocks) for the device specified by *id*. The device must be online. If it is not online, an error will be returned.

info *node*

This command displays a summary of a node's view of its disks. This information can be used to check if the node's disks are in sync (both disks enabled).

Both disks are enabled and in sync when the "disk *n*:" fields both show RW. RW indicates that the disk has both Read and Write capability enabled. R– indicates Read only, while –W indicates Write only. "—" indicates that neither Read nor Write capability has been enabled. The value in the "disk *n*:" fields is also referred to as the disk's state.

For example, on node 1 of an EC system, one might get this output:

```
node 1

disk pair 0
boot region:          32–2031
file region:2032–665153
disk 0:  RW
disk 2: RW
```

Disk 0 and disk 2 both have Read and Write (RW) capability enabled, so they are both enabled and in sync.

init

This command should be used to put the system back into a normal state if a sync operation is interrupted.

node

This command displays the ordinal number of the node that this utility is running on.

Chapter 25: Clone Disk

The Clone Disk tool allows you to copy the contents of a node's disk onto a secondary disk drive. This tool can be used for any procedure that requires the technician to copy the contents of one disk onto another (for example, when replacing a faulty disk, performing a platform migration, or performing a storage expansion).

> ***Note:*** Both platform migration and storage expansion are part of the new comprehensive upgrade feature for Release 12. For more information, see the *System Installation and Modification Guide* (NTP 555-7001-215).

For these procedures, disk cloning is a faster alternative to backing up onto a backup tape, and then loading the information back onto the new disk.

The Clone Disk tool is not intended to replace regular tape backups, but is available to speed up procedures that would otherwise require a backup and restore from tape. The cloning process takes approximately nine minutes for a 300-Mbyte disk, 30 minutes for a 600-Mbyte disk, 13 minutes for a 1.0-Gbyte disk, or 40 minutes for a 2.0-Gbyte disk.

The Clone Disk tool automatically checks that the node's disk has a valid file system, and that the disk being cloned to the secondary disk drive is large enough to hold the file system of the node's disk.

ATTENTION

This tool is supported only on unshadowed Modular Option, Modular Option GP, Modular Option EC, and Option 11 EC systems with a specific minimum vintage (see "Hardware and software requirements" in this chapter). Shadowed systems do not need to use this tool. (For details on disk shadowing, see the *Installation and Maintenance Guide* [NTP 555-70x1-250]*).*

This tool is intended for use by technicians. A secondary disk drive must be inserted into each node to be cloned in the Meridian Mail system (as described in this chapter), and this should be done by a technician.

Example applications for disk cloning

A storage expansion requires that you copy the contents of the existing disk onto a larger disk. Instead of backing up the existing disk to tape, use the Clone Disk tool to copy (clone) the existing disk's contents directly onto the new disk. Then run Comprehensive Upgrade from the Install/data tape (see the *System Installation and Modification Guide* [NTP 555-7001-215]). When you reach the step that asks you to install the new disk drive, insert the disk drive to which you just cloned.

Another application for disk cloning is the situation where you have a faulty disk drive, but the data has not been corrupted. As long as the data is okay, you can clone the faulty disk onto a replacement disk.

And, as stated, disk cloning can also be used for any other procedure that requires copying the contents of a disk onto a new disk.

Hardware and software requirements

The hardware and software minimum vintage requirements for disk cloning are the same as those for the Disk Shadowing feature.

Refer to the Meridian Mail *Installation and Maintenance Guide* (NTP 555-70x1-250) for details on Disk Shadowing requirements. The additional hardware required to satisfy the hardware requirements does not have to stay connected to the system after the disk cloning operation has been completed.

The secondary disk drive that you are copying to should be a standard disk drive on an EC disk drive plate for EC and Option 11 EC systems, or housed in a Modular Option MSU cage for Modular Option or Modular Option GP systems.

For most of the systems that allow disk cloning, the procedure involves inserting a secondary disk drive into the free slot on the node that you wish to clone. The exception is nodes 1 and 3 on a 3-, 4-, or 5-node EC system. These nodes do not have a free disk slot, so a different procedure is required for this system type. The specific procedure required for each system type is discussed in the "Disk cloning procedures" section later in this chapter.

Prior to inserting the secondary disk drive, power–off the node or the system as specified in the relevant procedure.

CAUTION
Risk of severe data corruption
Severe data corruption on the original (prime) disk will occur if you do not turn off the power on the node before you insert the secondary disk drive.

Disk cloning procedures

Use Procedure 25-1 for

- Nodes 1 and 3 on a 3-, 4-, or 5-node EC system (for nodes 2, 4, and 5, use Procedure 25-2).

Use Procedure 25-2 and then Procedure 25-3 for the following system types:

- Modular Option
- Modular Option GP
- Modular Option EC, 1- and 2-node systems
- Nodes 2, 4, and 5 on a 3-, 4-, or 5-node EC system
- Option 11 EC

Procedure 25-1
Cloning nodes 1 and 3 on a 3-, 4-, or 5-node EC system

Note: Before beginning this procedure, label the secondary disk drives (and the original or prime disk drives if they are not labeled) with the node number and “original” or “secondary,” as well as the date and time. The disk cloning procedure involves removing and reinserting disks, and the labels will prevent confusion when you need to reinsert the original disks (or the secondary disk if you are replacing a disk).

1 Courtesy Down the system.

This step is optional, and ensures that active calls are not dropped.

2 Power off the system.

3 On the backplane of the first module (module 0), set switch 1, 2, 3, and 4 for a shadowed system. Leave switch 5 as it is. For more detailed instructions for this step, refer to the *Installation and Maintenance Guide*.

4 Remove node 3’s disk drive from the upper left disk drive slot.

5 If you are cloning node 1, go directly to step 6. If you are cloning node 3, then remove the disk drive from node 1 and replace it with the disk drive from node 3. Now go to step 6.

Note: In this procedure, the disk that you are cloning (copying) must always be in the lower left disk drive slot and have the SCSI ID set to 0. Since the disk you are cloning is one of the original disks, the SCSI ID should already be set to 0. If you are not sure, check the SCSI ID setting. The secondary disk drive (that you are writing to) must always be in the upper left disk drive slot and have the SCSI ID set to 3. The “SCSI ID settings” section at the end of this chapter shows how to set the SCSI ID to 0 or 3 for various types of disk drives.

6 Remove the terminating resistors from the secondary disk drive and set the SCSI ID to 3. You must remove the disk drive from the bracket to remove the terminating resistors.

The Installation and Maintenance Guide *includes diagrams showing where to find the terminating resistors. The “SCSI ID settings” section at the end of this chapter shows how to set the SCSI ID to 3.*

Note: Use extreme caution when performing this step.

7 Insert the secondary disk drive into the upper left disk drive slot (where node 3’s disk is normally located).

8 Insert the Install/data tape into the tape drive.

9 Boot the system from tape.

10 Select **Exit to Support Level** from the tape menu.

11 Type **clonedisk** at the command line and press return.

A screen display (see Figure 25-1) confirms the existence of the two disk drives on its SCSI Bus (ID's 0 and 3). SCSI ID=0 is the disk that you are copying. SCSI ID=3 is the secondary disk drive to which you are writing.

Figure 25-1
Disk cloning screen when booting from tape

```
Disk Cloning Utility on Node 1

This utility will copy the contents of the disk with SCSI ID 0 to
the disk with SCSI ID 3

Disk SCSI ID = 0
vendor: CDC
product: 94171-9
revision: 2347
Found 1100K filesystem on 1150K source disk

Disk SCSI ID=3
vendor: SEAGATE
product: ST11200N
revision: 9300
Cloning from 1100K filesystem on 1100K target disk

This is a block by block copy of data from ID 0 to ID 3
This will destroy any data on the disk with SCSI ID 3

Do you wish to continue? Yes
          .
          .
          .
Disk cloning has been successful

Power off system, reconfigure disks & reboot into full service
```

The screen display ends with the following prompt:

```
Do you wish to continue? No
```

The default response No is displayed. Use the up or down arrow keys to change the response to Yes if you wish to continue.

12 If there has been an error accessing the disks or if the technician has answered No to the "continue" prompt, then the contents of both disks are not changed and a screen message instructs the technician on how to continue. To end this procedure, ignore this message and go to step 18 for more detailed instructions on how to return the system to its original setup.

13 If the technician has answered Yes to the “continue” prompt, then the contents of the original disk (SCSI ID=0) are copied to the secondary disk (SCSI ID=3). The cloning process will take approximately 9 minutes for a 300 Mbyte disk, 30 minutes for a 600 Mbyte disk, 13 minutes for a 1.0 Gbyte disk, or 40 minutes for a 2.0 Gbyte disk.

14 If an error occurs during the cloning operation, error return codes are displayed. See *Maintenance Messages (SEERS)* (NTP 555-7001-510) for more detailed information on return codes.

On the terminal there will be a final message indicating the success or failure to clone the original disk. Also, whether the disk cloning has succeeded or failed, a screen message will appear that directs the technician to power off, reconfigure the disks as they were, and reboot into full service.

15 Ignore this screen message and proceed to step 16 for more detailed instructions on how to proceed.

16 If you are finished cloning or if the cloning was not successful, go to step 18.

If the cloning was successful and you now want to clone the other node (node 1 or 3), then go to step 17 (do not reboot at this time).

17 If you have just cloned node 1’s disk and you now want to clone node 3’s disk, then perform the following steps:

a. Power off the system and then remove the secondary disk drive.

b. Remove node 1’s disk and replace it with node 3’s original disk.

c. Have a new secondary disk drive nearby that you can use for cloning node 3’s disk.

d. Repeat steps 6 to 16.

If you have just cloned node 3’s disk and you now want to clone node 1’s disk, then perform the following steps:

e. Power off the system and then remove the secondary disk drive.

f. Remove node 3’s disk from node 1.

g. Insert node 1’s original disk back into node 1.

h. Repeat steps 6 to 16.

18 After all cloning is completed on node 1 or node 3, or both, or if the cloning failed and you want to stop this procedure, follow these steps:

a. Power off the system.

b. Remove the secondary disk from the upper left disk drive slot.

c. Reconfigure the switch settings on the backplane of the first module to be an unshadowed module.

d. Place the node 1 and node 3 disk drives in their appropriate disk drive slots. If you are replacing a disk, set the SCSI ID to 0 on the replacement disk (the disk you cloned to), and insert the replacement disk in place of the original disk.

e. Remove the Install/data tape from the tape drive.

f. Boot the system into full service.

Procedure 25-2
Cloning nodes 2, 4, and 5 on a 3-, 4-, or 5-node EC system, and any nodes on Modular Option, Modular Option GP, and 1- and 2-node EC and Option 11 EC systems

Note: Before beginning this procedure, label the secondary disk drives (and the original disk drives if they are not labeled) with the node number and “original” or “secondary,” as well as the date and time.

1 Courtesy Down the system.

This step is optional, and ensures that active calls are not dropped.

2 Power off the system.

Note: Some Modular Option systems may have the disk drive in one MSU slot and the tape drive in the other MSU slot on the same node. If this is the case for the node you are cloning, remove the tape drive after you have powered off the node. At the end of Procedure 25-3, you will be instructed to reinsert the tape drive.

3 On EC systems, set switch 1, 2, 3, and 4 for a shadowed system on the backplane of each module containing a node to be cloned. Leave switch 5 as is.

4 Set the SCSI ID of the secondary disk drive to 3 and remove the terminating resistors. The “SCSI ID settings” section at the end of this chapter shows how set the SCSI ID to 0 or 3 for various types of disk drives.

5 Place the secondary disk drive in the free slot on the node to be cloned. On an EC system, place the secondary disk drive in the free disk slot directly above the original disk.

6 Repeat step 2, 4, and 5 for each node to be cloned. You can clone up to 3 nodes at one time. If you are cloning more than one node at one time, you will need a secondary disk drive for each node that you plan to clone.

7 The section “Using the Clone Disk tool” in this chapter and Procedure 25-3 describe the remaining steps in this disk cloning procedure.

Using the Clone Disk tool

If you have just completed Procedure 25-2, you need to access the Clone Disk tool from the TOOLS Feature Dependent menu to complete the disk cloning. See Procedure 25-3 for the remaining steps in the disk cloning procedure.

Procedure 25-3
Cloning a disk

Starting point: The TOOLS menu

1. Select “Other” from the Tools Level Access screen and press <Return>.
2. Select Clone Disk from the TOOLS Feature Dependent menu, and press <Return>.

   The system prompts:

   ```
   Type node number (1 if single node) 1
   ```

   The default response (1) is displayed.

   Note 1: Prior to selecting this tool, the technician must power off the node and insert a secondary disk drive into the free disk slot for each node to be cloned as described in Procedure 25-2.

3. Enter the node number that you are cloning and press <Return>.

   The Clone Disk tool screen is displayed.

   Note: If you do not wish to clone any other nodes at this time, go to step 7.

4. Press <Control><W> to open the CobraVT window.
5. Use the arrow keys to select the MMI, then press <Return>. Go to step 2.

   Note: Continue this process for each node that you wish to clone. You can clone up to three nodes at a time.

6. To display the Clone Disk tool for each node, do the following.
   a. Press <Control><W> to open the CobraVT window.
   b. Use the arrow keys to select CLONEDISKn, where n is one of the nodes entered in step 3.
   c. Press<Return>.

Figure 25-2
Disk cloning screen when accessed through the TOOLS menu

```
Disk Cloning Utility on Node 1

This utility will copy the contents of the disk with SCSI ID 0 to
the disk with SCSI ID 3

Disk SCSI ID = 0
vendor: CDC
product: 94171–9
revision: 2347
Found 1100K filesystem on 1150K source disk

Disk SCSI ID=3
vendor: SEAGATE
product: ST11200N
revision: 9300
Cloning from 1100K filesystem on 1100K target disk

This is a block by block copy of data from ID 0 to ID 3
This will destroy any data on the disk with SCSI ID 3

Do you wish to continue? Yes
          .
          .
          .
Disk cloning has been successful

Press enter to continue
```

Note: A SEER with the message “device 3> reuse Key:6 error code:41” may appear in the Disk Cloning screen. This message is the result of a new disk being detected in the normally empty disk drive slot. When using this tool, you can ignore this message.

A description of the cloning process is displayed on the screen (see Figure 25-2). The screen display will confirm the existence of the two disk drives on its SCSI Bus (ID’s 0 and 3). SCSI ID=0 is the disk that you are copying. SCSI ID=3 is the secondary disk to which you are writing.

7 The screen display ends with the following prompt:

```
Do you wish to continue? No
```

The default response No is displayed. Use the up or down arrow keys to change the response to Yes if you wish to continue.

Note: If there has been an error accessing the disks or if you have answered No to the “continue” prompt, then the contents of both disks do not change and a screen message instructs you to “press Enter to continue.”

8 Press <Return> to refresh the MMI screen.

To end the procedure (if there has been an error or if you do not want to continue), go to step 12.

9 If the technician has answered Yes to the “continue” prompt, then the contents of the original disk (SCSI ID=0) are copied to the secondary disk (SCSI ID=3). The cloning process will take approximately 9 minutes for a 300-Mbyte disk, 30 minutes for a 600-Mbyte disk, 13 minutes for a 1.0-Gbyte disk, or 40 minutes for a 2.0-Gbyte disk.

If an error occurs during this cloning operation, error return codes are displayed. See *Maintenance Messages (SEERS)* (NTP 555-7001-510) for more detailed information on return codes.

In the CLONEDISKn window, there will be a final message indicating the success or failure to clone the original disk on node n.

Whether the disk cloning succeeded or failed, the following prompt is displayed:

```
Press enter to continue
```

10 Press <Return> to refresh the MMI screen. The CLONEDISKn window is automatically removed from the CobraVT window.

Note: If the disk cloning failed, or if all the nodes that require cloning have been completed, go to step 12. Otherwise, go to step 11.

11 Repeat steps 6 through 10 for each node you are attempting to clone.

12 After all cloning is completed (or if you need to end this procedure because of an error during the disk cloning operation), follow these steps:

a. Power off the system.

b. Remove the secondary disk drives that were inserted as part of the cloning procedure.

Note: The secondary disk drives should not be left in the system. This setup will not act as disk shadowing.

c. For EC systems, reconfigure the switch settings on the backplane for an unshadowed module for each module where cloning was done.

d. If you are planning to use the secondary disk drive (to which you just cloned) to replace the original disk drive for a particular node, reset the SCSI ID to 0 on the secondary disk drive. Then remove the original disk drive and replace it with the secondary disk drive.

Note: Depending on the type of disk drive, you may also need to put the terminating resistors back onto the secondary disk drive. Refer to the *Installation and Maintenance Guide* for details.

e. For Modular Option and Modular Option GP systems, if you had to remove a tape drive on a node to free up an MSU slot, then reinsert the tape drive.

f. Boot the system into full service.

SCSI ID settings

The figures in this section indicate how to set the SCSI ID to 0 or to 3 on various types of disk drives.

Figure 25-3
300-Mbyte Seagate ST1480 disk drive—SCSI IDs for disk cloning

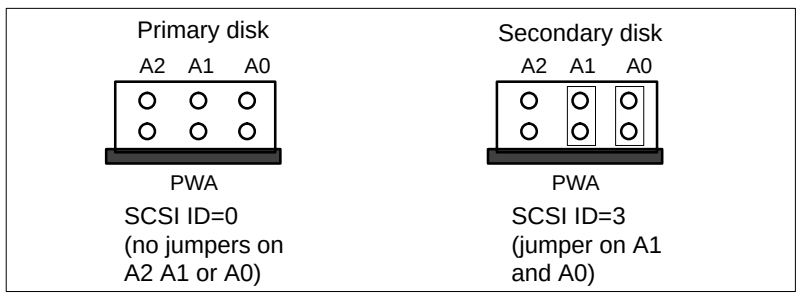


Figure 25-4
300-Mbyte Seagate ST3390N disk drive—SCSI IDs for disk cloning

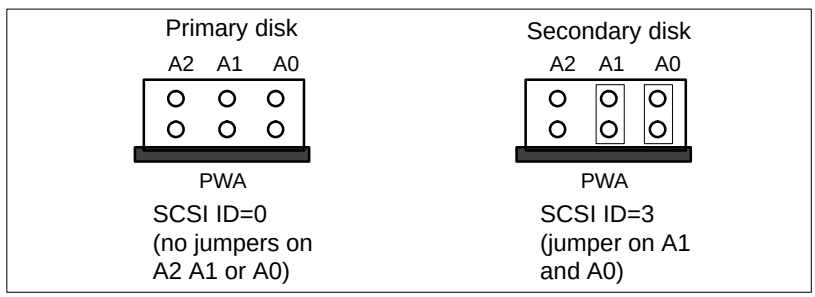


Figure 25-5
300-Mbyte Maxtor LXT340SY disk drive—SCSI IDs for disk cloning

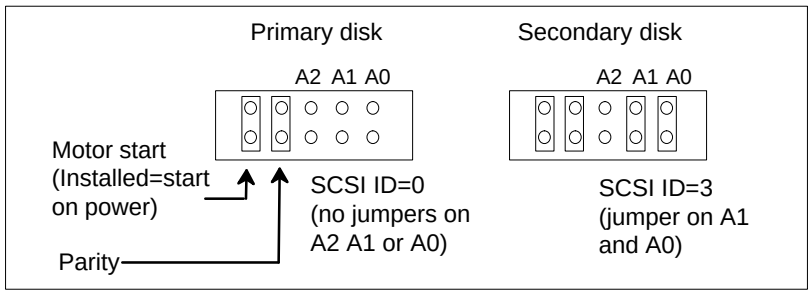


Figure 25-6
365-Mbyte Quantum L365 disk drive—SCSI IDs for disk cloning

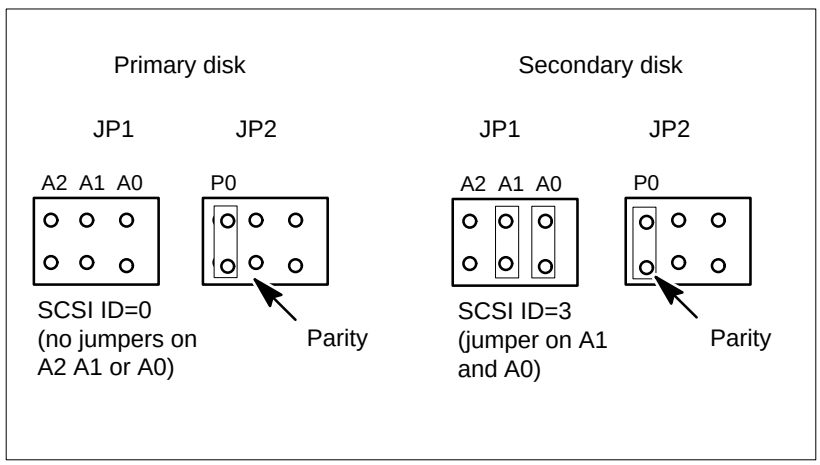


Figure 25-7
600-Mbyte Seagate, Wren V, model 94181 or ST4702N disk drives—SCSI IDs for disk cloning

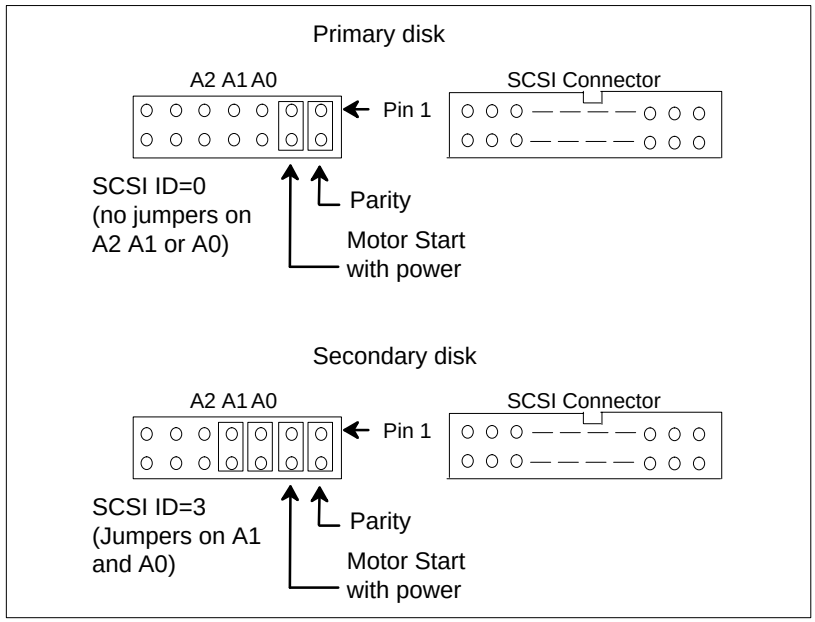


Figure 25-8
600-Mbyte Maxtor XT8760S disk drive—SCSI IDs for disk cloning

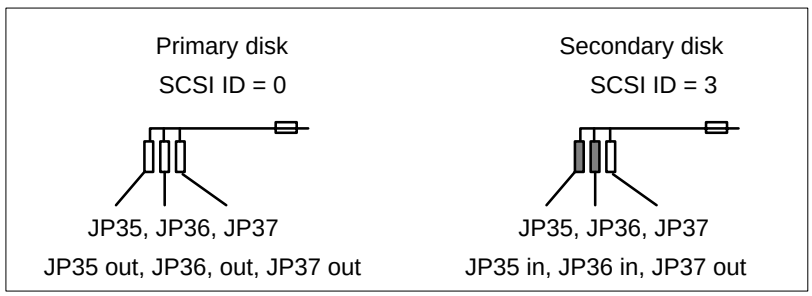


Figure 25-9
1.2-Gbyte Seagate ST11200N and ST31230N disk drives—SCSI IDs for disk cloning

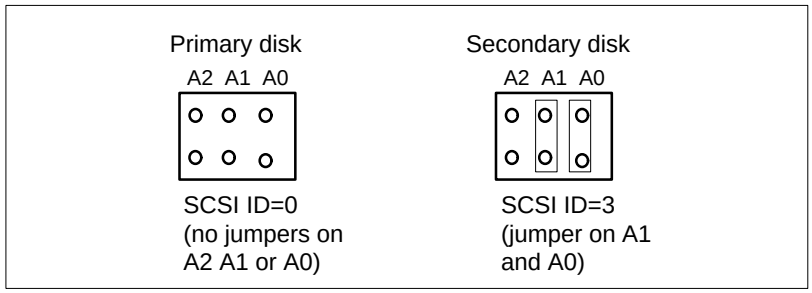


Figure 25-10
1.2-Gbyte Maxtor MXT1240S disk drive—SCSI IDs for disk cloning

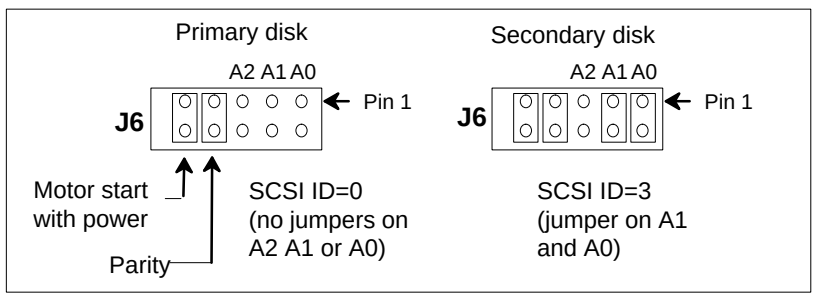


Figure 25-11
1.0-Gbyte DEC DSP3107L disk drive—SCSI IDs for disk cloning

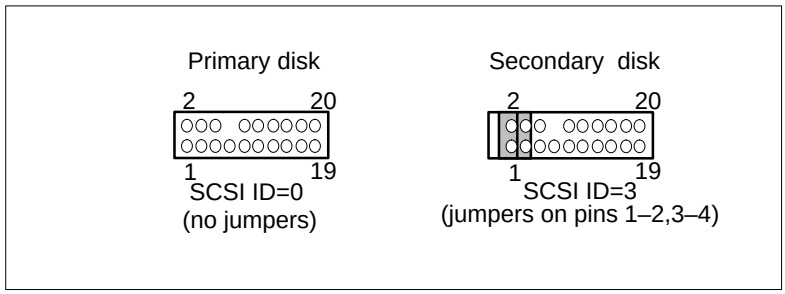
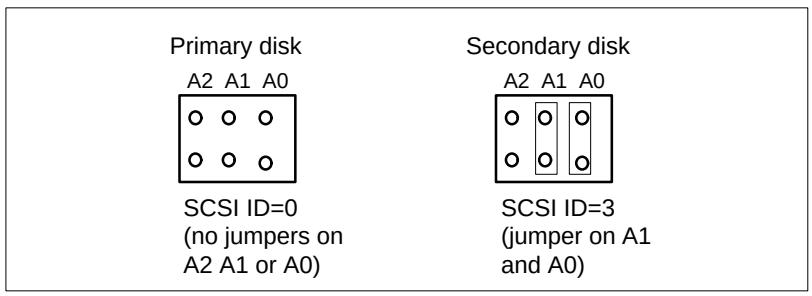


Figure 25-12
2.0-Gbyte Seagate ST32120N and ST32151N disk drives—SCSI IDs for disk cloning



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System Administration Tools Guide
NTP 555-7001-305
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System Administration Tools Guide

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