DSNlink Version 2.1A Installation Guide

This guide describes how to install DSNlink on the Digital UNIX® operating system and how to perform the required postinstallation tasks.

Revision/Update Information:	This is a revised manual, which supersedes all previous versions.
Operating System and Version:	Digital UNIX Version 3.2, Version 3.2C, or Digital UNIX Version 4.0.
Software Version:	DSNlink Version 2.1A

September 1996

© Digital Equipment Corporation 1996. All Rights Reserved.

Digital Equipment Corporation makes no representations that the use of its products in the manner described in this publication will not infringe on existing or future patent rights, nor do the descriptions contained in this publication imply the granting of licenses to make, use, or sell equipment or software in accordance with the description.

Possession, use, or copying of the software described in this publication is authorized only pursuant to a valid written license from Digital or an authorized sublicensor.

Alpha AXP, AXP, the AXP logo, Bookreader, DEC, DECnet, DECserver, DECstation, DECsystem, DECUS, DECwindows, OpenVMS, ULTRIX, UNIBUS, VAX, VAX DOCUMENT, VAXft, VAXstation, VMS, VMScluster, and the DIGITAL logo are all trademarks of Digital Equipment Corporation.

OSF, OSF/1, OSF/Motif, and Motif are registered trademarks of the Open Software Foundation, Inc.

Hayes is a registered trademark of Hayes Microcomputer Products, Inc.

MNP is a registered trademark of Microrim, Inc.

Mosaic is a trademark of the University of Illinois.

PostScript is a registered trademark of Adobe Systems Inc.

UNIX is a registered trademark in the United States and other countries, licensed exclusively through X/Open Company, Ltd.

All other trademarks and registered trademarks are the property of their respective holders.

This document was prepared using VAX DOCUMENT Version 2.1.

Contents

Preface v

1 Preparing to Install DSNlink

1.1 Your Authentication Key 1–1
1.2 Release Notes 1–1
1.3 Checking the Software Distribution Kit 1–1
1.4 Using RIS for Client Installations 1–1
1.5 Preinstallation Requirements 1–2
1.5.1 Time Required 1–2
1.5.2 Have Root Login Privileges 1–2
1.5.3 Create a Group for the DSNlink Files 1–2
1.5.4 BIND Recommendations 1–3
1.5.5 Hardware Requirements 1–3
1.5.6 Software Requirements 1–3
1.5.7 Determining Which Subsets to Load 1–4
1.5.8 Determining Disk Space Requirements 1–4
1.6 Preinstallation Information for the Network Transports 1–5
1.6.1 TCP/IP Ports 1–5
1.6.2 Settings for DECservers 1–5
1.6.3 Modem Support 1–6
1.7 Deinstalling DSNlink Kits 1–6
1.7.1 Deleting the X.25 NCL Configuration 1–7
1.8 Backing Up Your System 1–8
1.9 Stopping the Installation 1–8
1.10 Error Recovery 1–8

2 Installing DSNlink on a Digital UNIX System

2.0.1 Installing from CD-ROM Consolidated Distribution Media 2–1
2.1 Sample Installation 2–2

3 Postinstallation Tasks

3.1 Printing the Release Notes and Other Documents 3–1
3.2 Establishing Who Can Use DSNlink 3–3
3.2.1 Specifying Local DSNlink Users 3–3
3.2.2 Specifying Remote Access to DSNlink 3–3
3.3 Modifying the Configuration File 3–4
3.4 Creating a Mail Signature File 3–4
3.5 Modifying the DSNlink Setup 3–5
3.6 Creating or Modifying Modem Scripts 3–7
3.6.1 Guidelines for Scripts 3–8
3.7 Log Files 3–10

3.8 Learning to Use DSNlink 3–10

A Dialer Driver Script Facility Commands

A.1 Description A–1
A.2 Delimiters A–1
A.3 Control Characters A–2
A.3.1 Sending the Circumflex Character A–2
A.4 Numeric Values A–2
A.5 DDSF Script Commands A–3
FIND A–4
GOTO A–5
IF A–6
INCREMENT A–8
LET A–9
ON...GOTO A–10
PURGE A–11
RETURN A–12
SECTION A–14
SEND A–15
SET A–17
WAITFOR A–18
WAITSTRING A–20
ZERO A–21

B DSNlink Directories on Your System

Index

Tables

1 Manual Conventions vi
1–1 DSNlink Kit Size 1–4
1–2 Ports Used by DSNlink Applications 1–5
1–3 Files Not Deleted by a Deinstallation 1–7
A–1 Supported DDSF Command Language Delimiters A–1
A–2 DDSF Control Characters A–2
A–3 Valid Exit Keywords A–12
B–1 Directories Used by DSNlink B–1
B–2 DSNlink Directories Created by the DSNlink Installation B–1
B–3 Files Modified by the DSNlink Installation B–3

Preface

This document describes how to install the DSNlink Version 2.1A software on an Alpha AXP system that runs Digital UNIX.

Overview

The DSNlink software is a service tool that provides electronic communication capabilities between customers' systems and a Digital Customer Support Center. Using DSNlink, customers can send electronic service requests and receive help from Digital specialists. Customers can also use DSNlink to search Digital's technical support databases for information about products for which they have service contracts.

The installation procedure creates DSNlink file systems subordinate to the `/usr/lib/dsn/` directory and loads DSNlink software subsets.

You can install DSNlink on a local node or from a Remote Installation Services (RIS) server area.

Keep this document with your distribution kit. You will need it to install maintenance updates or to reinstall DSNlink for any other reason.

Intended Audience

The audience for this document is the system administrator who installs DSNlink software.

Structure of this Document

This document is organized as follows:

- Chapter 1, Preparing to Install DSNlink, describes the operating system, related software, and hardware requirements for DSNlink installation and the related procedures you complete before the installation.
- Chapter 2, Installing DSNlink on a Digital UNIX System, shows a sample installation.
- Chapter 3, Postinstallation Tasks, describes the postinstallation procedures you must complete.
- Appendix A, Dialer Driver Script Facility Commands, is a list of the commands you can enter in modem dialer scripts.
- Appendix B, DSNlink Directories on Your System, describes the hierarchy and contents of DSNlink Version 2.1A directories.

The DSNlink Customer Documentation Set

The customer documentation for DSNlink Version 2.1A is primarily on line. The hardcopy documentation is the DSNlink Customer Letter and a Read This First page that are included in the kit that customers order from Digital.

The following documents are on the distribution media in a directory separate from the software subsets to allow customers to print them before installing DSNlink:

- *DSNlink Version 2.1A Service Tool Description*
- *DSNlink Version 2.1A Release Notes*
- *DSNlink Version 2.1A Installation Guide*
- *DSNlink Version 2.1A Quick Reference Card*

The following documents are accessible from the Help menu on the DSNlink main window. They are in Hypertext Markup Language (HTML) format:

- *DSNlink Version 2.1A Release Notes*
- *DSNlink Version 2.1 Getting Started With the DECwindows Interface*
- *DSNlink Version 2.1 Getting Started With the Command Line Interface*
- *DSNlink Version 2.1 User's Guide for the DECwindows Interface*
- *DSNlink Version 2.1 User's Guide for the Command Line Interface*
- *DSNlink Version 2.1 Glossary*
- *DSNlink Version 2.1 Error Messages*

The NCSA Mosaic browser, which is included in the kit, displays the online documentation in DECwindows. The Lynx browser displays the command line interface documents.

Conventions Used in This Document

This document uses the conventions listed in Table 1, as needed:

Table 1 Manual Conventions

Convention	Description
UPPERCASE and lowercase	Although the Digital UNIX (formerly DEC OSF/1) operating system differentiates between lowercase and uppercase characters, DSNlink parameters and other file entries are case insensitive. However, command and options are case sensitive. To avoid errors, enter information in examples as shown.
Digital UNIX®	Refers to the operating system formerly known as DEC OSF/1.
DSNlink	The abbreviated service tool name is used for convenience to refer to the DSNlink Version 2.1A for Digital UNIX software.
boldface text	Shows sample responses to prompts.
`monospace type`	Monospace type is for file names, directories, commands, and examples.
%	A percent sign is the default prompt for the C shell.

(continued on next page)

Table 1 (Cont.) Manual Conventions

Convention	Description
#	A number sign is the default superuser prompt.
Ctrl+X or Ctrl/X	Theses symbols indicate that you should hold down the key labeled Ctrl and then press another key indicated by *X*.
MB1, MB2, MB3	MB is an abbreviation for mouse button. On a mouse set up for right-hand use, MB1 is the left button, MB2 the middle button, and MB3 the right button. (Users can can redefine the buttons for left-hand use.)
Menu item ⇒ Submenu item	This is an abbreviation for navigating menus which is short for the following: Point to the menu item, press and hold MB1 to display the submenu, drag the pointer to the submenu item, and release MB1.
[ ]	Square brackets indicate you must choose one or more of the parameters or variables within the brackets.
{ }	Curly braces indicate that all parameters or variables within the braces are optional.
[option1 | option2]	Options separated by a vertical line indicate you can choose one of the parameters or variables, one of which is the default.
. . .	A vertical ellipsis indicates the example continues, but the additional text is not displayed.
. . .	A horizontal ellipsis indicates you can repeat the parameter or value. For example, database name ... means you can enter multiple database names.

1

Preparing to Install DSNlink

This chapter contains information you need to know or verify before installing DSNlink.

1.1 Your Authentication Key

There is no license necessary to use DSNlink. However, you must register with Digital to use DSNlink. After you register, Digital sends you an authorization letter, which includes your access number, authentication key, and the name of your Digital Customer Support Center. The installation procedure prompts you for this information. Therefore, be sure you have the authorization letter before you start the DSNlink installation.

Note that it is extremely important to keep your authentication key secret. Anyone who has your access number, authentication key, and DSNlink has access to your DSNlink account.

1.2 Release Notes

DSNlink provides online release notes only. Although none of the notes pertain to the installation, Digital recommends you read the release notes before using the product.

For the location of the release notes and other online documents, see Section 3.1.

1.3 Checking the Software Distribution Kit

If you order a DSNlink kit from Digital, the DSNlink Version 2.1A kit contains a CD–ROM optical disk for Alpha AXP systems. The kit also includes the following additional items:

- The cover letter
- A Read This First page that explains how to begin

All other documents are on line.

1.4 Using RIS for Client Installations

You can install DSNlink on a Remote Installation Services (RIS) server area and then use RIS to install DSNlink on local systems. In this case, you need to do the following:

1. Use the `ris` utility to install the DSNlink subsets from the distribution media into the RIS server area.
2. Make the DSNlink subsets available on line so that subsequent installations of DSNlink can use RIS.
3. Make sure the local system is registered as a RIS client.

4. Provide the name of the server system to the local node for the installation procedure.

1.5 Preinstallation Requirements

This section lists the preinstallation requirements for DSNlink and how to verify that your system meets those requirements. The following checklist is a summary of the requirements. Before you install DSNlink, be sure to do the following:

- ☐ Determine which transport or transports you will use to connect your DSNlink node to Digital. See Section 1.6.
- ☐ Be able to log in to the target node as root.
- ☐ Create the group for DSNlink files. See Section 1.5.3.
- ☐ Check the hardware requirements. See Section 1.5.5.
- ☐ Check the software requirements. See Section 1.5.6.
- ☐ Determine which subsets to install. See Section 1.5.7
- ☐ Determine if there is sufficient disk space. See Section 1.5.8.
- ☐ Deinstall previous DSNlink kits. See Section 1.7.
- ☐ Set up the DECserver, if you have one, for use with DSNlink. See Section 1.6.2.
- ☐ Back up the system.

1.5.1 Time Required

A local installation takes approximately 5 to 15 minutes. An RIS client installation may take longer because it is dependent on network activity at the time of the installation. If the network is not active, you should expect an installation time roughly equal to a local installation.

1.5.2 Have Root Login Privileges

You must be able to log in as root where you are installing DSNlink. Only when you are logged in as root do you have the required permission to install the DSNlink software.

1.5.3 Create a Group for the DSNlink Files

Before you install DSNlink, you must create a group for the DSNlink executables. To prevent possible security breaches, Digital recommends that you create a unique, new group. To make sure your system is as secure as possible, avoid using general user group names such as `users`, `guest`, and `staff`. You can name the group `dsnlink`.

Make sure no one is a member of the group. Its purpose is to run DSNlink. If there are members, potential security breaches could occur because members could read files that are otherwise readable only by the superuser.

For information on creating groups, see the addgroup (8) reference page. If you use BIND, refer to the network setup manual. If you use Hesiod or NIS to maintain groups, see the operating system's documentation for instructions.

1.5.4 BIND Recommendations

Digital recommends that you run a naming service such as BIND rather than entering a host name manually in `/etc/hosts`. See the appropriate documentation for information.

1.5.5 Hardware Requirements

Hardware Required for Installation

You must install DSNlink on an Alpha AXP system. You also need a CD–ROM reader if you install DSNlink from CD–ROM.

Modem Hardware

If you use the modem transport for DSNlink communications, you must have a modem dedicated to DSNlink. A dedicated modem permits the immediate handling of both incoming and outgoing communications. Digital uses the incoming mode to respond to your service requests and make other connections as you authorize.

Although DSNlink provides dialer scripts for several types of modems, you do not have to use one of those modems. If you use a modem for which there is no dialer script, you must create a script for the modem. For more information, see Section 3.6.

You must also have an asynchronous serial port on your system or DECserver.

1.5.6 Software Requirements

DSNlink Version 2.1A requires the following software:

- Digital UNIX Version 3.2, Version 3.2C, or Version 4.0.
- The DEC OSF/1 Base System subset (OSFBASE) must be loaded on the system where you install DSNlink.

  To verify that the subset is loaded, do the following:

  1. Log in to the system where you will install DSNlink.
  2. Enter the following command to verify that the OSFBASE subset is installed. This example shows the command and the response when the subset for Digital UNIX Version 3.2 is installed:

     ```
     % /usr/sbin/setld -i | grep OSFBASE
     OSFBASE320      installed       Base System (- Required -)
     ```

     If `installed` is missing or there is no response, the subset is not loaded. For information on how to load the operating system software, see the Digital UNIX documentation.

- The appropriate network software for the network transport you choose:
  - DEC X.25 for Digital UNIX—the version required for your operating system and the corresponding Digital software
  - DECnet/OSI for Digital UNIX—the version required for your operating system and the corresponding Digital software
  - TCP/IP—Digital UNIX includes this transport; no additional software is required
  - Modem—does not require operating system software

Modems must use MNP (Microcom Networking Protocol) class 5, which provides error checking and data compression. See the technical specifications for your modem to verify that it is MNP class 5 compliant and does not disable MNP5.

1.5.7 Determining Which Subsets to Load

DSNlink has these subsets:

- DSNABASE211—with the description "DSNlink V2.1A Customer"

  Load this subset on an Alpha AXP system running Digital UNIX Version 3.2, Version 3.2C, or Version 4.0.

- DSNALANG211—with the description "DSNlink V2.1A International Language Support"

  This subset contains translated files for Japanese and French. Other languages may be added in the future. Contact your local Digital representative to determine if other languages are supported.

- DSNADOC211—with the description "DSNlink V2.1A On-line Documentation"

  Load this subset to make the online documentation accessible to DSNlink. Note that all user documentation is on line.

  The DSNlink reference pages are in a separate subset.

- DSNAMAN211—with the description "DSNlink V2.1A Reference Pages"

  Load this file to have the DSNlink reference pages.

1.5.8 Determining Disk Space Requirements

The disk space requirements apply to the disks where you load the DSNlink subsets for RIS and local installations.

Note

If you have a previous version of DSNlink on your system, you **must** deinstall it before installing DSNlink Version 2.1A. If the previous subsets remain in place, the installation fails.

Deinstalling DSNlink Version 2.0 for Digital UNIX frees 34 MB of memory. For more information about deinstalling, see Section 1.7.

Table 1–1 lists the disk space requirements for loading DSNlink software subsets.

Table 1–1 DSNlink Kit Size

Kit Size	Size After Installation	/usr	/var
7 MB	15.0 MB	14.0 MB	1.0 MB

To determine if your system has enough disk space, use the `df` command. The following example shows the total space and free space in the `/var/opt` directory on a Digital UNIX system:

```
# df -k
Filesystem   512-blocks        Used       Avail Capacity  Mounted on
/dev/rz10d       534210       98462      382326    20%    /var
```

1.6 Preinstallation Information for the Network Transports

You can use any of the following network transports to connect your DSNlink node to Digital:

- DECnet
- TCP/IP
- X.25
- Modem, which supports IDSN and PSTN line types

If you have more than one of the above network protocols, you can specify which ones to configure for use by DSNlink. For example, if your system has all the transports, you can configure them all or specify just the ones you want to use. DSNlink assigns each a cost factor. When making connections, DSNlink uses the one with the lowest cost factor.

You can add or remove transports after the installation using the DSNlink Setup utility.

1.6.1 TCP/IP Ports

If using the TCP/IP transport, DSNlink applications assign the ports shown in Table 1–2.

Table 1–2 Ports Used by DSNlink Applications

Application Abbreviation	Port	Application Name
dsn_nsd	2370	Name server daemon
dsn_copy	2371	File Copy
dsn_mail	2372	DSNlink Mail
dsn_its	2373	Interactive Text Search
dsn_login	2374	Remote Login
dsn_netex	2375	Network Exerciser
dsn_sra	2376	Service Request application
dsn_k2	2377	Cryptographic Services

The port entries must be added to the file `/etc/services`. During the installation, you can choose whether or not to have the installation procedure add the entries to `/etc/services` for you.

1.6.2 Settings for DECservers

DSNlink supports the DECserver 700/MC.

To see the current settings for a terminal server port, log in to the DECserver, enable privileges, and enter the LIST PORT *n* command (where *n* is the terminal server port number where the DSNlink modems are to be attached).

Recommended DECserver parameters are shown in the following example:

```
Local> LIST PORT n

Port n:

Character Size:            8           Input Speed:        9600 ❶
Flow Control:            XON           Output Speed:       9600
Parity:                 None           Modem Control:   Enabled

Access:                Remote           Local Switch:       None
Backwards Switch:        None           Name:      DSN_MODEM_nnn ❷
Break:                  Local           Session Limit:         1
Forwards Switch:         None           Type:               Soft

Preferred Service: None

Authorized Groups:  0
(Current)  Groups:  0

Enabled Characteristics:

Dialup, DTRwait, Input Flow Control, Output Flow Control,
```

❶ This number must match the DTE speed of the modem.

❷ This name is only a recommended name; any unique port name is valid.

1.6.3 Modem Support

If you want to use the modem transport, you must have a dialer script for your modem. DSNlink includes dialer scripts for several modems. If yours is not in the list, you can modify one of the provided scripts.

For information on modem scripts, see Section 3.6.

1.7 Deinstalling DSNlink Kits

The DSNlink installation stops if any of these versions of DSNlink are installed on your system:

- DSNlink Version 2.0
- DSNlink Version 2.1
- DSNlink Version 2.1A

Therefore, you must use the following procedure to deinstall the kits before proceeding with the next DSNlink installation. Note that the deinstallation process does not delete customizable files. For a list of the files that are NOT deleted, see Table 1–3.

To remove existing DSNlink subsets and the directory paths for them:

1. Log in as root to the system containing the subsets to remove.
2. The following commands deinstall different versions of DSNlink. Enter the one that applies to the version of DSNlink you want to deinstall:
   - For DSNlink Version 2.0 for Digital UNIX, use this command to remove the base and documentation subsets:

     ```
     # setld -d DSNABASE200 DSNADOC200
     ```

   - For DSNlink Version 2.1, use this command to remove the base, documentation , language, and reference pages subsets:

     ```
     # setld -d DSNABASE210 DSNADOC210 DSNALANG210 DSNAMAN210
     ```

- For DSNlink Version 2.1A, use this command to remove the base, documentation , language, and reference pages subsets:

```
# setld -d DSNABASE211 DSNADOC211 DSNALANG211 DSNAMAN211
```

3. If you do not want to reinstall DSNlink, also delete the files listed in the Table 1–3.

Do not delete other directories left behind if you are reinstalling DSNlink.

The deinstallation procedure does not delete all DSNlink files and directories. Therefore, if you do not want to reinstall DSNlink, you should delete the files and directories shown in Table 1–3. They are all rooted at `/var/opt/DSNA211`.

Table 1–3 Files Not Deleted by a Deinstallation

Directory	Contents	Description of the Files
config	DSNlink-Biz, DSNlink-Flash, DSNlink-Info, DSNlink-Survey	Distribution lists for mail from Digital
config	routemap	The route map for making connections between your system and Digital
config	dsn_local_auth.dat dsn_remote_auth.dat	The file that permits local users access to DSNlink The file that allows Digital access to your DSNlink applications
config	dsn_sra_signature.txt	A signature file that is automatically appended to service requests
keys	MD5-DIGITAL-access_ number	Your authentication keys
logs	dsn_history.log and application log files	Log files that record DSNlink usage
public	/incoming and /outgoing	Directories for files copied to and from your system using the DSNlink File Copy application

Note that the online documentation is in the `/usr/lib/dsn/help` directory. If you customized any documentation files you want to keep, you should rename or move them before installing DSNlink Version 2.1A.

Note

The deinstallation procedure removes the modem scripts in `/usr/lib /dsn/modem`. If you modified DSNlink Version 2.1 scripts and want to keep them, rename or move them before reinstalling DSNlink. DSNlink Version 2.0 scripts are obsolete.

1.7.1 Deleting the X.25 NCL Configuration

When deleting old DSNlink base subsets with `setld`, you can choose to delete the X.25 entities or modify them afterwards.

Note that deleting the entities disconnects any currently established X.25 connections.

1.8 Backing Up Your System

Digital recommends that you back up your system before installing any software. For details on performing a system backup, see your Digital UNIX documentation.

1.9 Stopping the Installation

You can stop the installation procedure any time by entering Ctrl+C. However, files created up to this point are not deleted automatically. You must delete these files. Appendix B lists the directories created during the installation procedure.

1.10 Error Recovery

If errors occur during the installation, the system displays failure messages. If the installation fails due to insufficient disk space, the installation procedure displays a message indicating that there is not enough file system space for the subset and that it will not be loaded.

Errors can occur during the installation if any of the following conditions exist:

- The operating system version is not supported.
- The prerequisite software is not installed, or its version is not supported.
- DSNlink has already been installed.
- The target architecture is not Alpha AXP.

2

Installing DSNlink on a Digital UNIX System

This chapter provides a sample installation for DSNlink Version 2.1A for Digital UNIX (formerly DEC OSF/1).

Before starting the installation, read Chapter 1, which describes options and requirements for installing the product.

You can print the *DSNlink Version 2.1A Release Notes*, *DSNlink Version 2.1A Service Tool Description*, and *DSNlink Version 2.1A Quick Reference Card* before you install DSNlink. For more information see Section 3.1.

warning

DECnet/OSI for Digital UNIX may hang the installation. We recommend shutting down DECnet during the installation using this command:

```
# /usr/sbin/decnetshutdown
```

You can restart DECnet with this command:

```
# /usr/sbin/decnetstartup
```

2.0.1 Installing from CD-ROM Consolidated Distribution Media

Start the installation procedure as follows:

1. Mount the media on the appropriate disk drive.
2. Log in as superuser (login name root) where you are installing DSNlink.
3. Make sure that you are at the root (/) directory by entering the following command:

   ```
   # cd /
   ```

4. Specify the `/cdrom` directory to be the mount point for the distribution file system on the drive. If the `/cdrom` directory does not exist, you can create it with this command:

   ```
   # mkdir /cdrom
   ```

5. If your drive is `/dev/rz4c`, enter the following command:

   ```
   # mount -d /dev/rz4c /cdrom
   ```

6. Enter a `setld` command that specifies the load function (`-l`) and identifies the directory in the mounted file system where DSNlink subsets are located.

   For example, if the directory location for these subsets is `/cdrom/dsna211/kit`, enter the following command:

   ```
   # setld -l /cdrom/dsna211/kit
   ```

2.1 Sample Installation

The following installation procedure configures all transports, TCP/IP, DECnet, X.25, and modem, and installs all subsets to illustrate the process. Your installation will vary from this script depending on your choices of subsets and transports and whether a previous version of DSNlink was installed. If you deinstalled either DSNlink Version 2.0 or DSNlink Version 2.1, some files remain which this installation procedure names and saves.

The installation script uses the following sample entries, which you change to the names your system uses:

- The installer created the group `dsn` before starting the installation.
- DSNlink is installed on a node named `Wynken`.
- The sample access number is `1234567`.
- Default values appear within square brackets ([ ]). You can accept the default value by pressing the Return key. Or, you can override the default by entering the value you want. Boldface text shows examples of entries that replace the default values.

At the end of the sample installation are descriptions of each callout number.

```
--------------------------------------------------------------------------------

# setld -l /cdrom/dsna211/kit ❶

The subsets listed below are optional:

     There may be more optional subsets than can be presented on a single
     screen. If this is the case, you can choose subsets screen by screen
     or all at once on the last screen. All of the choices you make will
     be collected for your confirmation before any subsets are installed.

     1) DSNlink V2.1A Customer
     2) DSNlink V2.1A International Language Support ❷
     3) DSNlink V2.1A On-line Documentation
     4) DSNlink V2.1A Reference Pages

Or you may choose one of the following options:

     5) ALL of the above
     6) CANCEL selections and redisplay menus
     7) EXIT without installing any subsets

Enter your choices or press RETURN to redisplay menus.

Choices (for example, 1 2 4-6): 5  ❸

You are installing the following subsets:

   DSNlink V2.1A Customer
   DSNlink V2.1A International Language Support
   DSNlink V2.1A On-line Documentation
   DSNlink V2.1A Reference Pages

Is this correct? (y/n): y

Checking file system space required to install selected subsets:

File system space checked OK.

         COPYRIGHT (c) 1995, 1996 BY DIGITAL EQUIPMENT CORPORATION.
                        ALL RIGHTS RESERVED.
```

```
   This software is furnished under a license and may be used and copied
   only in accordance with the terms of such license and with the
   inclusion of the above copyright notice. This software or any other
   copies thereof may not be provided or otherwise made available to any
   other person. No title to and ownership of the software is hereby
   transferred.

   The information in this software is subject to change without notice
   and should not be construed as a commitment by Digital Equipment
   Corporation.

   The MD5 software contained in this product is derived from the RSA
   Data Security, Inc. MD5 Message-Digest Algorithm.

   This product includes software developed by the University of
   California, Berkeley and its contributors.

   Copyright (c) 1983, 1986, 1987, 1988, 1993
   The Regents of the University of California.  All rights reserved.

   Press Return or Enter to continue: ❹

        You can stop the installation procedure at any time by pressing
        Ctrl/C (by holding down the Ctrl key while you press the C
        key).  If you stop the installation procedure, however, files
        which have been installed up to that time will NOT
        automatically be removed.  See the DSNlink Version 2.1A
        Installation Guide for information on how to deinstall
        DSNlink for Digital UNIX.


   Press Return or Enter to continue:


    DSNlink Version 2.1A for Digital UNIX (DSNABASE211) Installation
    Procedure

   This installation should take between 5 and 15 minutes to complete,
   depending on the system configuration.


   ... checking version of Digital UNIX
   ... checking for previously installed versions of DSNlink

        A unique group is required for DSNlink executables.  To prevent
        possible security holes, we recommend that you create a new
        group to be used only with DSNlink for Digital UNIX.  We
        strongly discourage the use of general user groups such as
        "users", "guest", or "staff".  Use of a group such as "system",
        "kmem", "operator", or "daemon" can create a serious security
        problem.

        This group must exist before the installation can continue.

   Have you created a unique group for the DSNlink executables and
   files? (y/n) [y]: ❺

   Enter the group name [No default]: dsn

   The group "dsn" exists.  Is this the correct group to use? (y/n)
   [y]:

DSNlink V2.1A Customer ❻
   Copying from /cdrom/dsna211/kit (disk)
   Verifying

DSNlink V2.1A On-line Documentation
   Copying from /cdrom/dsna211/kit (disk)
   Verifying

DSNlink V2.1A Reference Pages
   Copying from /cdrom/dsna211/kit (disk)
   Verifying
```

```
DSNlink V2.1A International Language Support
   Copying from /cdrom/dsna211/kit (disk)
   Verifying

Configuring "DSNlink V2.1A Customer" (DSNABASE211)

   ... checking for files from previous DSNlink installations

   ... creating /usr/lib/dsn/config/.dsnrc
   ... creating /usr/lib/dsn/config/dsn_local_auth.dat
   ... creating /usr/lib/dsn/config/dsn_remote_auth.dat

   ... creating symbolic link /usr/shlib/libcxx.so
   ... creating /usr/lib/dsn/modem/dsn_modem_devices.dat
   ... creating /usr/lib/dsn/modem/dsn_modem_instantiate.dat
   ... creating /usr/lib/dsn/modem/dsn_modem_substitution.dat

        Setting the group ownership of these files or directories
        to group dsn:

        o /usr/opt/DSNA211/bin.alpha/DsnEmailServer
        o /usr/opt/DSNA211/bin.alpha/DsnFileCopyServer
        o /usr/opt/DSNA211/bin.alpha/DsnK2Server
        o /usr/opt/DSNA211/bin.alpha/DsnMain
        o /usr/opt/DSNA211/bin.alpha/DsnModemDaemon
        o /usr/opt/DSNA211/bin.alpha/DsnModemMgr
        o /usr/opt/DSNA211/bin.alpha/DsnNetExServer
        o /usr/opt/DSNA211/bin.alpha/DsnNsdServer
        o /usr/opt/DSNA211/bin.alpha/dsn_copyd
        o /usr/opt/DSNA211/bin.alpha/dsn_itsd
        o /usr/opt/DSNA211/bin.alpha/dsn_k2d
        o /usr/opt/DSNA211/bin.alpha/dsn_logind
        o /usr/opt/DSNA211/bin.alpha/dsn_maild
        o /usr/opt/DSNA211/bin.alpha/dsn_netexd
        o /usr/opt/DSNA211/bin.alpha/dsn_nsdd
        o /usr/opt/DSNA211/bin.alpha/dsn_srad
        o /usr/opt/DSNA211/bin.alpha/dsnlogin
        o /usr/opt/DSNA211/bin.alpha/dsnlogind
        o /var/opt/DSNA211/logs
        o /var/opt/DSNA211/public/incoming
        o /var/opt/DSNA211/public/outgoing
        o /var/opt/DSNA211/spool
        o /usr/lib/dsn/config/.dsnrc
        o /usr/lib/dsn/config/dsn_local_auth.dat
        o /usr/lib/dsn/config/dsn_remote_auth.dat
        o /usr/lib/dsn/config/DSNlink-Biz
        o /usr/lib/dsn/config/DSNlink-Flash
        o /usr/lib/dsn/config/DSNlink-Info
        o /usr/lib/dsn/config/DSNlink-Survey
        o /var/opt/DSNA211/logs/dsn_history.log
        o /var/opt/DSNA211/config/routemap
        o /var/opt/DSNA211/keys

        The next prompt requests your DSNlink domain.  Enter your
        access number, contract number, system ID, hardware serial
        number, obligation identifier, or WRTID as specified in your
        DSNlink cover letter.

        The installation procedure enters your response in the
        systemwide DSNlink configuration file,
        /usr/lib/dsn/config/.dsnrc, for the parameter Local.Domain.

   Enter a list of one or more DSNlink domains for this system
   [No default]: 1234567 ❼

        The DSNlink node name uniquely defines your system in the
        DSNlink domain(s):

                1234567
```

```
    Unique DSNlink node names are important if you have more than
    one system running the DSNlink service tool.  This name is
    usually the TCP/IP host name.

    This procedure uses the DSNlink node name from the Local.Node
    parameter in /usr/lib/dsn/config/.dsnrc, if it exists, as the
    default response in the next question.  Otherwise, the
    question's default response is the output of the "hostname"
    command.

Enter the DSNlink node name for this system [wynken.splat.com]: wynken ❽

    After you select your support center from the following list,
    this procedure defines the Remote.Domain and Remote.Node
    parameters in the systemwide DSNlink configuration file,
    /usr/lib/dsn/config/.dsnrc.

    The following lists the various Digital Customer Support
    Centers throughout the world:

     1)   Athens, Greece
     2)   Australia & New Zealand
     3)   Bangkok, Thailand
     4)   Basingstoke, England
     5)   Brussels, Belgium
     6)   Col. Napoles, Mexico
     7)   Colorado Springs, Colorado, USA
     8)   Copenhagen, Denmark
     9)   Dublin, Ireland
    10)   Evry, France
    11)   Helsinki, Finland
    12)   Herzelia, Israel
    13)   Kanata, Canada
    14)   Luxembourg, Grand Duche de Luxembourg
    15)   Milan, Italy
    16)   Munich, Germany
    17)   Oslo, Norway
    18)   Seoul, South Korea
    19)   Singapore, Republic of Singapore
    20)   Sundbyberg, Sweden
    21)   Taikoo Shing, Hong Kong
    22)   Taipei, Taiwan
    23)   Tokyo, Japan
    24)   Utrecht, The Netherlands
    25)   Vienna, Austria
    26)   Zurich, Switzerland

Enter your Customer Support Center (1-27) [no default]:  7 ❾

    The following entry will be used for the default remote domain
    and node in /usr/lib/dsn/config/.dsnrc:

    7)   Colorado Springs, Colorado, USA                  digital/csccxo

    DSNlink applications can communicate with Digital directly,
    using a single protocol, or, communicate through one or more
    DSNlink gateways using multiple protocols.  This feature allows
    applications to communicate over heterogeneous networks.

    The following figure shows some possible configurations:

+------+        [1]         +------+        [2]        +-------+
|NODE_B|----- TCP/IP, ----->|NODE_A|----- TCP/IP, ---->|Digital|
+------+      DECnet,       +------+      DECnet,      +-------+
              or X.25       (DSNlink      X.25, or
                             Gateway)     Modem
```

```
                                    +------+        [3]        +-------+
                                    |NODE_C|----- TCP/IP, ---->|Digital|
                                    +------+      DECnet,      +-------+
                                    (DSNlink      X.25, or
                                     Gateway)     Modem
```

Note that a DSNlink Gateway must also have the appropriate DSNlink software installed.

Is wynken like NODE_A, NODE_B, or NODE_C in the above diagrams? [A]: ❿

You can configure the following network protocols. Choose one or more abbreviations:

Abbreviation	Network Protocol
D	DECnet (Phase IV) or DECnet/OSI
M	DSNlink Modem Protocol
T	TCP/IP
X	X.25

Enter the networking protocols you wish to use for communications with Digital (link [2] in the diagram above). Separate each abbreviation with a space or comma [T D M]: ⓫

You can configure the following network protocols. Choose one or more abbreviations:

Abbreviation	Network Protocol
D	DECnet (Phase IV) or DECnet/OSI
T	TCP/IP
X	X.25

Enter the networking protocols you wish to use for communications within your organization or company (link [1] in the diagram above). Note that you may not use the DSNlink modem protocol. Separate each abbreviation with a space or comma [T D]: ⓬
... checking TCP
... configuring TCP ⓭

The next question will prompt you for the fully qualified IP hostname(s) of your system. A fully qualified hostname includes the BIND domain, i.e., "hostname.domain", and looks something like this:

gatekeeper.dec.com
dsnlink.service.digital.com

However, don't use any of these. Use _your_ system's fully qualified IP hostname. Be sure the default is correct before accepting it. See the bindsetup(8) reference page for more information regarding BIND and fully qualified hostnames.

Enter one or more fully qualified IP hostnames for this system [wynken.splat.com]: ⓮

Updating /usr/lib/dsn/config/.dsnrc with TCP hostname.

To perform TCP/IP communications with DSNlink for Digital UNIX, the following entries must be made in your /etc/services file:

```
dsn_nsd         2370/tcp        # DSNlink name server daemon
dsn_copy        2371/tcp        # DSNlink file copy
dsn_mail        2372/tcp        # DSNlink mail
dsn_its         2373/tcp        # DSNlink interactive text search - VDO
dsn_login       2374/tcp        # DSNlink remote login
dsn_netex       2375/tcp        # DSNlink network exerciser
dsn_sra         2376/tcp        # DSNlink service request application - VDO
dsn_k2          2377/tcp        # DSNlink cryptographic services
```

```
        This procedure will modify the file /etc/services by inserting
        the above line(s) at the bottom of your local /etc/services
        file.

        If this is not appropriate for your configuration, you may
        choose to modify the file yourself after the installation. This
        might be the case if, for example, /etc/services is
        distributed.

   Do you want the installation procedure to automatically modify
   the file /etc/services? (y/n) [y]: ⓯

   ... modifying /etc/services ...
   ... saving copy of /etc/services in /etc/services.sav0

        The following lines must also be added to /etc/inetd.conf:

dsn_nsd    stream  tcp     nowait  root  /usr/sbin/dsn_nsdd    dsn_nsdd
dsn_copy   stream  tcp     nowait  root  /usr/sbin/dsn_copyd   dsn_copyd
dsn_mail   stream  tcp     nowait  root  /usr/sbin/dsn_maild   dsn_maild
dsn_login  stream  tcp     nowait  root  /usr/sbin/dsn_logind  dsn_logind
dsn_netex  stream  tcp     nowait  root  /usr/sbin/dsn_netexd  dsn_netexd
dsn_k2     stream  tcp     nowait  root  /usr/sbin/dsn_k2d     dsn_k2d

        This procedure will modify the file /etc/inetd.conf by
        inserting the above line(s) at the bottom of your local
        /etc/inetd.conf file.

        If this is not appropriate for your configuration, you may
 choose to modify the file yourself after the installation. This
 might be the case if, for example, /etc/inetd.conf is
 distributed.

   Do you want the installation procedure to automatically modify
   the file /etc/inetd.conf? (y/n) [y]: ⓰

   ... adding services for the DSNlink servers
       into /etc/inetd.conf ...
   ... saving copy of /etc/inetd.conf in /etc/inetd.conf.sav0

   Restarting the inetd daemon.
   ... checking DECnet
   ... checking X25
   ... checking Modem
   ... saving copy of /usr/lib/dsn/config/routemap in /usr/lib/dsn/config/
routemap.sav1

   ... configuring DECnet

   Enter one or more node names for this system [LOCAL:.Wynken]: ⓱

        Updating /usr/lib/dsn/config/.dsnrc with DECnet node name.

   ... creating /usr/lib/dsn/config/dsn_decnet_startup.ncl

        To perform DECnet communications with DSNlink for Digital UNIX
        (formerly DEC OSF/1), the following task (number 0) objects
        must be configured:

                dsn_nsd dsn_copy dsn_mail dsn_login dsn_netex dsn_k2

   Do you want the installation procedure to automatically configure
   the DECnet objects? (y/n) [y]: n ⓲

        The DECnet proxy database, /etc/dnet_proxy must also be modified.

        You may manually configure the DECnet databases at any time by
        using the following command:

            # ncl </usr/lib/dsn/config/dsn_decnet_startup.ncl

        Ignore any of the following messages:
```

```
        FAILED IN DIRECTIVE: Delete
        DUE TO: No such Entity Instance exists

... checking X25
... configuring X25

 Enter one or more DTE addresses for this system
 [monet.6203240 vangoghnet.6203241]: (19)

     Updating /usr/lib/dsn/config/.dsnrc with X.25 DTE address.

 ... creating /usr/lib/dsn/config/dsn_x25_startup.ncl

     To successfully configure DSNlink for use with X.25, the
     following DTEs must be disabled and re-enabled:

         dte-0 dte-1

     Note that this will disconnect any currently established X.25
     connections.  You can perform this step at a later time.

Do you want the installation procedure to automatically configure
the X.25 entities? (y/n) [y]:

Executing NCL with the script file /usr/lib/dsn/config/dsn_x25_startup.ncl


... checking Modem
... configuring Modem  (20)

Is this a PSTN or ISDN line? [PSTN]: (21)

Enter the DTE speed [19200]: (22)

     You will now be asked to enter the local telephone number of
     the modem you will be using for DSNlink.  The dialer software
     requires you to enter the telephone number in a special format
     starting with the area code (US) or city code (outside the
     US).  You may enter only the digits (0-9) and you must enter
     exactly 2 hyphens.  For example, the following has the proper
     number of hyphens:

             555-555-5555

Enter the telephone number [303-876-5432]: (23)

Enter the local dialing prefix [T]: (24)

Enter the long distance dialing prefix [T1]: (25)

Enter the PSTN modem device name (enter '*' to see a list of
available devices) [/dev/lat/620]: (26)

Enter the LAT terminal server name [dsnlink_3]: (27)

Enter the LAT terminal server's port name [port_5]:  (28)

     The following modem scripts were found in /usr/lib/dsn/modem:

             File                    Description
             ----                    -----------

         1)  co2264.ddsf_src         Codex 2264
         2)  co2264hw.ddsf_src       Codex 2264 Using HW Flow Control
         3)  df196.ddsf_src          Digital DF196
         4)  df296.ddsf_src          Digital DF296
         5)  ha288.ddsf_src          Hayes OPTIMA 288
         6)  mt1432.ddsf_src         MultiTech 1432
         7)  mt1932.ddsf_src         MultiTech 1932
         8)  mt2834.ddsf_src         MultiTech 2834
         9)  null.ddsf_src           Null Modem

Enter the number of your selection (1-9) [1]: 2 (29)
```

```
   ... updating /usr/lib/dsn/modem/dsn_modem_devices.dat
   ... updating /usr/lib/dsn/modem/dsn_modem_substitution.dat

        Modem line successfully configured.

        The modem daemon, if present, on line "line-000" will now be
        stopped and restarted.

   ... stopping modem daemon

-- No database found --
   ... reconfiguring LAT port
   ... starting modem daemon
   ...
Initializing modem on line line-000...  (30)
S>AT&F^M
R>^M^JOK^M^J
S>ATE0Q0V0 S0=1 S2=128 *DL0*FL3*SL0*SM2*XC1 &C1&D2&S1 &W0^M
R>ATE0Q0V0 S0=1 S2=128 *DL0*FL3*SL0*SM2*XC1 &C1&D2&S1 &W0^M
--- DsnModem::OK, Operation successful

Initialized 1 lines, 0 skipped, 0 initialize errors for specified lines
Modem line line-000 has started.
Started 1 lines, 0 already running, 0 start errors for specified lines
   ... saving copy of /usr/lib/dsn/config/routemap in
/usr/lib/dsn/config/routemap.sav0

   ... adding route map entries for the Digital CSC(s)  (31)
   ... adding route map entries for the name server daemon, dsn_nsdd
   ... copying learned route map entries
   ... done updating route map

   ... configuring the DSNlink Mailing List aliases
   ... saving copy of /var/adm/sendmail/aliases in
/var/adm/sendmail/aliases.sav0

   ... 16 aliases, longest (dsnlink-survey) 87 bytes, 765 bytes total

        The authentication key files are located in /usr/lib/dsn/keys.
        If any are missing, they will be created after prompting for
        the key.  The mode of each file will also be set to allow
        access only for root and DSNlink applications.

   Press Return or Enter to continue:

    Enter the MD5-DIGITAL-1234567 authentication key  (32)
    [no default]: 0DIGITAL-1234567-ACE4-ZYI5-O6CC-74EW

   ... setting mode of /usr/lib/dsn/keys/MD5-DIGITAL-1234567 to u=rw,g=r,o=

        The DSNlink Service Request Application requires the name and
        phone number of the primary contact for your contract.  This
        information, which is stored in the file

            /usr/lib/dsn/config/dsn_sra_signature.txt

        is appended to all service requests.

   Enter the name of the primary contact [no default]: Ferd Berfle  (33)

   Enter the phone number of the primary contact [no default]: 303-555-4643

        Beginning the DSNlink for Digital UNIX Installation
        Verification Procedure (IVP).  (34)

        This procedure will run the DSNlink Network Exerciser Utility
        which will send 10 random-length messages to the Digital
        DSNlink Host System.
```

```
DSNlink V2.1A for Digital UNIX Network Exerciser Utility
Copyright (c) 1989, 1996 by Digital Equipment Corporation
Digital Equipment Corporation Proprietary Service Tool
All Rights Reserved

Connecting to target csccxo.digital.dsn.  Please wait...
Connection established.
Connection path used:
  Encounter #0
    System ID:      1234567/wynken
    System Information:    OSF1 wynken.splat.com V3.2 240 alpha
    Inbound Link:   ---
    Outbound Link:  T/wynken.splat.com/3533 => T/super.cxo.dec.com/dsn_netex

  Encounter #1
    System ID:      Digital/csccxo
    System Information:    VMS SUPER V6.2 0 VAX
    Inbound Link:   T/wynken.splat.com/3533 => T/super/DSN_NETEX
    Outbound Link:  ---

Stats: M10/9/9/0   B17572/101130/101130/0   C101130
Testing complete.
             Messages Sent: 10
             Messages Read: 10
             Messages Good: 10
             Messages Bad:  0
             Bytes Sent:    17572
             Bytes Read:    118702
             Bytes Good:    118702
             Bytes Bad:     0
             CPS:           118702

        The DSNlink for Digital UNIX Installation Verification
        Procedure has successfully completed.  DSNlink for Digital UNIX
 has been successfully installed and configured.

        Configuration of DSNABASE211 successfully completed.

Configuring "DSNlink V2.1A On-line Documentation" (DSNADOC211)

Configuring "DSNlink V2.1A Reference Pages" (DSNAMAN211)

Configuring "DSNlink V2.1A International Language Support" (DSNALANG211) ㉟
# exit
#

-----------------------------------------------------------------------------
```

These are the descriptions of each callout in the sample installation:

❶ The path `/cdrom/DSNA211/kit` is typical. If it does not apply to your kit, enter the appropriate path.

❷ The International Language Support subset contains support for local languages. The present kit contains translated files that make parts of the user interfaces appear in Japanese or French.

Install this subset only if you want to use one of the provided languages. You must also set the LANG environment variable to specify the language and install the Digital worldwide subsets before you can use this feature.

If you do not install this subset, the DSNlink interface is in English.

❸ Digital recommends the minimum installation to be these subsets:

- 1) DSNlink V2.1A Customer
- 3) DSNlink V2.1A On-line Documentation

- 4) DSNlink V2.1A Reference Pages

  Install subset 2) DSNlink V2.1A International Language Support only if you have installed the prerequisite subsets and intend to use DSNlink in a language other than English.

❹ If you start and then stop the installation procedure, be sure to deinstall the partial kit before you attempt the installation again. Deinstalling DSNlink is explained in Section 1.7.

❺ If you have not created a unique group for the DSNlink files, you can enter n (no), create the group in another window, return to the prompt and enter y (yes). After you enter the group name at the next prompt, DSNlink checks for its existence before proceeding. Or, you can press Ctrl+C to exit the procedure and create the group. If you do so, you do not have to deinstall DSNlink before starting another DSNlink installation procedure.

If you answer n (no), DSNlink does not exit the installation or prompt you for the group name, but cycles through the prompts for the group name. Therefore, enter n if you want to create the group in another window and then resume the procedure.

In this example, the previously created group has the name `dsn`.

❻ DSNlink installs the subsets you specified in step ❸. This sample installation chooses to install all subsets so the parts can be shown and explained.

❼ Enter your access number as it appears in the DSNlink authorization letter from Digital. If you have more than one access number, enter a space between the numbers. The first number becomes your default local domain.

Note that some countries do not use access numbers. Instead, they use contract numbers, serial numbers, or some other identifier. That number appears in the authorization letter and should be entered for the local domain.

❽ For simplicity, accept the default name. You can enter the short, commonly-used name for your node as your DSNlink node name. This example enters the short name **wynken**. If you wish, you may enter both the long name, such as wynken.splat.com, and the short name. Separate multiple names with spaces or commas.

DSNlink uses the name to define the parameter Local.Node in your systemwide configuration file, `/usr/lib/dsn/config/.dsnrc`. If this is a reinstallation, DSNlink saves your current `.dsnrc` file, and a message displays the saved file's name.

If you need to change the name later, use the DSNlink Setup utility, as explained in Section 3.5.

❾ Choose the Customer Support Center (CSC) given in the authorization letter from Digital. You can also get the location of your support center from your Digital account representative. Be sure to choose the correct support center because it has the authentication files necessary for connections. If you choose another support center, the installation verification procedure fails.

After you choose a support center, DSNlink defines the Remote.Domain and Remote.Node parameters in your systemwide configuration file. The definitions allow your system to communicate with the Digital host system. In this example, the Remote.Domain is `digital` and the Remote.Node is `csccxo`.

⓾ Answer NODE_A if the specified node communicates directly with Digital without going through another intermediate node at your site and if there is one or more DSNlink nodes connected to it.

Answer NODE_B if the specified node routes connections to some other DSNlink node that connects to Digital. In this case, this prompt appears:

```
Because this system is unable to communicate directly with
Digital, you will now be asked for the name of the DSNlink
gateway for each protocol you have specified.
```

At the prompt for the node name, enter the name of the gateway node in the format required by the transport used by the node. For example, if the gateway is configured to use X.25 and TCP/IP, two prompts appear for each name. Enter the name in X.25 format and the name in TCP/IP format. For example, the X.25 name could be `booster` and the TCP/IP name `booster.eng.splat.com`.

Answer NODE_C if the node communicates directly with Digital and has no other DSNlink nodes connected to it.

NOTE: If you install DSNlink on a NODE_B node before you install on a NODE_A gateway, the installation verification procedure (IVP) fails because there is no connection to the Digital host. To ensure that connections will work after you install DSNlink on the gateway, at the prompts for a gateway, enter the name of the node where you will install DSNlink. After you install DSNlink on the gateway node, return to this node and use the DSNlink Setup utility to run the IVP. For more information on the DSNlink Setup utility, see Section 3.5.

⓫ If you reply to the question in step ⓾ that your system is like either NODE_A or NODE_C, DSNlink asks for the transports to configure for use between your system and Digital. If you configure more than one protocol, DSNlink chooses the one with the lowest cost factor when making a connection to Digital.

DSNlink checks your system for the TCP/IP, DECnet, and X.25 protocols. If they are installed, DSNlink enters them as default choices. If they are not installed, DSNlink does not install them for you.

Note that you can configure the modem transport only on a DSNlink node that makes outgoing connections to Digital's DSNlink host, as shown by links [2] and [3] in the diagram. You cannot configure the modem transport for use within your site.

⓬ If you reply to the question in step ❾ that the system you are installing on is like NODE_A or NODE_B, DSNlink asks for the transports to configure for use between NODE_B and the NODE_A. If you install more than one protocol, DSNlink chooses the one with the lowest cost factor when routing DSNlink connections between systems at your site.

⓭ DSNlink begins configuring the transports you chose in steps ⓫ or ⓬. If you change transports later, you can reconfigure them from the DSNlink Setup utility. (See Section 3.5 for information.)

⓮ Enter the fully qualified TCP/IP host name. If you do not enter the fully qualified name, Digital cannot resolve the name to connect back to your DSNlink system. For example, if you entered wynken, Digital would not have enough information to locate the system. The name wynken.splat.com is, in this example, a fully qualified TCP/IP node name.

A fully qualified host name for the node is similar to the following: `host.school.edu` or `host.group.company.com`.

⓯ Enter y (yes) if you want DSNlink to automatically enter the lines in `/etc/services`.

If you enter y (yes), DSNlink modifies `/etc/services`. DSNlink saves the previous version of the file, and a message tells you the file name.

Enter n (no) if you want to enter the lines after installing DSNlink. Note that the file must have the additional lines before you can use DSNlink.

⓰ Enter y (yes) if you want DSNlink to modify the `/etc/inetd.conf` file to contain the entries. DSNlink saves the previous version of the file, and a message tells you the file name.

Enter n (no) if you want to enter the lines after installing DSNlink. Note that the file must have the additional lines before you can use DSNlink.

⓱ If you chose to configure DECnet, this prompt appears. Enter the node name as required by DECnet.

⓲ Enter y (yes) if you want DSNlink to modify the objects. If you choose yes, DSNlink displays this message:

```
Executing NCL with the script file /usr/lib/dsn/config/dsn_decnet_startup.ncl
```

Enter n (no) if you want to configure the objects yourself after installing DSNlink. Note that the additions must be made before you can use DECnet.

⓳ If you chose to configure X.25, this prompt appears. The default values are your network names and addresses. DSNlink scans for the DTE (Data Terminal Equipment) addresses and enters their names. Enter the ones you want to use.

⓴ If you chose the modem transport, DSNlink displays a series of prompts that allow your modem to connect to Digital.

㉑ Enter either ISDN or PSTN, depending on which type of line you have.

㉒ Enter the DTE speed for your modem transport. You can enter the highest speed your modem supports. Enter digits only—no commas. Note that the Digital host and your modem negotiate the transmission speed at connect time, which may be lower than your modem's maximum speed.

㉓ Enter your modem's telephone number. Make sure the number you enter is composed of only digits and hyphens. The following example shows how to enter modem phone numbers:

```
If you write it like this:      Enter this:
-------------------------       ----------
(719)592-1234                   719-592-1234
16-93.24.25.26                  16-93242526
(31)30-28323640                 31-30-28323640
```

DSNlink uses the telephone number of your Customer Support Center as a model for the number you should enter. Use that number as a guide to how to enter your telephone number.

㉔ The local dialing prefix is anything you use before you dial a local number. For example, if you dial 9 to escape your site's local network, 9 is the local prefix. You do not have to enter T (for tone dialing) or P (for pulse dialing) if your modem is set up to accommodate either mode.

㉕ The long distance dialing prefix is whatever you use before you dial a long distance number. For example, if you dial 8 to escape your site's local network, 8 is the long distance prefix.

㉖ The PSTN or ISDN modem device name can be found in your system's device directory. LAT devices are in `/dev/lat/nnn`. A hardwired connection is found in `/dev/ttynn`.

DSNlink checks the device name you enter to make sure it is not in use. If the line is in use, a message notifies you. You can see a list of devices by entering an asterisk (*) at the device prompt. DSNlink displays a list of available devices for you to choose from.

㉗ If you use a LAT device in step ㉖, enter the LAT terminal server name. For example: *DSNLINK_3*.

㉘ If you use a LAT device in step ㉖, use the LAT terminal server port here. For example, *PORT_5*.

㉙ If your modem is not listed, do not stop the installation procedure. Instead, choose the script you intend to modify or the null script. If the modem is the only network transport you use to connect to the DSNlink host, the script cannot dial your modem, and the installation verification procedure (IVP) properly fails. However, although the IVP fails, the modem scripts are installed and are available for you to modify.

After you create a script for your modem, as explained in Section 3.6, use the DSNlink Setup utility, menu item m, to reconfigure the modem transport and choose your script's name. Then use the DSNlink Setup utility, menu item v, to run the IVP which creates a connection to Digital if the modem script is usable. For information on starting the DSNlink Setup utility, see Section 3.5.

㉚ The line name is always *line-000*. DSNlink supports only single modem lines on customer systems.

㉛ DSNlink creates the entries for your route map based upon your previous responses. If you have problems connecting to Digital, do not edit the route map. Instead, after the installation is complete, use the DSNlink Setup utility to correct the problems. For details, see Section 3.5.

㉜ Enter the authentication key as it appears in your authorization letter. DSNlink is insensitive to the case of the letters in the key.

Caution

Safeguard the authentication key. Anyone who knows it can impersonate you in communications with Digital. The authentication key file provides the necessary security for DSNlink to create communication connections between your system and Digital.

If you mistype the key, wait until the end of the installation procedure and then become root and edit the file `/usr/lib/dsn/keys/MD5-DIGITAL-`*`access_number`*. For more information, see the section on authentication keys in the chapter, Maintaining DSNlink, in the *DSNlink Version 2.1 User's Guide*.

For more information about the MD5 algorithm and authenticating messages from Digital, see the section on security in the Overview chapter of the *DSNlink Version 2.1 User's Guide*. For directions on displaying the User's Guide, see Section 3.8.

❸❸ This prompt and the next one request the name and phone number of the person to call, if necessary, about service requests. Be sure to enter your area code with the phone number.

From your responses, DSNlink creates a signature file that DSNlink automatically appends to new service requests. Digital specialists call that person only if they cannot respond to the service request electronically.

When you submit a service request, you do not see the signature file although it is included. Be sure the contact information remains accurate.

See the chapter, Processing Service Requests, in the *DSNlink Version 2.1 User's Guide* for information on updating the service request signature file if you want to change the contact information. For directions on displaying the User's Guide, see Section 3.8.

❸❹ The installation verification procedure (IVP) uses the Network Exerciser utility, which is part of the DSNlink kit, to test the connection between your system and the Digital host. If the IVP succeeds, you are ready to use DSNlink. If the IVP fails, check your responses to the prompts for:

- Your local domain (access number), step ❼
- The DSNlink node name, step ❽
- The Customer Support Center, step ❾
- The addresses for the network protocols, steps ❹, ❼, or ❾
- Modem setup information, steps ❷❶ through ❷❾
- Your authentication key, step ❸❷

If all are correct, contact Digital for assistance.

If you mistyped any of the above, you can use the DSNlink Setup utility to change your responses.

For more information on the DSNlink Setup utility, see Section 3.5.

❸❺ The installation and verification has completed successfully.

Please see Chapter 3 for information about the postinstallation tasks.

3
Postinstallation Tasks

This chapter explains what you need to do after installing DSNlink to make it ready for use.

3.1 Printing the Release Notes and Other Documents

Your kit includes the DSNlink software and several documents you can print before installing DSNlink:

- *DSNlink Version 2.1A Installation Guide* - this guide
- *DSNlink Version 2.1A Release Notes*
- *DSNlink Version 2.1A Quick Reference Card*
- *DSNlink Version 2.1A Service Tool Description*

The location of the files depends on whether you get the kit on a CD-ROM or by copying it from Digital's FTP directory.

Documents on the CD-ROM

If you order the kit from Digital, the CD-ROM has the files in the directory `/cdrom/dsna211/documentation/`, where *cdrom* is the mount point you assign. The files are:

- *DSNlink Version 2.1A Installation Guide*—this document. The PostScript and text versions are:

  ```
  dsna211_iguide.ps
  dsna211_iguide.txt
  ```

- *DSNlink Version 2.1A Release Notes*, which also apply to DSNlink Version 2.1A. The PostScript and text files are:

  ```
  dsna211_relnotes.ps
  dsna211_relnotes.txt
  ```

- *DSNlink Version 2.1 Release Notes*, which also apply to DSNlink Version 2.1A. The PostScript and text files are:

  ```
  dsna210_relnotes.ps
  dsna210_relnotes.txt
  ```

- *DSNlink Version 2.1A Quick Reference Card*. The card, which you fold after printing it, has two sizes: 8½ by 11 inches, and A4 (210 mm by 297 mm). The files are:

  ```
  dsna211_quickrefcard_8x11.ps
  dsna211_quickrefcard_a4.ps
  ```

- *DSNlink Version 2.1A Service Tool Description*. The PostScript and text files are:

```
dsna211_servtooldes.ps
dsna211_servtooldes.txt
```

You can print the files as you would any other file.

Documents from the FTP Directory

If you copy the DSNlink kit from Digital's FTP directory, the documentation files are compressed and have these names:

- *DSNlink Version 2.1A Installation Guide*—this document. The PostScript and text versions are:

```
dsna211_iguide.ps.Z
dsna211_iguide.txt.Z
```

- *DSNlink Version 2.1A Release Notes*. The PostScript and text files are:

```
dsna211_relnotes.ps.Z
dsna211_relnotes.txt.Z
```

- *DSNlink Version 2.1A Release Notes*, which also apply to DSNlink Version 2.1A. The PostScript and text files are:

```
dsna210_relnotes.ps.Z
dsna210_relnotes.txt.Z
```

- *DSNlink Version 2.1A Quick Reference Card*. The card, which you fold after printing it, has two sizes: 8½ by 11 inches, and A4 (210 mm by 297 mm). The files are:

```
dsna211_quickrefcard_8x11.ps.Z
dsna211_quickrefcard_a4.ps.Z
```

- *DSNlink Version 2.1A Service Tool Description*. The PostScript and text files are:

```
dsna211_servtooldes.ps.Z
dsna211_servtooldes.txt.Z
```

To print or display the files:

1. Copy the files to a directory on your system.
2. Use the **uncompress** command to uncompress each file.
3. Print or display the uncompressed document.

The Release Notes Are Also Online

You can also read the release notes on line. To do so, from the DECwindows Motif interface, start DSNlink using the `dxdsn` command. From the DSNlink main window, choose Help => Release Notes. DSNlink displays the release notes in the Mosaic browser.

To read the release notes from the command line interface, enter this command:

```
% dsnhelp
```

From the list of topics, choose the Release Notes. DSNlink displays the release notes in the Lynx browser.

3.2 Establishing Who Can Use DSNlink

This section explains how to control who has access to DSNlink applications both at your site and from remote Digital hosts.

3.2.1 Specifying Local DSNlink Users

Unless you change it, all users at your site are allowed access to all DSNlink applications and the Network Exerciser utility. You can edit the local authorizations file to specify who is allowed to use DSNlink applications at your site. For example, you may want to limit who is allowed to submit service requests. The local authorizations file is in:

```
/usr/lib/dsn/config/dsn_local_auth.dat
```

For information on modifying the file:

1. Start DSNlink with this command:

   ```
   % dxdsn
   ```

2. From the DSNlink main window, choose Help => User's Guide.
3. From the Table of Contents, go to chapter 8 and choose the link to section 8.2, Specifying Who Can Use DSNlink Applications at Your Site. (To choose a link, use the arrow keys to move the cursor to the section you want, then press the Return key.)

If you do not have the DECwindows Motif interface, from the command line interface, enter:

```
% dsnhelp utilities
```

DSNlink displays chapter 8 from the *DSNlink User's Guide* in the Lynx browser. Choose the link to section 8.2, Specifying Who Can Use DSNlink Applications at Your Site.

3.2.2 Specifying Remote Access to DSNlink

The remote authorizations file controls which DSNlink applications Digital can initiate on your system. The file gives Digital access to these applications:

- File Copy — allows Digital to copy files to or from DSNlink directories on your system.
- DSNlink Mail — allows Digital to send mail to you and to respond to service requests.
- Network Exerciser — allows Digital to initiate network tests from the Digital host.

The remote authorizations file disallows remote logins through DSNlink. When you want to permit Digital specialists to log on remotely, edit the remote authorizations file in:

```
/usr/lib/dsn/config/dsn_remote_auth.dat
```

For information on modifying the file, see the *DSNlink User's Guide*, which you can access by following this procedure:

1. Enter this command:

   ```
   % dxdsn
   ```

2. From the DSNlink main window, choose Help => User's Guide.

3. From the Table of Contents, go to section 8.3, Allowing Remote Access to DSNlink.

If you do not have the DECwindows Motif interface, from the command line interface, enter:

```
% dsnhelp utilities
```

DSNlink displays chapter 8 from the *DSNlink User's Guide* in the Lynx browser. Use the arrow keys to move the cursor to the section on Allowing Remote Access to DSNlink. When the section is highlighted, press the Return key.

3.3 Modifying the Configuration File

The DSNlink kit includes a systemwide configuration file in:

```
/usr/lib/dsn/config/.dsnrc
```

The purpose of the configuration file is to supply values for applications. Optionally, you can create local configuration files for individual DSNlink users. When you start an application, DSNlink reads the local configuration file, if it is present, and then the systemwide file for any values not supplied by the local file. Those values appear in DSNlink fields and set toggle switches on or off. The configurable elements in the configuration file(s) are called parameters.

The DSNlink installation modifies the configuration file so that it contains the parameters necessary for DSNlink to connect to Digital. You do not need to add any other values. However, to save time when using DSNlink applications, you may want to define optional parameters.

For information on customizing the systemwide configuration file or creating local configuration file, see the *DSNlink User's Guide* using this procedure:

1. Start DSNlink in the DECwindows interface with the dxdsn command:

   ```
   % dxdsn
   ```

   The DSNlink main window appears.

2. Choose Help => User's Guide

   From the Table of Contents, go to section 8.5, Customizing Configuration Files.

To see the information in the command line interface:

1. Enter this command:

   ```
   % dsnhelp utilities
   ```

   DSNlink displays a list of utilities. Choose the link to the section Customizing Configuration Files.

3.4 Creating a Mail Signature File

Optionally, you can create a systemwide signature file for appending to mail messages. To do so, create a text file with at least the name and phone number of the person to contact when the response cannot be handled electronically. Put the file in the following directory and use the following file name:

```
/usr/lib/dsn/config/dsn_mail_signature.txt
```

You can also create signature files for individual DSNlink users. For more information, see the chapter on the DSNlink Mail application in the *DSNlink User's Guide*. (See Section 3.8 for information on displaying the User's Guide.)

Note that there is another signature file for attaching to new service requests. The DSNlink installation procedure prompts you for information necessary to create that signature file but not the mail signature file. The signature file for service requests is:

```
/usr/lib/dsn/config/dsn_sra_signature.txt
```

The contents of the files can be identical, but they cannot have the same file name.

Note

When you create service requests or mail messages, the signature file does not appear on the screen because it is added after you exit the Service Request or DSNlink Mail application. However, if you copy yourself on the submission, it appears at the end.

3.5 Modifying the DSNlink Setup

You can change any of your responses to installation prompts by using the DSNlink Setup utility. The following steps explain how to change responses that prevent the installation verification procedure from running successfully:

1. Start the DSNlink Setup utility with this command:

   ```
   # /usr/sbin/dsnsetup
   ```

   The DSNlink Setup utility menu appears as follows:

   ```
   DSNlink V2.1A for Digital UNIX Setup Utility

       b -  Rebuild the Route Map  (This is automatically done when
            changing transport configurations.)
       c -  Change the Local and Remote Domain and Node and Transport
            Configuration
       g -  Specify the DSNlink Group
       l -  Edit the DSNlink mailing lists
       r -  Restore the Cryptographic Keys
       s -  Save the Cryptographic Keys

       d -  Change the DECnet Configuration
       m -  Change the Modem Configuration
       t -  Change the TCP/IP Configuration
       x -  Change the X.25 Configuration

       f -  Verify Files Contained in Software Subsets
       v -  Run the Installation Verification Procedure
       w -  Display Current Versions of DSNlink Images

       e -  Exit

   Enter your choice:
   ```

2. To change your local domain (access number), DSNlink node name, or Customer Support Center, enter item c (Change the Local and Remote Domain and Node and Transport Configuration). You can also add or remove transports using this menu item.

   DSNlink displays prompts from the installation procedure.

3. To change the network address for your node, choose menu item d, t, or x, depending on which address you want to change.
4. To change information about the modem transport, such as your modem's telephone number, use menu item m.
5. To verify that the changes allow your system to connect to the Digital host, choose menu item v, Run the Installation Verification Procedure.
6. To exit the utility, choose e from the menu.

If your authentication key was mistyped:

1. Edit this file:

   `/usr/lib/dsn/keys/MD5-DIGITAL-`*`access-number`*

   Where *access-number* is the number you entered for your local domain.
2. Enter the correct authentication key.
3. If the access number was incorrect, change the file name to the correct number.

When you have corrected the problem, attempt the IVP again by starting the DSNlink Setup utility as described above and choosing item v, Run the Installation Verification Procedure.

For details on using the DSNlink Setup utility, see the online documentation. To access the documentation in the DECwindows Motif interface:

1. Start DSNlink in the DECwindows interface with the dxdsn command.

   ```
   # dxdsn
   ```

   The DSNlink main window appears.
2. Choose Help => User's Guide
3. From the Table of Contents, go to section 8.7, Checking and Modifying the DSNlink Setup.

To see the information in the command line interface, enter this command:

```
# dsnhelp utilities
```

DSNlink displays a list of utilities. Choose the link to section 8.7, Checking and Modifying the DSNlink Setup.

Note

You may be tempted to edit files rather than use the DSNlink Setup utility to make changes. However, many changes require modifications to several files. Therefore, be sure to use the DSNlink Setup utility to change your setup.

3.6 Creating or Modifying Modem Scripts

If you use a modem to connect to Digital and the modem is not listed below, read this section for information on creating a script for your modem.

DSNlink supplies scripts for the following modems:

- Codex 2264
- Digital DF196 and Digital DF296
- Hayes OPTIMA 288
- MultiTech 1432, MultiTech 1932, and MultiTech 2834

If you have another modem, you must create a script for it. To create a modem script:

1. If possible, choose an existing script to modify. The scripts are in the directory `/usr/lib/dsn/modem/` with these file names:
   - `co2264.ddsf_src` — the Codex 2264 script for XON/XOFF flow control
   - `co2264hw.ddsf_src` — the Codex 2264 script for CTS/RTS flow control
   - `df196.ddsf_src` — for Digital DF196 modems
   - `df296.ddsf_src` — for Digital DF296 modems
   - `ha288.ddsf_src` — for Hayes OPTIMA 288 modems
   - `mt1432.ddsf_src` — for MultiTech 1432 modems
   - `mt1932.ddsf_src` — for MultiTech 1932 modems
   - `mt2834.ddsf_src` — for MultiTech 2834 modems
   - `null.ddsf_src` — a script to aid in troubleshooting modem problems
2. If you want to create a new script, use the existing scripts as a guide to the sequence and contents of the script commands. For a list of commands, see Appendix A.
3. See Section 3.6.1 for guidelines on modifying or creating scripts.
4. Copy your script to: `/usr/lib/dsn/modem/`

   Be sure the file name has the format `modem-name.ddsf_src`, for example, `pp288.ddsf_src`.
5. If you modify a dialer script supplied in the kit, rename it. This prevents its being overwritten if you reinstall DSNlink later. A reinstallation replaces the original scripts with new ones but does not delete unrecognized scripts.

   For example, if you modify the `co2264.ddsf_src` script, your modified script name could be `co2264new.ddsf_src`.
6. Test the script using the `dsnmmgr test script` command. The following command tests the script pp288.ddsf_src (note that the file extension is not included) at the baud rate 14400, and a dialed network address (dna) as shown:

```
# dsnmmgr test script \
-device /dev/tty02 \
-script pp288 \
-speed 14400 \
-dna m/pstn.719-555-5555/dsn_nsd
```

For more information, see the dsnmmgr(8) reference page.

7. If you copied a new script to the /usr/lib/dsn/modem directory, you must make it available to DSNlink. Start the DSNlink Setup utility as explained in Section 3.5. Use menu item m, Change the Modem Configuration, and go to the prompt for your modem script. Choose the script you created from the list of modem scripts.
8. Run the installation verification procedure from the DSNlink Setup utility, menu item v or run the Network Exerciser utility.

3.6.1 Guidelines for Scripts

The following are guidelines and suggestions for modifying and creating modem dialer scripts:

- Modify an existing script if possible. Use a script whose control commands are most like your modem's commands. For example, if your modem uses Hayes compatible commands, make a copy of the ha288.ddsf_src script and modify it.
- For descriptions of the commands in the dialer scripts, see Appendix A.
- Make sure the modem's description is on the same line as the *Description:* label in the script. The DSNlink Setup utility and the installation process display the description when listing the modem scripts. The following example shows the correct placement:

```
!*  Module Name:
!*
!*      PP288.DDSF_SRC
!*
!*  Description: Practical Peripherals PP288LCD V.34
!*
```

- Make a return for each speed your modem supports.

  For example, the following commands allow the modems to connect at 9600 baud. The string "12" is the modem's result code for the 9600 connect speed. If it is found in the RESPONSE buffer, the customer and host modems connect at 9600 baud. The script contains these lines:

```
FIND "12"
IF FOUND RETURN CONNECT SPEED  9600 PROTOCOL PARAM3
```

- Disable the +++ escape sequence, if your modem uses it.

  Most modems have an escape sequence that switches the modem from communicating mode back to command mode. On a Hayes modem, it is the sequence +++. Disabling the escape sequence prevents a disconnection if data sent by DSNlink includes the escape sequence.

- Consider disabling a call waiting line, if you have one, to prevent an incoming call from interrupting the DSNlink modem connection. You can include the command in the dialer script.

  For example, a *70 at the start of the dial string disables call waiting, and the comma creates a pause for a few seconds before processing the next command:

```
SEND "ATDT*70,"
```

- Set the modem's DTE (Data Terminating Equipment) flow control between the modem and your computer or terminal server to XON/XOFF. The DSNlink software protects the dc1 and dc3 characters in data transmission so they are not interpreted as flow control.

  Do not use "XON/XOFF Passthru" mode or DTR/DTS flow control. RTS/CTS flow control can be used, but XON/XOFF is preferred. CTS flow control is not supported on directly connected terminal ports prior to Digital UNIX Version 4.0.

- Use 8-bit characters. The 7-bit data transfer is not supported.

- Many modems provide a feature whereby an incoming call to the modem causes announcement and attachment messages, such as "Ring Detected" and "Attached: xxxx baud."

  Disable these messages for incoming calls. This prevents their being intepreted as data, which must then be discarded.

- Note that several DSNlink applications create incoming calls to your modem, such as DSNlink Mail, the Service Request application, and Remote Login. Therefore, you should not disable incoming calls.

- The modem should be configured so that when a dialed connection loses the carrier (when the remote system hangs up or the line drops), the modem lowers its DCD[1] signal. This allows the operating system to signal a "carrier lost" event to the DSNlink software.

  Typically, this is achieved by:

  - Enabling Modem Control on the terminal server port or by using the hupctl characteristic on the `/dev/tty` or `/dev/lat/nnn` device
  - If the modem understands Hayes commands, set up the &C1 characteristic in the modem's permanent memory (AT&C1&W0).

- The modem should be configured so that if your local system terminates the connection by lowering its DTR[2] signal, the modem responds by hanging up and resetting itself.

  Typically, this is achieved by:

  - Enabling Modem Control on the terminal server port, using the hupctl characteristic on the `/dev/tty` or `/dev/lat/nnn` device, or by setting the Modem characteristic on the TXAn: or TTAn: device.
  - If the modem understands Hayes commands, use the &D2 command. Digital recommends you do this in permanent memory on the modem (AT&D2&W0) and NOT in your dialer script because just issuing the command can cause a modem to reset and disconnect.

- If your modem is connected to a LAT terminal server, such as a DECserver, the terminal server port should disallow the Remote Modification feature. This feature permits the host computer system to change the baud rate, character length, and parity settings of the terminal server port. The terminal server should not permit those modifications.

---

[1] The Data Carrier Detect (DCD) signal is transmitted by the modem and read by the computer or terminal server on pin 8.

[2] The Data Terminal Ready (DTR) signal is transmitted by your computer or terminal server and read by your modem on pin 20 of an EIA RS-232 connector.

- If your modem has a speed buffering capability (most do), enable it. This feature allows the modem to communicate with your computer at a fixed speed regardless of the phone line connection speed. Use the highest DTE speed supported by both your modem and your DTE device (computer or terminal server port).

3.7 Log Files

DSNlink creates several types of log files in the directory `/usr/lib/dsn/logs`. You can archive or delete the files as desired.

- The history log file, `dsn_history.log`

  This file contains records for each use of DSNlink applications. DSNlink continues to write to this file indefinitely. Therefore, if the file gets too large, you can create a new one and archive or delete the old log file.

- Server log files, which have the format `dsn_application_yydddhhmmss_pid.log`

  When Digital connects to your system, DSNlink creates these log files.

- Records of remote login sessions, such as:

  `dsn_login_95006160902_23341.log` and `dsn_login_95006160902_23341.log_session`.

- Modem daemon run logs, which have the format `dsn_run_linetype_linename.log`

  These files list the modem daemon's activities.

For more information, see section 8.4, Using the History Records and Other Log Files, in the *DSNlink User's Guide*. See also the reference page dsn_netd.sh.

3.8 Learning to Use DSNlink

Getting Started

To most efficiently learn to use DSNlink in the DECwindows Motif interface:

1. Start DSNlink with the dxdsn command:

   ```
   % dxdsn
   ```

   The DSNlink main window appears.

2. From the Help menu, choose Getting Started.

   DSNlink displays the *DSNlink Version 2.1 Getting Started With the DECwindows Interface*.

3. Click on the modules that interest you.

Getting Help While Using DSNlink

To get help while you are using DSNlink in the DECwindows Motif interface:

- In a window, pull down the Help menu. Choose Help => Tutorial if you want a brief set of instructions for using the application. Choose Help => On Window if you want reference help on fields and items in the window.
- In a dialog box, click on Help.
- To get help on an error message, choose Help => Error Messages from the DSNlink main window. Choose the Mosaic window's File => Find in Current... to display a dialog box that allows you to enter a search string.

- To see the DSNlink glossary, choose Help => Glossary from the DSNlink main window.
- To dismiss the online help windows, choose File => Exit Program from the Mosaic window.

Getting Help on the Command Line Interface

To learn how to use DSNlink in the command line interface, enter the dsnhelp command:

```
% dsnhelp
```

DSNlink displays a list of hypertext links. Choose the one that interests you.

Displaying the DSNlink User's Guide

1. Start DSNlink with the dxdsn command:

   ```
   % dxdsn
   ```

   The DSNlink main window appears.

2. From the Help menu, choose User's Guide.

   DSNlink displays the Table of Contents and Preface for the *DSNlink User's Guide* using the Mosaic browser.

3. Click on the topic you want.

A

Dialer Driver Script Facility Commands

A.1 Description

This appendix lists the commands in modem dialer scripts. The information is intended for reference when you create a new dialer script or modify an existing one.

The modem script language, Dialer Driver Script Facility (DDSF), must be used to create the modem scripts for use by DSNlink applications. The purpose of a modem script is to automate the process of dialing the phone number for the Digital host and establishing a connection. If the connection is not established, the script's error handling procedures notify the user of the reason for the connection failure.

Modem Scripts

The DSNlink modem dialer scripts are in:

`/usr/lib/dsn/modem/`

The scripts have the file extension `.ddsf_src`.

Any dialer script you create or modify must be in this directory and have the file extension .ddsf_src to be accessible to DSNlink.

For More Information

For information on modifying dialer scripts, see Section 3.6.

A.2 Delimiters

Table A–1 describes the valid DDSF command language delimiters.

Table A–1 Supported DDSF Command Language Delimiters

Space or Tab	All commands and keywords must be separated by at least one space or tab character.
Quotation marks	All text strings used in the commands must be enclosed in quotation marks (" ").
Exclamation point	An exclamation point (!) in the script file tells the DDSF processor that any text from that point to the end of that line is a comment and should be ignored. Do not use comments on the command line.

A.3 Control Characters

Table A–2 shows the format for control characters in DDSF scripts.

Table A–2 DDSF Control Characters

Control Character	Character Format	Control Character	Character Format
NUL	^@	DLE	^P
SOH	^A	DC1	^Q
STX	^B	DC2	^R
ETX	^C	DC3	^S
EOT	^D	DC4	^T
ENQ	^E	NAK	^U
ACK	^F	SYN	^V
BEL	^G	ETB	^W
BS	^H	CAN	^X
HT	^I	EM	^Y
LF	^J	SUB	^Z
VT	^K	ESC	^[
FF	^L	FS	^\
CR	^M	GS	^]
SO	^N	RS	^^
SI	^O	US	^_

NOTE: There is no implied CR at the end of commands. Therefore, if a command requires processing by the modem software, send a CR (carriage return) character after the command. In general, you do not need a CR after commands that pass control or assign values within the dialer script. For example, the ^M in the next set of commands is necessary to dial the phone number:

```
SEND "ATDT"
SEND PHONENUMBER
SEND "^M"
```

The following commands do not require a CR:

```
WAITFOR 60 RESPONSE SIZE=40 TERM=8192
IF TIMEOUT RETURN TIME_OUT
```

A.3.1 Sending the Circumflex Character

If you need to send a circumflex (^) by itself followed by an uppercase letter, make it two strings. For example, to send an ^ and an M:

```
SEND "^"
SEND "M"
```

A.4 Numeric Values

All numeric values specified within the script file must be in decimal (base 10) notation. The command parser does not recognize hexadecimal, octal, or binary numbers.

A.5 DDSF Script Commands

The next sections describe these DDSF script commands:

- FIND
- GOTO
- IF
- INCREMENT
- LET
- ON...GOTO
- PURGE
- RETURN
- SECTION
- SEND
- SET
- WAITFOR
- WAITSTRING
- ZERO

The commands are case insensitive.

FIND

Description

The FIND command searches the RESPONSE buffer for the specified string and sets the FOUND and NOTFOUND flags accordingly. The maximum length of the text string is 80 characters. If the data in the RESPONSE buffer contains the text string, a match occurs. Null strings always set the FOUND flag.

Syntax

FIND parameter

Parameters

"string-constant"
The match string pattern used or string keyword to search for in the RESPONSE buffer. Enclose the string in quotation marks ("*string-constant*").

PARAM*n*
Equates to the internal parameters *param1, param2, or param3*.

Examples

1. `FIND "Ready"`

   This command searches the RESPONSE buffer for the string "Ready".

2. `FIND PARAM1`

   This command searches the RESPONSE buffer for the PARAM1 string.

GOTO

Description

The GOTO command moves the processor to the command section specified by the value of *n*. If you do not declare a section for *n*, an error is returned. The maximum number of section labels is 20.

Syntax

```
GOTO n
```

Parameter

n
The script section entry point for the branch.

Example

```
GOTO 2
```

This command branches to location SECTION 2 in the script file.

IF

Description

The IF command tests one of several conditions and performs a logical execution flow control.

Syntax

IF condition action

Conditions

RESPONSE="text"
A 512-character buffer where modem responses are stored. Use the RESPONSE parameter to test whether the RESPONSE buffer contents are equal to the specified text string.

[NO]TIMEOUT
A DDSF Boolean expression whose value is determined whenever a WAITFOR command is processed. If the specified time period expires before completion of the WAITFOR command, this Boolean expression becomes TRUE; otherwise, it is FALSE. Use this parameter to test whether the last WAITFOR command resulted in a timeout.

[NOT]FOUND
A DDSF Boolean expression whose value is determined whenever a FIND command is processed. If the text string specified in the FIND command is located within the response buffer, the FOUND Boolean expression becomes TRUE; otherwise, it is FALSE. Use this parameter to test whether the last FIND command was a success or failure.

COUNTER*n* (<, >, =, <>, <=, >=) numeric_value
One of several DDSF counters. These counters can be used to create looping algorithms within the structure of a script file. There are five counters: COUNTER1 through COUNTER5. Use this parameter to compare the counter contents with the specified numeric value, according to the specified relational operator.

PARAM*n*="text"
Equates to the internal parameter *param1, param2, or param3*.

Actions

GOTO n
If the condition is TRUE, branch to the specified script section (*n*).

LET PARAMn="string"
If the condition is TRUE, assign the string to parameter *n*.

RETURN exit-keyword [SPEED integer] [PROTOCOL "string"]
If the condition is TRUE, return to the caller with the specified *exit-keyword* and optional SPEED and PROTOCOL values. See the RETURN command description for more details.

Examples

1. `IF RESPONSE="r^M" GOTO 3`

   This command compares the RESPONSE buffer to the "r^M" string. If the string matches, go to SECTION 3.

2. `IF COUNTER1>=3 RETURN DIAL_ERR`

   This command compares the value of COUNTER1 with 3. If they are equal, then return DIAL_ERR status to the application.

3. `IF FOUND RETURN CONNECT SPEED 9600 PROTOCOL "None"`

   This command checks the FOUND flag value. If the value is TRUE, then return the CONNECT status to the application with speed 9600 and protocol "None".

INCREMENT

Description

The INCREMENT command adds 1 to the current value of an internal counter COUNTER*n*. This command, with IF and GOTO commands, is usually used for loop control.

Syntax

INCREMENT COUNTERn

Parameter

COUNTER*n*
Specifies one of the DDSF counters to be incremented. Use these counters to create looping algorithms within the structure of a script file. There are a total of five counters: COUNTER1 through COUNTER5.

The counters can be initialized with the LET or ZERO commands.

Example

```
INCREMENT COUNTER1
```

This command increments the keyword COUNTER1.

LET

Description

The LET command allows you to set any counter to a known (or base) value. It assists in the creation of states within the script when used with the ON COUNTER GOTO command. Counter values cannot exceed 65535.

Syntax

```
LET  COUNTERn = y
```

Parameters

COUNTER*n*
Specifies one of several DDSF counters to be set. You can use these counters to create looping algorithms within the structure of a script file. There are a total of five counters: COUNTER1 through COUNTER5.

y
The decimal value for the counter.

Example

```
LET COUNTER1=5
```

This command sets COUNTER1 to the value 5.

ON...GOTO

Description

The ON...GOTO command is used to perform computed branches within the execution of a script. Script execution branches to the section (*x*) whose position in the destination list corresponds to the value in the specified counter. An error occurs if the contents of the specified counter exceed the number of sections in the destination list. If the counter contains 0, execution continues with the command that follows the ON...GOTO command.

Syntax

ON COUNTERn GOTO x1 x2 x3...x10

Parameters

COUNTER*n*
Specifies one of several DDSF counters to be tested. You can use these counters to create looping algorithms within the structure of a script file. There are a total of five counters: COUNTER1 through COUNTER5.

x1 x2 x3...x10
A destination list of valid sections that exist within the script. You can specify a maximum of 10 sections. Sections can appear more than once and in any order within the destination list. Entries in the destination list are separated by spaces.

Example

```
ON COUNTER1 GOTO 5 6 7
```

In this command, if the value in COUNTER1 is 1, execution branches to SECTION 5. If COUNTER1 contains a 2, execution branches to SECTION 6, and so on.

PURGE

Description

The PURGE command clears the terminal-to-modem communications channel of any unread modem responses. Purging does not affect data already in the RESPONSE buffer.

Syntax

PURGE

Example

```
PURGE
```

This command clears the DDSF type-ahead buffer.

RETURN

Description

The RETURN command causes the DDSF processor to do the following procedures, usually in this order:

- Stop processing the DDSF script file
- Assign the optional speed and/or protocol values in the DDSF status block
- Return control to DSNlink with a status code

Syntax

```
RETURN   exit_keyword [SPEED integer] [PROTOCOL "string"]
```

Parameters

exit_keyword

The exit keywords equate to predefined result values. You can assign these values to the DDSF return status block through the RETURN command. The valid exit keywords are listed in Table A–3.

Table A–3 Valid Exit Keywords

Keywords	Description	DDSF Return Status
BUSY	DDSF detected target line busy	DDSF_S_BUSY
CALL_FAIL	DDSF failed to establish the connection	DDSF_S_CALLFAIL
CONNECT	Connection established	DDSF_S_CONNECT
DIAL_ERR	DDSF sensed device problem when trying to dial	DDSF_S_DIALERR
NO_ANSWER	DDSF detected no answer	DDSF_S_NOANSWER
NO_DIALTONE	DDSF detected no dial tone	DDSF_S_ NODIALTONE
TIME_OUT	DDSF timed out without getting modem status	DDSF_S_TIMEOUT

[SPEED integer]

If a SPEED value is specified, it will be put into the *speed* field of DDSF status block and returned to the calling application.

The speed can be any positive integer. Common SPEED values include 300, 1200, 2400, 4800, 9600, and 19200 baud.

[PROTOCOL "string"]

If a PROTOCOL value is specified, it will be put into the *protocol* field of DDSF status block and returned to the calling application. DDSF does not check the "string" value, so you can put any value into the "string." The maximum length is 20.

Examples

1. `RETURN DIAL_ERR`

   This command returns to the application with exit status DDSF_S_DIALERR.

2. `RETURN CONNECT SPEED 2400`

   This command returns to the application with exit status DDSD_S_ CONNECT, and puts 2400 into the *speed* field of the DDSF status block.

3. `RETURN CONNECT PROTOCOL "MNP"`

   This command returns to the caller with exit status DDSF_S_CONNECT, and puts "MNP" into the *protocol* field of the DDSF status block.

4. `RETURN CONNECT SPEED 9600 PROTOCOL "Reliable"`

   This command returns to the caller with exit status DDSF_S_CONNECT, and puts 9600 into the *speed* field, and "Reliable" into the *protocol* field of the DDSF status block.

SECTION

Description

The SECTION command creates the script command sections by defining entry points within the script file. All SECTION keywords must be followed by a unique number in the range of 1 to 20.

Syntax

```
SECTION n
```

Parameter

n
A unique integer in the range of 1 to 20.

Example

```
SECTION 1
```

This command marks the code that follows it as belonging to SECTION 1, similar to the way a label is used in standard programming languages. Hence, a GOTO 1 command causes script execution to resume at the first line that follows the SECTION 1 entry point.

SEND

Description

The SEND command lets you send a string parameter to the modem. If you specify a script string keyword, the DDSF script processor sends the contents of the string keyword to the modem.

Syntax

SEND parameter

Parameters

"string-constant"
A text string enclosed in double quotation marks ("").

PARAM*n*
Equates to the internal parameters *param1, param2, or param3*.

PHONENUMBER
The telephone number of the DSNlink host after any conversions by the telephone number substitution database.

For more information on the telephone number substitution database, see the chapter on Maintaining DSNlink in the *DSNlink Version 2.1 User's Guide*. (This is an online document assessible from the Help menu on the DSNlink main window or by using the dsnhelp command.)

SEND

Examples

1. `SEND "^B"`

   This command sends a Ctrl+B character to the modem.

2. `SEND "12345678"`

   This command sends a text string "12345678" to the modem.

3. `SEND PARAM1`

   This command sends the string in the PARAM1 keyword to the modem.

4. `SEND PHONENUMBER`

   This command sends the string in the PHONENUMBER keyword to the modem.

SET

Description

Used mainly as a script debugging tool, this option enables and disables the display of text strings received from or sent to the modem.

Syntax

SET parameter

Parameters

DISPLAY ON/OFF/FULL

The SET DISPLAY ON and SET DISPLAY FULL commands display data sent to modem through SEND commands, and data received from modem through WAITFOR commands. The SET DISPLAY OFF command disables this feature.

Examples

1. `SET DISPLAY FULL`

   This command enables the DDSF debugging option.

2. `SET DISPLAY OFF`

   This command disables the DDSF debugging option.

WAITFOR

Description

The WAITFOR command provides a mechanism for specifying a time period during which the processor waits for a given event to occur. The event can be a certain number of characters are received, or a terminate character is detected.

When an event is detected within the timeout period, the *time_out* variable is assigned the value FALSE. Otherwise, *time_out* is assigned the value TRUE.

You can also use WAITFOR as a simple delay mechanism if you specify a time_ out parameter without an associated event.

Syntax

WAITFOR time_out [RESPONSE] [SIZE=integer] [TERM=integer]

Parameter

time_out

This parameter specifies the maximum time in seconds the WAITFOR command is executed.

RESPONSE

This is an optional keyword for syntax clarity.

SIZE=integer

This parameter specifies the maximum number of characters to accept by the WAITFOR command. When it is reached, the command exits.

Be sure the size is equal to or larger than the number of characters that are likely to be in the RESPONSE buffer.

TERM=integer

This parameter specifies a 32-bit, unsigned integer mask to be the terminator of the WAITFOR command. Each bit corresponds to one ASCII character: bit 0 corresponds to ASCII 0, and so on. Specify the mask in decimal. A value of zero means no terminators.

If you want the terminators to be a control character, such as ^M (CR), assign its value to TERM parameter. For example, ^M is equal to 2^{13} or 8192. The ^J (LF) control character has a value equal to 2^{10} or 1024.

Examples

1. `WAITFOR 4 RESPONSE SIZE=20 TERM=8192`

   This command waits a maximum of 4 seconds for either 20 characters or a CR (2^{13}) terminator received from the modem.

2. `WAITFOR 10 RESPONSE TERM=1024`

   This command waits a maximum of 10 seconds for a LF (2^{10}) terminator received from the modem.

3. `WAITFOR 40`

   This command waits 40 seconds then continues with next command.

4. `WAITFOR 30 RESPONSE TERM=9344`

   This command waits 30 seconds for the BEL, LF, and CR terminators. The value of TERM is the combined values of BEL (128), LF (1024) and CR (8192).

WAITSTRING

Description

The WAITSTRING command replaces the <wait> tag in the PHONENUMBER buffer with the "string" provided and leaves the result in the PHONENUMBER buffer.

Syntax

WAITSTRING "string"

Parameter

"string"
The "string" is composed of any valid wait characters that the modem can interpret.

Examples

1. `WAITSTRING ",,,"`

   The <wait> tag in PHONENUMBER buffer is replaced by ",,," in this command. This command can be used in the DDSF script for Hayes modems.

2. `WAITSTRING "="`

   The <wait> tag in PHONENUMBER buffer is replaced by "=" in this command. This command can be used in the DDSF scripts for DF196 and DF296 modems.

See your modem's specifications for what to use for the value of "string."

ZERO

Description

The ZERO command resets a specified counter (COUNTER1 to COUNTER5) to zero.

Syntax

ZERO COUNTER*n*

Parameter

COUNTER*n*
The internal counter that will be initialized to zero.

Example

```
ZERO COUNTER1
```

This example initializes the keyword COUNTER1 to a value of zero.

B

DSNlink Directories on Your System

This appendix lists:

- Directories used by DSNlink
- Directories created by DSNlink
- Files modified by the DSNlink installation procedure

Table B–1 lists the directories used by DSNlink.

Table B–1 Directories Used by DSNlink

Directory Name	Description
/usr/bin/	Links for command names
/usr/sbin/	Links for system administrator
/usr/lib/x11/app-defaults	Links to the resource files for the applications running in the DECwindows Motif interface
/usr/lib/x11/uid	Links to the UID files
/usr/share/man/man1	Links for reference pages
/usr/share/man/man4	Links for reference pages
/usr/share/man/man8	Links for reference pages

Table B–2 lists the DSNlink directories, which are created during the installation procedure.

Table B–2 DSNlink Directories Created by the DSNlink Installation

Directory Name	Description
/usr/opt/DSNA211/app-defaults	Resource files for the applications running in the DECwindows Motif interface
/usr/opt/DSNA211/bin.alpha	Commands
/usr/opt/DSNA211/cli	Files for the command line interpreter
/usr/opt/DSNA211/doc	Not currently used
/usr/opt/DSNA211/help	The online documentation help files
/usr/opt/DSNA211/man	The reference pages
/usr/opt/DSNA211/msg	Message files
/usr/opt/DSNA211/uid.alpha	UID files for DSNlink applications running in the DECwindows Motif interface

(continued on next page)

Table B–2 (Cont.) DSNlink Directories Created by the DSNlink Installation

Directory Name	Description
/var/opt/DSNA211/config	Configuration files: • DSNlink-Biz, DSNlink-Flash, DSNlink-Info, and DSNlink-Survey — mailing lists for mail from Digital • dsn_*_startup.ncl — startup files for the network transports • dsn_local_auth.dat — authorizations file for DSNlink users at your site • dsn_remote_auth.dat — authorizations file to allow Digital specialists access to your DSNlink systems • dsn_sra_signature.txt — the signature file that is appended to service requests • routemap — the DSNlink route map, which has paths for connections between your site and Digital. (Do not edit this file. Make any additions or changes through the DSNlink Setup utility.)
/var/opt/DSNA211/i18n	Translations of parts of the user interface.
/var/opt/DSNA211/keys	Cryptographic keys. (Keep the contents of the files confidential.)
/var/opt/DSNA211/logs	Application log files: • dsn_history.log — records of each use of DSNlink applications • *.log — log files created by DSNlink applications and the modem transport
/var/opt/DSNA211/modem	Files related to modems: • *.ddsf_src files — modem dialer scripts • dsn_modem_devices.dat — modem settings established during the installation procedure • dsn_modem_instantiate.dat — links to the commands that start Digital-to-customer application servers • dsn_modem_lines.dat — shared variables for the modem line. Do not edit this file. • dsn_modem_servers.dat — shared variables for modem server processes. Do no edit this file. • dsn_modem_substitution.dat — dialing information and conventions

(continued on next page)

Table B–2 (Cont.) DSNlink Directories Created by the DSNlink Installation

Directory Name	Description
/var/opt/DSNA211/public	Contains files copied to or from your system by Digital. It has two directories: • incoming — files copied from Digital to your system • outgoing — files copied from your system to Digital
/var/opt/DSNA211/spool	Not currently used
/var/opt/DSNA211/stumps	Not currently used

Table B–3 lists the files that are modified by the installation procedure.

Table B–3 Files Modified by the DSNlink Installation

File	Description of Modification
/var/adm/sendmail/aliases	Added DSNlink mailing lists
/etc/services	Added ports used by DSNlink applications
/etc/inetd.conf	Added servers for DSNlink

Index

A

Access number
  changing, 3–5
  how obtained, 1–1
Applications
  local access, 3–3
  remote access, 3–3
Authentication key
  changing, 3–6
  creating, 2–14
  how obtained, 1–1

B

BIND, 1–3

C

Configuration file, 3–4
Contacts
  requirements, 3–3
Customer Support Center
  changing, 3–5
  how obtained, 1–1

D

DDSF script commands
  FIND, A–3
  GOTO, A–5
  IF, A–6
  INCREMENT, A–8
  LET, A–9
  ON...GOTO, A–10
  PURGE, A–11
  RETURN, A–12
  SECTION, A–14
  SEND, A–15
  SET, A–17
  WAITFOR, A–18
  WAITSTRING, A–20
  ZERO, A–21
DECnet
  changing configuration, 3–5
DEC OSF/1
  See Digital UNIX
DECserver parameters, 1–5
Deinstalling DSNlink, 1–6
Dialer scripts
  See Modem scripts
Digital UNIX
  required version, 1–3
  sample installation, 2–2
Directories
  DSNlink, B–1
Disk space
  requirements, 1–4
Documentation
  accessing, 3–10
  list of customer documents, vi
  printable documents from the FTP directory, 3–2
  printable documents on CD-ROM, 3–1
DSNlink
  deinstalling, 1–6
  directories, B–1
  documentation set, vi
  Installation Guide, 3–1
  installing, 2–1
  kit contents, 1–1
  learning to use, 3–10
  overview, v
  Quick Reference Card, 3–1
  Release Notes, 3–1
  Service Tool Description, 3–1
  starting, 3–10
DSNlink Setup Utility, 3–5

E

Errors
  correcting with DSNlink Setup utility, 3–5
  installation, 1–8

F

Files
  authentication key, 2–14
  configuration, 3–4
  DSNlink, B–1
  log, 3–10

Files (cont'd)
modified by DSNlink, B–3
saved from deletion by deinstallation, 1–7
signature file, 2–15
/usr/lib/dsn/config/.dsnrc, 3–4
FIND command, A–3

G

GOTO command, A–5
Group
creating for DSNlink files, 1–2

H

Hardware
required to install, 1–3

I

IF command, A–6
INCREMENT command, A–8
Installation
disk space requirements, 1–4
errors, 1–8
example, 2–1
group for DSNlink files, 1–2
hardware requirements, 1–3
login privileges, 1–2
software requirements, 1–3
stopping, 1–8
time required, 1–2
Installation Verification Procedure
failure, 2–15
running, 3–5

K

Kit
contents, 1–1

L

LET command, A–9
License registration, 1–1
Local authorizations file, 3–3
Local domain, 2–11
Log files, 3–10
Login
allowing Digital access to your system, 3–3

M

Mail messages
signature file, 3–4
MNP
requirement for modems, 1–3
Modems
changing configuration, 3–6
hardware requirement, 1–3
MNP requirement, 1–3
Modem scripts
creating or modifying scripts, 3–7
dialer script commands, A–1
guidelines for scripts, 3–8
supplied scripts, 3–7

N

Node name
changing, 3–5

O

ON...GOTO command, A–10
Operating system
requirements, 1–3

P

Parameters
See DECserver parameters
Ports for TCP/IP, 1–5
Preinstallation requirements, 1–2
PURGE command, A–11

R

Release notes, 3–1
Remote authorizations file, 3–3
RETURN command, A–12
RIS client installation, 1–1

S

Secret key
see Authentication key, 2–1
SECTION command, A–14
SEND command, A–15
SET command, A–17
Setup utility
See DSNlink Setup Utility
Signature files
creating, 3–4
prompts for, 2–15
Subsets
DSNlink, 1–4
required for Digital UNIX, 1–3

T

TCP/IP
  changing configuration, 3–5
  ports, 1–5

W

WAITFOR command, A–18
WAITSTRING command, A–20

X

X.25
  changing configuration, 3–5
  deleting the NCL configuration, 1–7

Z

ZERO command, A–21