DSNlink Version 2.2C for OpenVMS Release Notes

These release notes describe new features, fixed problems, and known bugs in this version of DSNlink.

February 26, 1999

Revision/Update Information:	This is a revised manual, which supersedes all previous versions.
Operating System and Version:	OpenVMS Version 6.2 or higher.
Software Version:	DSNlink Version 2.2C

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

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Preface

This document explains:

- The new features of DSNlink Version 2.2C
- Fixed problems in earlier versions
- Restrictions
- Known bugs
- The documentation and how to start DSNlink

Overview

The DSNlink software is a service tool that provides electronic communication capabilities between customers' systems and a 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.

Intended Audience

The audience for this document is anyone who uses DSNlink.

Conventions Used in This Document

This document uses the conventions listed in Table 1.

Table 1 Document Conventions

Convention	Description
DSNlink	DSNlink is an abbreviated product name used for convenience to refer to DIGITAL DSNlink Version 2.2C for OpenVMS.
bold	Bold text used in examples indicates user input.
UPPERCASE	OpenVMS commands appear in examples as all uppercase. They can be typed in uppercase, lowercase, or mixed case.
lowercase italic	Lowercase words or letters in italics indicates that you substitute a word or value of your choice.
[ ]	Brackets indicate that the enclosed item is optional.
. . .	A horizontal ellipsis indicates that part of the example, which is not pertinent, is missing.

(continued on next page)

Table 1 (Cont.) Document Conventions

Convention	Description
. . .	A vertical ellipsis in an example indicates that not all lines are shown.

1
What's New in This Version

DSNlink Version 2.2C is an engineering change order (ECO) kit. It contains bug fixes for DSNlink Version 2.2 for OpenVMS. It also has several new features.

You must have DSNlink Version 2.2 for OpenVMS on your system to install DSNlink Version 2.2C for OpenVMS.

1.1 New Files and Images

Table 1–1 shows the new files and images in DSNlink Version 2.2C.

1.1.1 Before You Install

The DSNlink Version 2.2C installation replaces modem scripts with new scripts if the file names are identical. The installation replaces the scripts, which are in the directory DSN$DATA, as listed in Table 1–2.

Because the installation replaces only DSNlink Version 2.2 for OpenVMS files that have the same name as files in DSNlink Version 2.2C, if you want to keep the files you have, rename or copy them to another directory before installing DSNlink Version 2.2C. For example, to prevent the Codex modem script from being replaced:

```
$ RENAME DSN$ROOT:[DAT]CODEX.DDSF_SRC DSN$ROOT:[DAT]CODEX_KEEP.DDSF_SRC
```

After the DSNlink Version 2.2C installation, rename the file to CODEX.DAT.

Table 1–1 New Files and Images

Directory	File	Comments
DSN$DATA	CO2264.DDSF_SRC CO2264HW.DDSF_SRC	Codex modem scripts.
	DSN_ROUTE_MAP.TEMPLATE	Current route map. DSNlink uses it if you regenerate your route map.
	HAYES.DDSF_SRC HAYESHW.DDSF_SRC	Hayes modem scripts.
	KITINSTAL.COM	

(continued on next page)

Table 1–1 (Cont.) New Files and Images

Directory	File	Comments
	MULTIMODEM.DDSF_SRC MULTIMODEMHW.DDSF_SRC MULTIMODEMHW_EU.DDSF_SRC MULTIMODEM_EU.DDSF_SRC	Multi-Tech modem scripts for the U.S. and Europe.
	USROBOTICS.DDSF_SRC USROBOTICSHW.DDSF_SRC	U.S. Robotics modem scripts.
DSN$HELP	HLP_xxx.HTML	Online documentation files.
DSN$SYSTEM	DSNFILECOPYSERVER.EXE	
	DSNFILESERVER.EXE	
	DSNGENERATEROUTEMAP.EXE	
	DSNK2SERVER.EXE	
	DSNLOGINSERVER.EXE	
	DSNMAILSERVER.EXE	
	DSNMAIN.EXE	
	DSNMAPQ.EXE	
	DSNMODEMDAEMON.EXE	
	DSNMODEMTEST.CLI	
	DSNNETEX.CLI	
	DSNNETEXSERVER.EXE	
	DSNNSDSERVER.EXE	
	DSNSHARE022.EXE	
	DSN_MAILSHR.EXE	
	DSN_MAILSHRP.EXE	
SYS$COMMON: [DECW$DEFAULTS. SYSTEM]	DSNEMAIL.DAT DSNFILECOPY.DAT DSNITS.DAT DSNMAIN.DAT DSNNETEX.DAT DSNSRAAUG.DAT DSNSRACREATE.DAT DSNSRAFETCH.DAT DSNSRAREVIEW.DAT	Resource files in English.
SYS$COMMON: [DECW$DEFAULTS. SYSTEM.JA_JP]	DSNEMAIL_JA_JP.DAT DSNFILECOPY_JA_JP.DAT DSNITS_JA_JP.DAT DSNMAIN_JA_JP.DAT DSNNETEX_JA_JP.DAT DSNSRAAUG_JA_JP.DAT DSNSRACREATE_JA_JP.DAT DSNSRAFETCH_JA_JP.DAT DSNSRAREVIEW_JA_JP.DAT	Resource files for Japanese. See also Section 1.2.7.

1.2 New Features

1.2.1 The Code Is Year 2000 Ready

Currently: DSNlink Version 2.2 for OpenVMS and subsequent kits are Year 2000 Ready.

This is a Year 2000 Readiness Disclosure of Compaq Computer Corporation. For further information and notices about Compaq's Year 2000 readiness, see this website:

www.compaq.com/year2000/

1.2.2 New Modem Scripts

The modem scripts supplied in DSNlink Version 2.2 have been updated. Table 1–2 shows the changes.

Table 1–2 Modem Scripts

Modem	DSNlink Version 2.2 Scripts	DSNlink Version 2.2C Scripts	Change
Codex 2264	CO2264.DDSF_SRC	CO2264.DDSF_SRC	No changes. The script for software flow control.
		CO2264HW.DDSF_SRC	The script for CTS/RTS hardware flow.
DIGITAL DF196	DF196.DDSF_SRC	DF196.DDSF_SRC	No changes.
DIGITAL DF296	DF296.DDSF_SRC	DF296.DDSF_SRC	No changes.
Hayes	HA288.DDSF_SRC	HAYES.DDSF_SRC and HAYESHW.DDSF_SRC	Scripts for Hayes and Hayes-compatible modems. The scripts are for software and hardware flow control. See also Section 1.2.5.
Multi-Tech 1432 Multi-Tech 1932 Multi-Tech 2834	MT1432.DDSF_SRC MT1932.DDSF_SRC MT2834.DDSF_SRC	MULTIMODEM.DDSF_SRC	Individual scripts for Multi-Tech modems 1432, 1932, and 2834 now have one script for XON/XOFF software flow control. The scripts have several improvements. See also Section 1.2.5.
		MULTIMODEMHW.DDSF_SRC	The script for CTS/RTS hardware flow control for Multi-Tech modems 1432, 1932, and 2834.
		MULTIMODEMHW_EU.DDSF_SRC and MULTIMODEM_EU.DDSF_SRC	Scripts for European Multi-Tech modems.
Null modem	null.ddsf_src	null.ddsf_src	No changes. The script is for testing purposes.
U.S. Robotics	none	USROBOTICS.DDSF_SRC and USROBOTICSHW.DDSF_SRC	Scripts for 3Com U.S. Robotics modems, software and hardware flow control.

The scripts are in the directory defined by DSN$DATA.

Note that new or modified scripts may become available in the future. The latest modem scripts are available from the following website:

http://www.service.digital.com/dsnlink/modem_scripts.htm

1.2.3 New Options for the DSN TEST Command

Qualifiers have been added to the DSN TEST command. The DSN TEST command allows you to test your modem line. The new qualifiers are:

- /LINE

  The /LINE qualifier gets values for the device, line type, location, node, port, script, and speed from the file DSN$DATA:DSN_MODEM_DEVICES.DAT so that you do not have to supply them in the command. You must specify the modem line's name, for example:

  ```
  $ DSN TEST HDLC/LINE=dsn-000
  ```

  You can override individual values from the DSN$DATA:DSN_MODEM_ DEVICES.DAT file by entering the qualifier and the value you want on the command line. For example, to use all the values for line dsn-000 but override the speed, enter this:

  ```
  $ DSN TEST HDLC/LINE=dsn-000/SPEED=38400  ...
  ```

  Note that most TEST commands require the dialed network address (DNA) qualifier. Because the DNA is not in the DSN$DATA:DSN_MODEM_ DEVICES.DAT file, you must specify it. A complete command example follows:

  ```
  $ DSN TEST DIAL/LINE=dsn-000/DNA="m/719-555-1234"
  ```

- /VERBOSE

  This qualifier displays the test parameters for confirmation before the test begins. For client tests of the WIRE, DIAL, HDLC, and API levels, a message reminds the tester to start the test server before doing the client test. Verbose is enabled by default. Disable it by entering /NOVERBOSE.

The DSN TEST WIRE command now accepts the /SPEED qualifier for the DTE speed. Also, /SPEED permits a flow control specifier. Append the letter H to the speed to specify RTS/CTS (hardware) flow control. For example:

- To specify 19200 baud with XON/XOFF flow control:

  ```
  $ DSN TEST WIRE/SPEED=19200
  ```

- To specify 19200 baud with RTS/CTS flow control:

  ```
  $ DSN TEST WIRE/SPEED=19200H
  ```

Note: The flow control type works for hardwired ports (direct attachments) only. Terminal server ports do not appear to accept the flow control change although they do accept the speed change. Therefore, for a terminal server (LAT), manually set the flow control type on the port.

For more information on the DSN TEST command, use the HELP DSNLINK TEST command.

1.2.4 New Mail Parameters for Cross-Platform Consistency

Customers who have DSNlink running on various operating systems can use the same parameters on each system to specify who gets communique mail from DIGITAL. The parameters are:

- Mail.Flash
- Mail.Informative
- Mail.Marketing
- Mail.Surveys

These parameters appear in DSNlink Version 2.2 for Windows 95 and Windows NT in the DSNlink Control Panel, the Configuration Parameters tab, when the Configuration Parameter Type (the box appears at the top of the sheet) is DSNlink Mail.

On OpenVMS systems, you can add the parameters to the configuration file, DSN$DATA:DSN_CONFIG.DAT. For example:

```
.
.
.
# DSNlink Mail field defaults
#
#Mail.ReplyTo:                  none
#Mail.SendTo:                   none
#Mail.CC:                       none
File.Mail.Signature:            DSN$MAIL_SIGNATURE
Mail.Flash                 s-gregory@sparkle.com,lincoln@sparkle.com
Mail.Informative           s-gregory@sparkle.com
Mail.Marketing             s-gregory@sparkle.com
Mail.Surveys               s-gregory@sparkle.com
```

If you do not define the parameters in the configuration file, DSNlink uses the definitions of the logical names DSN$MAIL_FLASH_RECIPIENT, DSN$MAIL_INFORMATION_RECIPIENT, DSN$MAIL_MARKETING_RECIPIENT, and DSN$MAIL_SURVEY_RECIPIENT to send communique mail.

On UNIX systems, add and define the parameters in the configuration file /usr/lib/dsn/config/.dsnrc. For example:

```
.
.
.
# DSNlink Mail field defaults
#
#Mail.ReplyTo:             none
#Mail.SendTo:              none
#Mail.CC:                  none
#File.Mail.Signature:      DSN$MAIL_SIGNATURE      # OpenVMS
#File.Mail.Signature:      /usr/lib/dsn/config/dsn_mail_signature.txt # UNIX
Mail.Flash                 s-gregory@sparkle.com lincoln@sparkle.com
Mail.Informative           s-gregory@sparkle.com
Mail.Marketing             s-gregory@sparkle.com
Mail.Surveys               s-gregory@sparkle.com
```

If you do not define the parameters in the .dsnrc file, DSNlink uses the mail recipients you define using the DSNlink Setup utility, menu item l: Edit the mailing lists.

Note that communique mail is only sent to the first system in ASCII sort order in the route map. To change the system that receives communique mail, see the *DSNlink Installation Guide*.

1.2.5 Modem Scripts Have Been Changed and New Ones Added

The following changes have been made to support additional Hayes and Hayes-compatible modems:

- Previously there was one script for the Hayes OPTIMA 288 modem. In DSNlink Version 2.2C, there are two scripts: HAYES.DDSF_SRC, for software (XON/XOFF) flow control, and HAYESHW.DDSF_SRC for hardware (CTS/RCS) flow control. These scripts dial most Hayes modems. The scripts may require modifications for some Hayes and Hayes-compatible modems.
- The command &K4 now specifies XON/XOFF flow control. Previously, the commands &K2 and &K4 could be used for XON/XOFF flow control, but some modems only accept &K4. The older DSNlink Version 2.2 script used &K2.
- The scripts operate in verbose mode. This allows them to handle newer modems as they are developed without rewriting the scripts.
- When dialing out there was a timing problem between the issuance of the CONNECT... message and the raising of the DCD signal, which caused the connect message to not be seen and dialing attempts failed. This problem is fixed in the current scripts.

The Multi-Tech modem scripts have these changes:

- Previous scripts for individual Multi-Tech modems have been removed. The new, generic, Multimodem scripts are for Multi-Tech 1432, 1932, and 2834 series modems. One script is for software flow control, the other for hardware flow control.
- Scripts operate in verbose (word) mode. This allows them to handle newer modems as they are developed without rewriting the scripts.
- Scripts have been added for European Multi-Tech modems. They are MULTIMODEMHW_EU.DDSF_SRC and MULTIMODEM_EU.DDSF_SRC. Previously, European Multi-Tech modems required changes to the MULTIMODEM.DDSF_SRC modem script.

If you have a previous version of DSNlink and your Hayes or Multi-Tech script continues to function well, save them before installing DSNlink Version 2.2C. The new scripts will replace the DSNlink Version 2.2 for OpenVMS scripts if they have the same name.

Scripts have been added for U.S. Robotics modems. The scripts are USROBOTICS.DDSF_SRC and USROBOTICSHW.DDSF_SRC.

1.2.6 Pipeline Depth Can Be Adjusted for the Network Exerciser

You can now adjust the pipeline depth in the Network Exerciser using the command DSN NETEX/DEPTH=n where `n` is 1 to 127. Pipeline depth is the maximum number of unacknowledged messages sent to the host. Adjusting the pipeline depth is useful for troubleshooting network congestion, which might occur if you run multiple DSNlink applications at the same time.

This example makes the pipeline depth 49 messages:

```
$ DSN NETEX/DEPTH=49
```

The default pipeline depth is 7.

1.2.7 Network Exerciser Shows Message Transfer Rate in Baud

Previously: The Network Exerciser measured the message transfer rate in bytes per second (Bps).

Currently: The message transfer rate is now closer to the baud rate. The change appears in the Network Exerciser window and in the command line interface for the DSN NETEX command in the Results of Test section. The label "Bps Average Transfer Rate" is now "baud Effective Transfer Rate" in the DECwindows Motif interface. In the command line interface, the label is e-baud. For example:

```
$ DSN NETEX
DSNlink V2.2C for OpenVMS VAX Network Exerciser Utility
Copyright (c) 1989, 1998 by Digital Equipment Corporation
Digital Equipment Corporation Proprietary Service Tool
All Rights Reserved

Connecting to target cscabc.digital.dsn.  Please wait...
Connection established.
Connection path used:
  Encounter #0
.
.
.
Testing complete.
        Messages Sent:      100
        Messages Read:      100
        Messages Good:      100
        Messages Bad:         0
        Bytes Sent:       50825
        Bytes Read:       50825
        Bytes Good:       50825
        Bytes Bad:            0
        e-baud:           92409
```

If you use DSNlink in Japanese, note that the Motif resource file for the Japanese DECwindows Motif interface has not been updated to have the new label.

You can modify the label by editing the file SYS$COMMON:[DECW$DEFAULTS.SYSTEM.JA_JP]DSNNETEX.DAT. Search for the entry *netex_stats_rate_label.labelString, and change its value to the Japanese translation of "Effective Transfer Rate."

2
Fixed Problems

The following problems existed in DSNlink Version 2.2. They have been fixed in this release.

2.1 Communications and Networking Fixes

The following are fixes to the route map generator and other networking problems.

2.1.1 Route Map Regeneration Doubled Some Entries

Previously: Regenerating the route map doubled the last learned entry if the last entry was not blank.

Currently: This problem has been fixed.

2.1.2 Regeneration Operation Moved the Route Map

Previously: On OpenVMS clusters, when you regenerate a route map that exists in DSN$DATA, the regeneration operation moved the new route map to the node-specific subdirectory, DSN$ROOT:[DAT.nodename].

Currently: Rebuilding the route map does not change its location.

2.1.3 Username Length Affected Route Map Rebuilding

Previously: Rebuilding the route map from an account with a 12-character username produced a route map that was almost empty. Also, the original DSN_ROUTE_MAP.DAT was deleted rather than renamed to .OLD.

Currently: This problem has been fixed to permit rebuilding the route map from accounts with usernames of 12 characters. Note that the route map is not renamed to .OLD after a rebuild except during the installation procedure.

2.1.4 Incorrect Flags Might Appear in Learned Entries

Previously: After making a host-to-customer connection using previously unused systems, DSNlink inserted incorrect flags into the learned route map entry.

Currently: Extraneous flags are no longer added to learned destinations. There is no need to remove any existing entries with the incorrect flags from route maps.

2.1.5 TULIPS Errors Were Caused by Misplaced Route Map Entries

Previously: If host route maps were rebuilt, some entries were placed in the wrong section of the route map. If you attempted to connect to the host before the entries were corrected, the result was TULIPS errors.

Currently: This problem has been fixed on host systems.

2.1.6 Language Attribute Can Be Negotiated Between Server and Client

Previously: The DSNlink natural language session attribute could not be negotiated during connection establishment.

Currently: The client and server can negotiate a natural language and a code set during the connection handshake. This supports internationalization efforts.

2.1.7 DSNlink Handshake Session Missed an Authentication Challenge

Previously: During a session handshake, DSNlink was not providing the second random challenge item in the message returned by the server. This is the challenge to the client by the server. The client saw it as a null challenge, which is permitted.

The inadequate challenge was discovered during internal testing. No one has reported any suspicious activity during the handshake process. However, it left open an authentication vulnerability to a combined splice and replay attack against the server. Clients were not vulnerable.

Currently: This bug has been fixed so that the handshake and challenge process works properly.

2.2 File Copy Fixes

The notes in this section are fixes to the File Copy application.

2.2.1 Transferred File Protections Caused a Renaming Error

Previously: If a file transferred from the host to a customer's system had (RWED,RWED,RE,) protection, the file rename operation failed. For example:

```
--- Creating file
DSN$ROOT:[INCOMING_FILES.112125]DSN_ROUTE_MAP.Z980206-4
--- Transferred 5938 of 5938 bytes (100%)
--- Transfer of file DSN$DATA:DSN_ROUTE_MAP.DAT
        to DSN$ROOT:[INCOMING_FILES.112125]DSN_ROUTE_MAP.Z980206-4
complete
--- Closing file DSN$DATA:DSN_ROUTE_MAP.DAT
--- Closing file
DSN$ROOT:[INCOMING_FILES.112125]DSN_ROUTE_MAP.Z980206-4
--- Transfer job has failed
  - Error renaming file from
        DSN$ROOT:[INCOMING_FILES.112125]DSN_ROUTE_MAP.Z980206-4 to
        DSN$ROOT:[INCOMING_FILES.112125]_DSN_ROUTE_MAP.Z980206-4;1
  - acp remove function failed
  - ACP remove function failed
```

The resulting file was a temporary file with the wrong protection.

Currently: Before sending the file, its protection is changed to include the SET FILE/PROT=(O:RWD) permission, if necessary, to ensure that the owner can delete the file.

2.2.2 Server Log Files Had Debugging Information

Description: File Copy server log files, DSN$LOGS:DSN_FILE_SERVER.LOG, contain debugging information in addition to the file copy records. The files are created when specialists copy files to your system.

Currently: The log files no longer contain the debugging information.

2.2.3 The MPH Tool Did Not Submit Files for Processing Correctly

Previously: The Monitoring and Performance History (MPH) analysis tool did not submit files for processing on the host. Messages similar to the following appear:

```
% DSN COPY/TOOL=AMS filename
  .
  .
  .
--- Error in file transfer job
  - Remote procedure call error
  - Failed to create session to server SRQ$AMS/cscabc/dsn_file
  - Authentication failure
  - Operation failed
  - Key file not found: DSN$KEYS:MD5-XR39-SRQ$AMS
```

Currently: This procedure now works correctly and submits files for processing by MPH. MPH is a service offered by some Customer Support Centers.

2.2.4 Analysis Tools Required a Service Request Number

Previously: The Analysis Tool option did not work unless you supplied a service request number.

Currently: This problem has been fixed. You do not need a service request number to use analysis tools.

2.2.5 The Start Copy Button Remained Dimmed After File Copies

Previously: In the File Copy application after a successful file transfer, the Start Copy button is properly dimmed. However, if you start a second file copy operation by changing the Access Number field, the button remained dimmed when it should have become active.

Currently: After a successful file transfer, the File Copy button changes from dimmed to active when you make a change in any field of the File Copy window.

2.2.6 File Copy Warns About Missing Service Request Numbers Before Connecting to the Host

Previously: When you used the command line interface to the File Copy application but did not include the service request number in the DSN COPY command, DSNlink did not notify you of the missing number until connections to the host were underway.

Currently: When no analysis tool is specified, DSNlink notifies you if the service request number is missing before starting the connection process.

2.2.7 File Copy Ignored the Local Authorizations File

Previously: File Copy ignored the local authorizations file and allowed all DSNlink users to use File Copy.

Currently: File Copy processes the statements for its application ID, dsn_file, in the local authorizations file, DSN$DATA:DSN_LOCAL_AUTH.DAT.

2.3 Fixed ITS Problems

The following problems with the Interactive Text Search application (ITS) have been fixed.

2.3.1 ITS Produced a CMA Error After a Timeout

Previously: A CMA-F-USE_ERROR error occurred if the inactivity timer ended an ITS session while the `Press Return to continue, q to quit` prompt was displayed. This error occurred only in the command line interface to ITS.

Currently: This error no longer occurs.

2.3.2 ITS Ignored Settings for Pagination, View, and Highlight

Previously: ITS ignored the settings for pagination, view, and highlight. Pagination was always on, view could not be set so that articles always appeared in an editor, and highlight was always on, which highlights the query words in articles.

Currently: You can change the default settings in the configuration file or during the ITS session.

2.3.3 JACKETMSGCORRUPT Errors Mostly Fixed

Previously: The host software caused JACKETMSGCORRUPT errors such as these:

```
Message not found: JACKETMSGCORRUPT
Message not found: DsnIts::SESSION_FAILED
```

Currently: The reasons for the messages and ITS session failures had many causes. Most have been fixed.

2.4 Fixed Modem Problems

The following are fixes to the modem transport.

2.4.1 Improved Messages

Messages from using the modem with DSNlink have been improved as follows:

- The following debugging statement has been removed from the code:

  ```
  *** Delaying on VLDB open
  ```

  It would appear if the Virtual Line Database (VLDB) was locked for more than 0.1 seconds when the application or utility tried to find a line for use.

- Some messages from running modem scripts were unclear or unnecessary. For example:

  ```
  --- dconn->Connect(): DsnModem::DIAL_LAYER_FAIL, Error from dialer layer
    - General or Undefined dial error: DsnModem::DIAL_ERROR, Error dialing
        modem, not retryable
    - Outgoing dial attempt: DsnDDSFError::DIALERR, Modem dialing error
    - Outgoing dial attempt: DsnDDSFError::ERRORINFO, Script line #0
          Modem speed 0
          Datalink protocol
    - ESUCCESS, Error 0 occurred.
  ```

  Misleading messages from ERRORINFO and ESUCCESS exceptions have been removed.

- Time stamps with the date now appear every 12 hours in the modem daemon run log. Previously, the date never appeared.

- The modem daemon run log now lists process quotas, and important SYSGEN parameters at the top of the run log. The addition helps with troubleshooting, if that is necessary.

- Additional messages appear when an application makes a connection.

  Messages have been added to indicate if the local daemon must idle the line, dial the modem, or if the dialing fails, how it failed.

  This is an example of a successful connection with new messages:

```
Connecting to target doorknob.digital.dsn.  Please wait...
Attached to line line-000 for connection to
m/pstn.719-592-9808/dsn_nsd
  Local modem line responding, waiting for remote connection
  Resetting (idling) the line.                  <=== New
  The line is not connected.  Dialing now ...   <=== New
  The dialup HDLC connection is established.    <=== New
  Remote side responding, waiting for remote server
  Remote server responding
Connection established.
```

2.4.2 SYSTEM-F-ABORT Messages Appeared in the Daemon Run Log

Previously: The DSNlink Version 2.2 kit caused a smattering of SYSTEM-F-ABORT messages in the daemon run log. The errors causing the messages terminated the modem connection.

Currently: Conditions have been fixed that lead to the SYSTEM-F-ABORT messages. They should not appear in the modem daemon run logs.

2.4.3 A Modem's DTE Speed Was Ignored

Previously: The DTE speed you specify during the DSNlink installation was ignored. The DTE speed for a serial port, TTA0, should be provided by the DSN$DATA:DSN_MODEM_DEVICES.DAT file, which lists the speed specified during the DSNlink installation.

Currently: DSNlink nows uses the DTE speed specified in the DSN$DATA:DSN_MODEM_DEVICES.DAT file as the maximum speed for the modem.

2.4.4 No Modem Line Access When Using the Mail Server

Previously: DSNlink could not lock the modem's virtual line database (VLDB) to send DSNlink mail using the OpenVMS MAIL$SERVER account. This occurred when the sending account did not have the SYSLCK privilege. This is an example of the error in the modem daemon run log with the logical name DSNMODEMLINEDB_TRACE set to R:

```
      .
      .
      .
    <vldb:r> Reserve failed to load lines into memory:
    --- DsnModemLineDb::OPENFAIL, Unable to open line database
dsn$data:dsn_modem_lines.dat
      - DsnResourceLock::LOCKFAIL, Failed to acquire lock on resource
dsn_vldb
        - %SYSTEM-F-NOSYSLCK, operation requires SYSLCK privilege
```

Currently: A lock on the modem's virtual line database is not required to send DSNlink mail via the OpenVMS MAIL$SERVER account. The lock is set if permitted. If it cannot be obtained, a warning message appears in the NETSERVER.LOG file for MAIL$SERVER.

2.4.5 Modem Wire Test Generated Device Errors

Previously: The DSN TEST WIRE command generated a device error message such as the following:

```
$ DSN TEST WIRE/DEVICE=LTA99/NODE=DSNLINK_9/ -
_$ PORT=PORT_9/COUNT=10
  .
  .
  .
Test for DsnModem layers
========================

Establishing connection, please wait...
Connection established
Sending 10 loopback messages of size 0 to 4000...
           0 messages,  2689/
--- DsnModem::DEVERR, Error on device <Null>
  - %SYSTEM-F-IVCHAN, invalid I/O channel
```

Currently: This problem has been fixed.

2.4.6 Modem Speeds Over 19200 Were Unstable

Previously: Using a modem connection to a serial port on a system running OpenVMS Version 7.0, modem speeds over 19200 were unstable.

Currently: Modem speeds cannot exceed 57600bps on a directly attached OpenVMS port due to OpenVMS port limitations. Higher speeds can be attained by using a terminal server.

2.4.7 Some Modem Line Hangups Were Not Detected

Previously: Modem daemons could hang in an online state while attempting to process an additional incoming link. In this case, the hangup signal was not detected.

Currently: Immediately upon getting HDLC synchronization and going online, the modem daemon starts a deferred hangup timer. If no application links are started within the timeout period (typically 90 seconds), the daemon hangs up and resets the line. This prevents the modem daemon from hanging in the online state.

2.4.8 Modem Scripts Could Loop

Previously: Several of the modem scripts went into a loop between the script's last two sections when the value 0 was not returned by the modem after receiving the modem-specific commands.

Currently: This problem has been fixed in the affected modem scripts, which are for the Multi-Tech, Hayes, and Codex modems.

2.4.9 Interrupting the Modem Daemon Caused a CMA Error

Previously: An abnormal DTE line termination sometimes resulted in the modem daemon stopping with a CMA-F-IN_USE error. The following is an example of the error message in a modem daemon run log such as DSN$LOGS:DSN_RUN_PSTN_LINE_000.LOG:

```
«ks» 40000002.09:38:13 Link (33,31) on line 'dsn_000' state change from
DONE to ----.
«ks» 40000002.09:38:15 Link (37,35) on line 'dsn_000' state change from
REFUSED to ----.
%CMA-F-IN_USE, object referenced is already in use
%CMA-F-IN_USE, object referenced is already in use
```

Currently: This problem has been fixed.

2.4.10 Modem API Trace on Applications Caused Errors

Previously: The T trace flag on the DSNMODEMAPI_TRACE logical name caused DSNlink applications to fail. The following example shows a command that caused the problem:

```
$ DEFINE DSNMODEMAPI_TRACE T
$ DSN MAIL X.TMP SMITH@CSCABC.DIGITAL.DSN/SUBJ=TEST
```

Currently: The T trace flag no longer causes this problem.

2.4.11 Modem Connections Failed

Previously: Modem script errors caused modem connections to fail.

Currently: The reasons for the connection failures have been fixed in the DSNlink Version 2.2C modem scripts.

2.4.12 Line Daemon Failed with SYSTEM-F-EXQUOTA Errors

Previously: Insufficient quotas resulted in SYSTEM-F-EXQUOTA errors.

Currently: When the problems that result in YSTEM-F-EXQUOTA errors occur, DSNlink displays the necessary quotas.

2.4.13 Modem Links Were Stuck

Previously: Links sometimes stuck on a modem line in the DONE or ABORT state. This happened when the line was in the ONLINE or LISTENING states.

Currently: This has been fixed.

2.5 Fixes to Multiple Applications

The following fixes applied to more than one DSNlink application.

2.5.1 Missing Quotation Mark Caused a DsnBufferBase Index Error

Description: DSNlink could not start applications if there was a missing closing quotation mark in the final entry of any of the following files:

- DSN_CONFIG.DAT, the configuration file
- DSN_REMOTE_AUTH.DAT, the remote authorizations file
- DSN_LOCAL_AUTH.DAT, the local authorizations file

Currently: Missing end quotation marks no longer cause applications to fail.

2.6 Remote Login Fixes

The following are fixes to the Remote Login application.

2.6.1 SHOW CLUSTER/CONT Caused an ACCVIO During Remote Login

Previously: During a remote login session, if a specialist entered the command SHOW CLUSTER/CONTINUOUS or other commands that produce large, single-record output, an ACCVIO error occurred. This would then terminate the session.

Currently: This has been fixed with new images.

2.7 Fixes to the Service Request Application

The notes in this section are fixes to the DSNlink Version 2.2 Service Request Application.

2.7.1 The Supportcenter Qualifier Was Ignored by Some Commands

Previously: The following commands ignored the /SUPPORTCENTER qualifier when you included it on the command line:

- DSN AUGMENT
- DSN COPY
- DSN CREATE
- DSN FETCH
- DSN REVIEW

Currently: When you enter a command, such as DSN FETCH/WINDOWS /SUPPORTCENTER=cscabc.digital.dsn, the DSNlink Fetch window appears with cscabc.digital.dsn entered in the Support Center field.

2.7.2 Erroneous Mail Prompt After a Submitting Service Request

Previously: After successfully submitting a service request to the host, a prompt appeared asking you to Click Mail for a confirmation message. However, in the command line interface, there is nothing to click on. This is an example of the message:

```
--- Connecting to target cscaui.digital.dsn, please wait...
    --- Connection established
    --- Submitting request to host...
   --- Waiting for response from host...
    --- Response received by host
    --- Request accepted by host.

            Your new service request number is 77777773333NNN

    --- Click Mail to have a confirmation message sent to:
```

Currently: The prompt to Click Mail no longer appears.

2.7.3 Request for Unavailable Closed Service Requests Hangs the Window

Previously: If you attempted to fetch a list of closed service requests from a host that does not provide such lists, an error message window appeared and the process hung. The process had to be stopped from the command line.

Currently: This is fixed. The message explaining that the list is not available disappears when you acknowledge it, and there are no further errors.

2.7.4 Service Request Application Ignored Local Authorizations File

Previously: In the local authorizations file, entries that allow access to the Service Request application, dsn_sra, incorrectly produced "You are not authorized to use this application" messages.

Currently: This has been fixed.

2.7.5 Service Request Application Stopped After Connection Errors

Previously: In the DECwindows Motif interface, when errors occurred connecting to the host followed by the user clicking on something in the window, the application stopped and generated random application termination errors such as the following:

```
DECthreads Last Chance handler: thread 1 exiting on status exception
0x177db005
Exception: Invalid memory address (dce / thd)
```

Currently: This problem has been fixed.

2.7.6 Improved Processing of Time Zone Differences

Previously: In DSNlink Version 2.2, when dates were processed that included time zone specifications, there was no compensation for differences in time zones. There could be as much as 23 hours difference between your system's clock and the host's clock.

Currently: Although time zone handling has been improved, time zone discrepancies might still occur. If there is a time zone difference between your site and your Customer Support Center, or if you specify a time zone such as GMT (Greenwich mean time) with dates, be aware that the host may not always compensate for the differences.

3
Known Problems and Restrictions

3.1 Restrictions

3.1.1 The Year Part of Dates Must Have Four Digits

Restriction: To ensure that DSNlink does not misinterpret dates beginning in the year 2000, you must enter all years with four digits. Previously, you could enter either two or four digits for the year. Without this requirement, DSNlink might interpret the date Jan 01, 01 as January 01, 1901 when the intended date was January 01, 2001.

You enter dates in the following places:

- ITS, when you search for articles based on their last technical review date
- Service requests, when you fetch lists of open or closed service requests based on their dates
- The local and remote authorizations files when you allow or disallow access to DSNlink applications and include the year in the date
- Configuration file parameters that specify a date, such as Its.BeginDate

Some date formats without the year imply the current year. The date formats dd month (01 January), dd-month (01-Jan), and month dd (Jan 01) force the application to use the current year.

If you do not enter a four-digit year, DSNlink displays an error message.

3.1.2 The Modem Must Be Started from a Privileged Account

Restriction: You must start the modem from a privileged account. The account you use must have at least these privileges: DETACH, LOG_IO, NETMBX, OPER, SYSPRV, TMPMBX, and WORLD. Without sufficient privileges, when you attempt to start the modem daemon, the modem daemon does not start and messages list the necessary privileges.

DSNlink developers recommend starting the modem daemon from the SYSTEM account.

3.1.3 Mixed Architecture Clusters Require Separate Installations

Restriction: You cannot run the installation procedure once to install DSNlink on clusters of both Alpha and VAX systems.

In clusters of both Alpha and VAX systems, you must apply this ECO kit, DSNlink Version 2.2C, to one node in each group that shares a common disk. For example, in a mixed cluster of five nodes, A, B, C, D, and E, if nodes A, B, and C are VAXes that share a common disk, you must install DSNlink Version 2.2C on either node A, B, or C. If nodes D and E are Alpha systems that share a common disk, you must install DSNlink Version 2.2C on either node D or E.

Important: When installing on a cluster of both Alpha and VAX systems, you must install the kits on separate disks.

3.1.4 Defining EDIT Prevents TPU from Displaying Files

Restriction: In the DECwindows Motif interface, if you define the EDIT command, it prevents the TPU editor from displaying these files on the Utilities menu: Local Authorizations, Remote Authorizations, History Records, and the Systemwide and User Configuration files. This message appears in the window where you start DSNlink:

```
%DCL-W-IVQUAL, unrecognized qualifier - check validity, spelling, and placement
 \INTERFACE\
```

If you see the above error message, look for definitions such as the following, which may appear in your LOGIN.COM file:

```
$ EDIT      :== EDIT/EDT/COMMAND=EDTINI.EDT
```

Workaround: Deassign the symbol for the DSNlink session. For example:

```
$ DELETE/SYMBOL/LOCAL EDIT
```

Note: The EDIT definition does not interfere with the ITS view command, which invokes TPU.

3.1.5 Lynx Requires DEC TCP/IP Services for OpenVMS (UCX)

Restriction: The Lynx browser, which is included in the kit to display the online help for the command line interface, requires DEC TCP/IP Services for OpenVMS (UCX). Lynx uses UCX to make Internet connections. Without the file UCX$ACCESS_SHR.EXE, the DSNlink online help is not displayed.

3.2 File Copy Problems

The following are problems found in the File Copy application.

3.2.1 File Copy Is Unable to Copy Beyond the EOF Marker

Description: The File Copy application does not copy any part of a file beyond the end-of-file (EOF) marker. Usually, the part of the file beyond the EOF marker contains unused bytes that do not need to be copied. However, if the EOF is misset due to a file corruption problem, the entire file might need to be copied to DIGITAL for repair, which includes the bytes beyond the EOF marker.

Workaround: If you need to copy a file to DIGITAL and include the data beyond the EOF marker:

1. Enter this command, which sets the EOF to the end of the file:

   ```
   $ SET FILE/END_OF_FILE filename
   ```

   where *filename* is the name of the file to copy.

2. Use the File Copy application to send the file to DIGITAL.

3.2.2 File Copies by Specialists from a Customer's System Are Not Supported

Description: The feature that allows specialists to copy files from your system to the host was not implemented.

However, the kit still contains the directory DSN$ROOT:[OUTGOING_FILES], which was intended to be the directory where customers placed files for specialists to copy to the host. Also, there is a configuration file parameter, FileServer.Root.Path, which defines the outgoing files directory. The directory has no function.

Workaround: No action is required.

3.2.3 History Log Does Not Have Outgoing File Copy Records

Description: The history log file, DSN$LOGS:DSN_HISTORY.LOG, does not have records for files you copy to the host with the File Copy application. The history log file does record host-initiated file copies.

Workaround: None.

3.3 Networking Problems

3.3.1 The X.25 Transport Does Not Work with X.25-Routers

Description: The X.25 transport does NOT work with DSNlink if you use an X.25 router. If you configure X.25 and a router is involved, the connection to the host appears to work. However, the host cannot connect back to your system to reply to communications, and, therefore, several functions will not work.

Warning: Do not configure X.25 for use with DSNlink Version 2.2C if your X.25 network includes an X.25 router.

The X.25 transport does work if the X.25 nodes are local. When all the X.25 nodes are local, the host can use X.25 to respond to your communications. Because X.25 communications do not work if the host uses a router node, verify that your Customer Support Center does not use X.25 router nodes before using X.25 for DSNlink communications.

3.4 Interactive Text Search (ITS) Problems

The following are problems in the Interactive Text Search (ITS) application.

3.4.1 OPCOM Messages May Appear After Receiving an ECO

Description: After you successfully receive an engineering change order (ECO) and its accompanying confirmation mail messages, OPCOM messages may appear if OPCOM is enabled on the system. For example:

1. This message is related to using MultiNet instead of DIGITAL Services for TCP/IP (UCX) and is not a problem that DSNlink can address:

```
%%%%%%%%%%  OPCOM   5-JAN-1998 00:06:00.67  %%%%%%%%%%
Message from user SYSTEM on WINTER
MultiNet Server: DSN_NSD (accepted) from [111.222.33.444,5555]
(dsnlink.service.digital.com)
```

2. This message is also a normal notification message:

```
%%%%%%%%%%  OPCOM  30-JUL-1997 09:17:30.99  %%%%%%%%%%
Message from user INTERnet on SPRING
INTERnet ACP DSN_NSD Accept Request from Host: 111.2.33.44
Port: 1179
```

3. Messages about sockets indicate a DSNlink application's completion:

```
%%%%%%%%%%  OPCOM  13-JAN-1998 10:54:22.95  %%%%%%%%%%
%%%%%%%%%%  OPCOM  13-JAN-1998 10:54:22.95  %%%%%%%%%%
Message from user INTERnet on FALL
INTERnet ACP detected DSN_FILE exiting before 'socket'
```

Workaround: Consult your TCP/IP implementation documentation to disable the messages.

3.4.2 An ITS Timeout Causes TPU to Exit with an Access Violation

Description: In the ITS command line interface, if you are reading an article in the editor when the session time limit expires, TPU exits with an access violation message.

Workaround: None. This problem does not affect future ITS sessions.

3.5 Mail Problems

The errors in this section pertain to DSNlink mail.

3.5.1 You Cannot Reply to Mail from DIGITAL

Description: When you receive mail from DIGITAL, such as Flash mail, surveys, marketing information, and responses to your service requests, if you reply to the mail, DSNlink appears to send the reply, but it is not delivered.

Workaround: Contact your Customer Support Center by telephone or with a new service request to respond to mail. To respond to replies to service requests, use the Augment Service Request function of the Service Request application.

3.5.2 A Mail File Cannot Be Restored from the Pulldown Menu

Description: If you include a file name when you invoke the DSNlink Mail window, the specified file properly appears in the Message Body window. For example, this command displays the DSNlink Mail window and enters the file TEXT.TXT in the window:

```
% DSN MAIL/WINDOWS TEST.TXT
```

However, if you erase the file from the window and then try to restore it by choosing its name from the pop-up menu (where the file name is listed), only the file name appears in the Message Body area.

Workaround: Instead of including the file name in the DSN MAIL/WINDOWS command, in the DSNlink Mail window, use the Include File... menu item to choose the file to include.

3.6 Maintenance or Multiple Application Problems

The following are problems that apply to DSNlink maintenance or to multiple applications.

3.6.1 Notification of Incoming Files and Response Mail Is Restricted to the Submitter

Limitation: When DIGITAL specialists copy files to your system, mail notification is sent to the person who submitted the service request associated with the file copy. When engineering change orders (ECOs) are copied to your system, the person requesting the ECO receives the confirmation mail. DIGITAL

sends responses to service requests to the person specified for the reply. There is currently no way to set up DSNlink to notify anyone else.

Workaround: To see what files DIGITAL has copied to a system, check the history log file, DSN$LOGS:DSN_HISTORY.LOG, on each node.

To have a list of all service requests and DIGITAL's responses, periodically fetch the lists of your service requests for each access number. Then save the responses for each service request. Contact your Customer Support Center to find out how long the information for closed service requests remains on the system before it is archived.

3.6.2 History Log File Does Not Show Some Rejected Applications

Description: The history log file, DSN$DATA:DSN_HISTORY.LOG, does not have failure records when the host rejects the Network Exerciser, fetches of lists by the Service Request application, and File Copy jobs. Rejection occurs when the host system disallows access by applications, usually because the service contract has expired.

When you run the application, such as the Network Exerciser, a message appears that the application is rejected. However, the history log file has this information:

- Network Exerciser–the record's status is CANCEL followed by the test results
- File copy–no record
- Create service request–a failure record
- ITS–a failure record
- Fetch service requests–two records, one for failure, one for success
- Review service requests–a failure record
- Service request augmentations–a failure record

A failure record should appear for the application.

Workaround: Contact your Customer Support Center if the application is rejected even if the history record does not show a failure.

3.7 Network Exerciser Problems

The following are bugs in the Network Exerciser application.

3.7.1 The Network Exerciser Does Not Support the LZW_DYN Compression Option

Description: When you specify the LZW_DYN (dynamic Lempel-Ziv-Welsh) compression algorithm when using the Network Exerciser, a message tells you the operation failed and the LZW_DYN compression option is unsupported.

Workaround: Use the Network Exerciser compression option None to test the effects of compression. If you then click on LZW, DSNlink compresses the Network Exerciser messages the same way it compresses all transferred data.

3.7.2 Error Messages Overwrite Statistics Report

Description: If an error occurs when using the Network Exerciser in the command line interface with the modem transport, the error message overwrites the statistics line. For example,

```
--- DsnTransport::MODEMERR, Modem error982/39982/0   C726
  - DsnModem::LINK_ABORT, Data link aborted by session entity
```

Workaround: If possible, perform the test in the DECwindows Motif interface. If modem errors appear there or when you use other applications, contact your Customer Support Center.

3.7.3 The Network Exerciser Has Not Implemented Mirror Options or Language Recognition

Description: The mirror clarity items for the Network Exerciser utility are not implemented, except for Pure, which returns bytes without any manipulations. The unimplemented mirror options are: Invert, Reject Always, Reverse, Rotate, and Scratched. Tests with those items selected run as Pure tests. There are no error messages that the items are not implemented.

The Language field is also ignored.

Workaround: None.

3.8 Service Request Application Problems

3.8.1 Process Privileges Are Disabled After Canceling a Service Request Submission in OpenVMS Mail

Description: Process privileges are disabled if you use Ctrl/C to cancel a service request submission and then enter QUIT at the MAIL> prompt. This problem only happens if you use OpenVMS mail to submit the service request.

Workaround: None. You must reinstate the process privileges.

4
Starting DSNlink and Getting Help

4.1 Starting DSNlink

To display the DSNlink main window, use this command:

```
$ DSN/WINDOWS
```

To use DSNlink in the command line interface, see the online help. To display the online documentation, enter this command:

```
$ DSN HELP
```

4.2 A Guide to the Documentation

DSNlink has no hardcopy documentation. The documentation consists of PostScript and text files you can print and embedded online documentation that is displayed by the Mosaic or Lynx browsers.

The files you can print are:

- *DSNlink Version 2.2C for OpenVMS Service Tool Description*
- *DSNlink Version 2.2C for OpenVMS Quick Reference Card*
- *DSNlink Version 2.2C for OpenVMS Installation Guide*
- *DSNlink Version 2.2C for OpenVMS Release Notes* - this document
- The Readme file

For the location of the files, see the Postinstallation chapter of the *DSNlink Installation Guide*.

4.3 Getting Help

In the DECwindows interface, use the Help menus or Help buttons to access the online help. It is displayed by the Mosaic browser, which is included in your kit. The Help menu includes the *DSNlink Getting Started*, which shows you how to use the DSNlink applications.

In the command line interface, the DSN HELP command displays a list of documents you can access. The information is displayed in the Lynx browser, which is included in the kit.