COMPAQ

DSNlink Version 3.0 for OpenVMS Release Notes

November 4, 2000

These release notes describe new features, fixed problems, and known bugs in DSNlink Version 3.0.

Revision/Update Information:	This is a revised manual, which supersedes all previous versions.
Operating System and Version:	OpenVMS Versions 5.5-2 (on VAX systems only), 6.2, 7.1, and 7.2
Software Version:	DSNlink Version 3.0 for OpenVMS

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Preface

This document explains:

- New features in DSNlink Version 3.0
- Restrictions and known bugs
- How to start DSNlink

Overview

The DSNlink software is a service tool that provides electronic communication capabilities between customers' systems and a Compaq Customer Support Center. Using DSNlink, customers can send electronic service requests and receive help from Compaq specialists. Customers can also use DSNlink to search Compaq'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.

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 3.0 for OpenVMS Release Notes* - this document
- *DSNlink Version 3.0 for OpenVMS Installation Guide*
- *DSNlink Version 3.0 for OpenVMS Quick Reference Cards*
- *DSNlink Version 3.0 for OpenVMS Service Tool Description*
- *DSNlink Version 3.0 User's Guide for the DECwindows Motif Interface*

For the location of the files, see the Preface in the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

Conventions Used in This Document

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

Table 1 Manual Conventions

Convention	Description
UPPERCASE	Indicates file names and commands. You do not have to type them in uppercase. DSNlink is case insensitive.
DSNlink	The abbreviated service tool name is used for convenience to refer to the DSNlink Version 3.0 for OpenVMS software.
boldface text	Boldface text is used in examples to show what the user types to contrast that with the results of the command.
`monospace type`	Monospace type designates commands and examples.
. . .	A vertical ellipsis indicates the example continues, but the additional text is not displayed.

1

What's New in DSNlink Version 3.0?

DSNlink Version 3.0 is a full kit, as opposed to an engineering change order (ECO) kit. It includes the earlier DSNlink Version 2.2C, 2.2D, and 2.2E ECO software. Installing DSNlink Version 3.0 gives you all the new features and bug fixes since DSNlink Version 2.2 in addition to the new features in DSNlink Version 3.0.

1.1 There Are Encrypted and Nonencrypted Versions

There are two DSNlink Version 3.0 kits:

- DSNlink Version 3.0 for OpenVMS™

  This version contains encryption ciphers that automatically encrypt messages. It also contains new authentication methods.

- DSNlink NE Version 3.0 for OpenVMS

  This version has no encryption capability. It does have the new authentication methods that replace MD5.

1.1.1 About the Kit with Encryption

The major enhancement in DSNlink Version 3.0 is the addition of encryption. DSNlink Version 3.0 encrypts communications to and from your DSNlink systems and Compaq. Authentication has also been enhanced with the addition of new authentication methods and longer authentication keys.

These ciphers are in DSNlink Version 3.0:

- Triple DES 168-bit block cipher (TDES)
- DES 56-bit block cipher (DES)
- RC4 128-bit stream cipher (RC4_128)
- RC5 128-bit block cipher (RC5_128)

DSNlink encrypts all communications between your system and the Compaq host:

- Service request submissions, augmentations, and responses
- Requests for lists of routing codes, open and closed service requests, and supported products
- ITS sessions
- DSNlink mail messages
- Network Exerciser tests
- SICL (System-Initiated Call Logging) service requests

  Your system may not have SICL, which is not included in DSNlink. SICL is part of the Compaq Analyze software, which uses DSNlink to send SICL service requests to the Compaq host.

- Remote login sessions

If you use the DECwindows Motif interface, there is no indication that the communication was encrypted except for messages in the window where you started DSNlink. If you use the command line interface, screen messages include the encryption ciphers. Similar messages also appear in the server log files.

1.1.2 About the Kit Without Encryption

Not all customers and Compaq hosts can install DSNlink Version 3.0 because of U.S. or local restrictions on the export or import of encryption software. Those sites can install DSNlink NE Version 3.0, which contains no encryption code.

1.1.3 Improved Authentication

When either your system or the Compaq host initiates a connection, the systems first perform authentication. The goal of the process is for the customer and host systems to verify their identities to each other before establishing a communication connection. The systems must successfully authenticate themselves before either encrypted or nonencrypted messages are exchanged.

Authentication has also been enhanced with the addition of new, stronger, hash-based message authentication code (HMAC) functions. During the authentication process, DSNlink Version 3.0 combines a message with your authentication key, processes the result with industry-standard secure hash functions to generate a hash-based message authentication code (HMAC) for the digital signature. The HMAC algorithm follows RFC 2104 guidelines.

DSNlink Version 3.0 offers the following HMAC authentication methods:

- MD5_V3 uses the MD5 cryptographic hash function to produce a 128-bit signature.
- RMD160 uses the cryptographic hash function RIPEMD–160 to produce a 160-bit signature.
- SHA1 uses the cryptographic hash function SHA–1 to produce a 160-bit signature.
- SR160 uses both of the RIPEMD–160 and and SHA–1 cryptographic hash functions to produce a 160-bit signature. The advantage of this method is that an adversary would have to break both the SHA–1 and RIPEMD–160 functions to break the signature. This is the default authentication method.

The older MD5 authentication method, which produces a 128-bit signature, was used in earlier versions of DSNlink. Your DSNlink Version 3.0 system will use this method if the host system is running an earlier version of DSNlink. This method does not follow RFC 2104 guidelines and is not as secure as the HMAC methods mentioned above.

1.1.4 New Authentication Keys

Previously, DSNlink used only MD5 to authenticate all connections. Both your system and the Compaq host had identical MD5 keys.

In DSNlink Version 3.0, if your system has existing MD5 authentication keys the installation procedure renames them to replace the MD5 part of the file name with HMAC. The contents remain unchanged. The key has this file name format:

DSN$KEYS:HMAC-DIGITAL-access_number

Customers are encouraged to request longer HMAC keys, which have 16 more characters than the old MD5 keys. The longer keys are more difficult to break.

1.1.5 Remote Login Is Enhanced When Using RC4 Encryption

DSNlink Remote Login performance has been improved for slow network connections, especially using the DSNlink modem protocol. However, this improvement is only noticeable when using 128-bit RC4 encryption (RC4_128).

Specialists use 128-bit RC4 encryption when using the Remote Login application. For all other communications, the default encryption cipher is Triple DES. If you prefer 168-bit Triple-DES encryption for remote login sessions, modify the Remote Login server's cipher suite in the configuration file by defining the parameter Login.CipherSuite as follows:

```
Login.CipherSuite:      TDES
```

This definition forces the specialist to use Triple DES encryption when logging in. Triple DES adds as much as 6 bytes additional overhead per message. Depending on the transport, a performance slowdown may be noticed by the specialist.

This information also appears in the chapter on the Remote Login Application in the *DSNlink User's Guide*.

1.1.6 Restrictions on Distribution

Exports of this product are subject to U.S. Export Administration Regulations pertaining to encryption items and may require that the exporter obtain individual export authorization from the U.S. Department of Commerce.

1.2 Interoperability Between DSNlink Version 3.0 and Previous Versions

DSNlink Version 3.0 is compatible with previous versions of DSNlink. You do not have to install DSNlink Version 3.0 on all the DSNlink systems at your site. However, only messages between the system with DSNlink Version 3.0 and the DSNlink Version 3.0 host are encrypted.

1.3 The *DSNlink Getting Started* Has Been Removed

The *DSNlink Getting Started* has been removed from the DSNlink Version 3.0 kit. Its information now appears in the *DSNlink User's Guide*.

In the DSNlink main window, where the Getting Started previously appeared on the Help menu, there is now the Index menu item. If you select it, the index to the *DSNlink User's Guide* appears.

When you enter the DSN HELP command for help on the command line interface, the list of documents that appears now has a link to the *DSNlink User's Guide* index instead of the DSNlink Getting Started).

1.4 Netscape Replaces the Mosaic Browser

Previously, the Mosaic browser displayed the online help for the DECwindows Motif user interface. In DSNlink Version 3.0, Mosaic has been replaced with Netscape. The *DSNlink Version 3.0 for OpenVMS Installation Guide* provides information on where to download the Netscape browser for OpenVMS systems.

Netscape's product description states that Digital TCP/IP Services for OpenVMS (UCX) is required by Netscape. That is true if you want Netscape to access the Internet. However, UCX is not required to display the DSNlink online help using Netscape.

1.5 A PostScript Version of the User's Guide is Included

The *DSNlink User's Guide for the DECwindows Motif Interface* has been added to the kit to support OpenVMS Version 5.5-2 customers, who cannot run Netscape on their systems to display the online version of the User's Guide. Although some wording and formatting changes were necessary, the versions are identical technically.

1.6 Changes in TCP/IP Usage

The following sections explain changes relating to using TCP/IP with DSNlink.

1.6.1 TCP/IP Connections Use Single-Port Mode on A Nodes

In DSNlink Version 2.2 for OpenVMS, DSNlink used separate TCP/IP ports for each DSNlink application. You could modify the route map, DSN$DATA:DSN_ROUTE_MAP.DAT, to force all applications to use a single port, number 2370.

In DSNlink Version 3.0, when you install DSNlink on A nodes (the nodes that communicate directly with Compaq), the installation procedure generates the route map in single-port mode. If the node had a multiple-port route map, the conversion process to single-port mode removes all the route map entries for each of the ports for individual applications and routes them through port 2370. For example, the File Copy application uses port 2371 in multiple-port mode and ITS uses port 2373. Both route map entries are removed and changed to use port 2370 in single-port mode. Installations on B nodes (which connect to an A node) do not convert a multiple-port route map to single port.

A new parameter, which you can enter in the configuration file, Setup.Routemap.IP.Ports.Single determines whether future route map regeneration operations produce single or multiple-port mode entries in the route map. If set to True (the default), the route map is generated for a single TCP/IP port. If set to False, the route map has a port for each application.

Previously, the Configuration utility, which you start with the command @DSN$COMMAND:DSN$CONFIG, had two options on the Route Map operations menu. The second menu item generated the route map in single-port mode. This menu item has been removed.

The goal of the change is to make firewall setup simpler. If your firewall is set up for multiple ports, and the A node uses a single port or multiple ports, communications function without problems. However, if your firewall is set up for a single port, and the A node uses multiple ports, connections fail at the firewall.

The DSNlink applications use the single port through the firewall. Once the connection passes through the firewall onto your network, the Name Services Directory (dsn_nsd) application forwards the connection to the individual port for the application.

If your firewall was previously set up for multiple ports, and you plan to keep the default single-port mode, you may want to have your firewall administrator remove the DSNlink ports that are no longer necessary.

To switch to multiple-port mode, see the postinstallation instructions in the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

1.6.2 Lynx No Longer Requires Digital TCP/IP Services for OpenVMS (UCX)

The Lynx browser, which is included in the kit to display the online help for the command line interface, previously required Digital TCP/IP Services for OpenVMS (UCX). Lynx no longer has that requirement.

1.6.3 The Installation No Longer Requires Digital TCP/IP Services for OpenVMS (UCX)

The installation procedure no longer fails if Digital TCP/IP Services for OpenVMS (UCX) is missing. TCP/IP software is still required. DSNlink has been enhanced to allow MultiNet or TCPware use. Digital TCP/IP Services for OpenVMS Version 3.3 or higher is supported. If UCX is present, the installation procedure verifies that it meets the minimum version requirement.

1.6.4 Enhancements Permit MultiNet and TCPware Use

DSNlink has been enhanced to allow MultiNet and TCPware to be used for TPC/IP services. If Digital Services for TCP/IP is not found on the system, the installation procedure checks for MultiNet or TCPware. If MultiNet is found, the installation verifies that it is MultiNet Version 4.2 or higher. If TCPware is found, the installation makes sure that it is TCPWare Version 5.4 or higher. If the minimum version is not present, a message appears.

For MultiNet, the installation does the following:

- Defines the outgoing (host-to-customer) services, if they do not already exist, in MULTINET_ROOT:[MULTINET]HOSTS.LOCAL as follows:

```
SERVICE : TCP : 2370 : DSN_NSD :
SERVICE : TCP : 2372 : DSN_MAIL :
SERVICE : TCP : 2374 : DSN_LOGIN :
SERVICE : TCP : 2375 : DSN_NETEX :
SERVICE : TCP : 2377 : DSN_K2 :
SERVICE : TCP : 2379 : DSN_FILE :
SERVICE : TCP : 2381 : DSN_TUNNEL :
```

- Compiles the updated hosts.local file using the command:

  $ MULTINET HOST_TABLE COMPILE

- Installs the updated hosts.local file using the command:

  $ MULTINET:INSTALL_DATABASES

- Adds the incoming service definitions, if they do not already exist, using these commands:

  $ DEFINE/USER SYS$INPUT DSN$ROOT:[DAT]DSN$MULTINET_
  INCOMING_SERVERS.DAT
  $ MULTINET CONFIGURE/SERVERS

For TCPware, the installation does the following:

- Adds these lines to the TCPWARE:SERVICES.; file:

```
dsn_nsd         2370/tcp
dsn_mail        2372/tcp
dsn_login       2374/tcp
dsn_netex       2375/tcp
dsn_k2          2377/tcp
dsn_file        2379/tcp
dsn_tunnel      2381/tcp
```

- Adds service definitions using NETCU ADD SERVICE

You do not need to perform any additional tasks to make MultiNet or TCPware work with DSNlink.

1.7 Enhanced OpenVMS Cluster Support

This section explain the enhancements to support OpenVMS Cluster systems in DSNlink Version 3.0.

1.7.1 You Can Install Once on Mixed OpenVMS Clusters if They Have a Common Disk

Previously, you could not perform a single DSNlink installation on an OpenVMS Cluster of VAX™ and Alpha™ systems. In DSNlink Version 3.0, you can install once on the cluster common disk. The directories for VAX and Alpha systems on the common disk are as follows:

```
[DSN]
  [.COM] - shared between VAX and Alpha
  [.DAT] - shared between VAX and Alpha
  [.EXE]
    [.VAX]
    [.ALPHA]
  [.HELP] - shared between VAX and Alpha
  [.INCOMING_FILES] - shared between VAX and Alpha
  [.KEYS] - shared between VAX and Alpha
  [.LIB]
    [.VAX]
    [.ALPHA]
  [.LOGS] - shared between VAX and Alpha
  [.OUTGOING_FILES] - shared between VAX and Alpha
  [.TOOLS] - shared between VAX and Alpha
  [.UTILITIES]
    [.VAX]
    [.ALPHA]
```

In OpenVMS Clusters of both Alpha and VAX systems without one common disk, you must install DSNlink on a common disk shared by the VAX systems and on a common disk shared by the Alpha systems.

1.7.2 The OpenVMS Cluster Alias Name Is Not Used for DSN$DATA Subdirectory Names

Previously, if you installed DSNlink on an OpenVMS Cluster with an alias name, DSNlink created subdirectories under DSN$DATA with the alias name, for example, DSN$ROOT:[DAT.ZALIAS]. In DSNlink Version 3.0, subdirectories with the nodes' DECnet™ node name are created. For example, if a node in the cluster is named ALBERT, there is a directory [DSN$ROOT:[DAT.ALBERT] on node ALBERT.

1.7.3 Requirements for A and B Nodes Have Changed

Previously, all nodes in an OpenVMS Cluster had to be either all A nodes or all B nodes. (An A node communicates directly with the Compaq host. B nodes communicate through the A node.)

Currently, the node where the installation is performed is set up as an A node and any other nodes in the OpenVMS Cluster are set up as B nodes by default. An installation prompt allows you to change the default node type. This change supports the requirement that only one node in an OpenVMS Cluster can be an A node if you use the modem transport. However, if you need to perform multiple installations on the nodes in a cluster, for example, because there is no cluster

common disk, DSNlink treats each installation as separate OpenVMS Cluster systems.

1.7.4 Node Name Definitions in the Configuration File Have Changed

How connection parameters are defined in the configuration file, DSN$DATA:DSN_CONFIG.DAT, has changed. The changes are as follows:

- Local.Node is the DSNlink node name, which is normally the DECnet node name. It is never an alias name.
- Transport.LocalName.DECnet is the DECnet node name and, if it exists, the DECnet cluster alias name, for example, "ZNODE,ZALIAS".
- Transport.LocalName.TCP is the fully-qualified TCP/IP host name, and if it exists, the TCP/IP cluster alias name, for example, "ZNODE.SITE.COM,ZALIAS.SITE.COM".

1.7.5 You Must Be Logged into the SYSTEM Account for Installation

Previously, the person installing DSNlink could perform the installation from a user account that had system manager's privileges.

In DSNlink Version 3.0, the installer must be logged into the SYSTEM account.

1.7.6 The Executing Node's Name Appears in Log Files

Previously, log files did not provide the name of the node executing DSNlink commands. It made troubleshooting more difficult when there were multiple nodes in the OpenVMS Cluster. The node's name has now been added to log files.

1.8 Startup and Shutdown Files Are in DSN$COMMAND

Previously, the DSNlink startup and shutdown files were in SYS$STARTUP. DSN$STARTUP.COM and DSN$SHUTDOWN.COM are now provided to DSN$COMMAND (DSN$ROOT:[COM]) to support the OpenVMS Cluster changes. The DSNlink Version 3.0 installation renames any existing files to SYS$STARTUP:DSN$STARTUP.OLD and SYS$STARTUP:DSN$SHUTDOWN.OLD.

Log files for the startup procedure are in DSN$LOGS instead of SYS$COMMON:[SYS$STARTUP].

1.9 Installed Images Are Removed by DSN$SHUTDOWN.COM

All images installed by the DSNlink startup file, DSN$STARTUP.COM, are now deinstalled by the DSNlink shutdown file, DSN$SHUTDOWN.COM. This allows dismounting the disk that DSNlink is on during a shutdown.

1.10 Motif Resource Files Are in DSN$ROOT:[DAT]

The installation provides the Motif resource and .UID files to DSN$ROOT:[DAT]. The postinstallation part of the installation deletes the obsolete Motif files from SYS$COMMON:[DECW$DEFAULTS.SYSTEM].

1.11 DSNlink Does Not Require the SYS$BATCH Queue

Previously, the installation procedure submitted the DSNlink startup command procedure, DSN$STARTUP.COM to the SYS$BATCH queue. In DSNlink Version 3.0, the installation creates the DSN$BATCH_*nodename* batch queue to process DSN$STARTUP.COM. *Nodename* is the system's name.

The logical name DSN$BATCH points to the node-specific batch queue. DSNlink also uses that queue when you submit service requests, update service requests, and copy files to Compaq using batch processing.

1.12 Obsolete Files Are Deleted After a Successful Installation

If you install DSNlink Version 3.0 on a disk where DSNlink Version 2.2 was previously installed, the installation deletes obsolete files after a successful installation. Deleted images reside in DSN$SYSTEM, DSN$LIBRARY, and DSN$UTILITIES. Obsolete .CLI files are removed from DSN$SYSTEM. The files DSN_ITS_SERVER.COM and DSN_SRA_SERVER.COM are removed from DSN$COMMAND.

However, DSNlink Version 2.2 files are not removed if you install DSNlink Version 3.0 on a different disk on the system. For information on removing obsolete files, see the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

1.13 VT Menu Includes Remote Login Authorization

The DSNlink VT Menu has been improved by the addition of a menu item that allows you to authorize a remote login by Compaq. DSNlink records the authorization in the remote authorizations file, DSN$DATA:DSN_REMOTE_AUTH.DAT, which requires system manager's privileges. To run the VT Menu, enter this command:

```
$ @DSN$ROOT:[COM]DSN_VT_MENU.COM
```

The DSNlink VT menu appears. Choose the Control menu item to authorize a remote log in to your system.

1.14 Startup Files and Logical Names for the SRQ Utility Are Included in the DSNlink Startup

Previously: Before you could use the SRQ (service request) utility to send hardware service requests to Compaq, you had to edit the DSNlink startup to add the file DSN$ROOT:[UTILITIES.HARDWARE_DB]DSN$SRQ_UTILITY_STARTUP.TXT. This file defined the logical names necessary to run the utility.

Currently: The file DSN$SRQ_UTILITY_STARTUP.TXT is now part of the DSNlink startup file, DSN$COMMAND:DSN$STARTUP.COM. DSN$SRQ_UTILITY_STARTUP.TXT is no longer in the DSNlink kit.

Before you can use the utility, you must create the database of hardware systems or service contracts. You may also want to define a foreign command for running the utility. For more information, see the section Setting Up the Database in the chapter Managing DSNlink in the *DSNlink User's Guide*.

It is a postinstallation task to define a foreign command to run the utility, such as:

```
$ DSN_SRQ :== $DSN$UTILITIES:DSN$SRQ_UTILITY
```

1.15 The SPAWN Command Works from the ITS Command Line

The SPAWN command can be used in the command line interface at the its> prompt. SPAWN allows you to temporarily exit an ITS session it and then return without ending the ITS session.

To use the command, enter SPAWN at the ITS prompt. The system prompt appears. When you are ready to return to ITS, enter the LOG command. For example:

```
its> SPAWN
$ DCL commands
 .
 .
 .
$ LOGOUT
its>
```

1.16 The Service Request Application Allows Hours and Minutes in the Beginning and Ending Date Fields

You can now add hours and minutes specifications to the Beginning and Ending dates when you request a list of closed or open service requests. For example, in the Fetch List window, you can click on Open Service Requests, and then enter this date in the Beginning Date field:

31 December 1999 12:59

You can also enter hours and minutes in the command line interface. For example:

$ DSN FETCH OPEN/BEGINNING="31 December 1999 12:59"

DSNlink returns a list that begins with the specified date and time. The time is the Compaq call handling system's time when it received the service request, not the time on your system. Therefore, if your system and the Compaq call handling system are in different time zones, you may need to be aware of the difference if you specify hours with dates.

The Beginning and Ending date fields accept 32 characters.

1.17 DECwindows Motif Is No Longer Required for the Command Line Interface

DECwindows Motif was previously required, even for the command line interface. That requirement has been removed. You no longer need DECwindows Motif to use the DSNlink command line interface. The installation procedure provides several DECwindows images that are necessary for the command line interface.

1.18 The Logical Name DSN$MAIL_CC_RECIPIENT Has an Equivalent In DSNlink Version 3.0

The DSN$MAIL_CC_RECIPIENT logical name, which allows you to specify a list of people to receive copies of the responses from the Customer Support Center, was implemented in DSNlink Version 1.2 but not in Version 2.2. Consequently, there was no way to copy several people on the mail from Compaq in DSNlink Version 2.2 for OpenVMS.

1.18 The Logical Name DSN$MAIL_CC_RECIPIENT Has an Equivalent In DSNlink Version 3.0

In DSNlink Version 3.0, the configuration file has a new parameter named Mail.Incoming.CC that you can define with a list of people to copy on mail from the Customer Support Center. You must edit the configuration file, DSN$DATA:DSN_CONFIG.DAT, on all systems that receive mail to specify the mail addresses of the people to receive copies of the incoming mail. The types of mail are service request response mail, file copies and engineering change orders (ECOs) arrival notifications, communique mail, and System-Initiated Call Logging (SICL) responses (if you have SICL installed). The default definition of the parameter Mail.Incoming.CC is none, and it is preceded by the comment flag (#), which prevents its use by applications.

For more information on defining the parameter, see the postinstallation tasks chapter of the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

1.19 Recipients for Communique Mail Are Defined by Configuration File Parameters

Previously, the way you defined who was to receive communique mail from Compaq was to enter the recipients' mail addresses as the values for logical names in the DSNlink startup file. That method has been changed. You now define the recipients in configuration file parameters. These parameters have been added to the configuration file, DSN$DATA:DSN_CONFIG.DAT:

- Mail.Flash

  This parameter defines a list of people to get copies of flash communique mail. Flash mail contains urgent product information including software engineering change orders (ECOs).

- Mail.Informative

  This parameter defines a list of people to get copies of general product information.

- Mail.Marketing

  This parameter defines a list of people to get copies of mail explaining new products and services. This mail also provides information about updates to existing products and services.

- Mail.Surveys

  This parameter defines a list of people to get copies of surveys that ask for your opinions on Compaq services and product quality.

The DSNlink Version 3.0 installation checks your system for previous definitions of these logical names:

- DSN$MAIL_FLASH_RECIPIENT
- DSN$MAIL_SURVEY_RECIPIENT
- DSN$MAIL_INFORMATION_RECIPIENT
- DSN$MAIL_MARKETING_RECIPIENT

If the logical names are defined, the installation procedure transfers the definitions to the corresponding parameters in the configuration file. If the logical names do not exist, the parameters have the value %NONE%.

The default definition for all parameters is %NONE%. Therefore, unless you change that definition, no one will receive communique mail.

Changing the definitions of the parameters is a postinstallation task in the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

1.20 Your A Node is Set to be the Receiver Node

Previously, if you wanted to designate a node to receive ECOs and file copies from Compaq, you added a name (which comes before all other node names at your site in ASCII sort order), to the Local.Node parameter in the configuration file, DSN$DATA:DSN_CONFIG.DAT. This causes the DSNlink host to send ECOs and file copies to that node rather than to another node at your site whose name happens to be first in ASCII order in the host route map.

Currently, the DSNlink installation adds the name 4DSN to the A node name in the configuration file for the parameter Local.Node. For example:

```
Local.Node:                     zanode,4DSN
```

If you install DSNlink on multiple A nodes, DSNlink adds 4DSN to each node's name. When multiple nodes have 4DSN, the first node in ASCII sort order on the host's route map receives the ECO or file copy. For example, if the nodes START and ZIPPY appear in the host route map as follows, START is the receiver node:

```
12345/4DSN      t/zippy.mycorp.com/2370     255      r
12345/4DSN      t/start.mycorp.com/2370     255      r
```

Changing the receiver node is an optional postinstallation task in the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

1.21 REPKO Modem Scripts Have Been Added to the Kit

Modem scripts for REPKO modems have been added to the kit. The scripts are in DSN$DATA and have these names:

- REPKO_EU.DDSF_SRC —for European REPKO modems with XON/XOFF flow control
- REPKOHW_EU.DDSF_SRC—for the European REPKO modems with RTS /CTS flow control

2
Fixed Bugs

This chapter lists software or documentation errors that have been fixed since the DSNlink Version 2.2E kit.

2.1 Communications

The following problems with creating and maintaining communications have been fixed.

2.1.1 Incoming Applications Using X.25 Produced DSN_K2 Log Files

Previously: In DSNlink Version 2.2E, all incoming applications using the X.25 transport produced DSN_K2 (the Cryptographic Services application) log files in DSN$LOGS.

Currently: This has been fixed. DSN_K2 log files no longer appear in DSN$LOGS for each incoming application that uses the X.25 transport.

2.1.2 An Incoming DECnet Connection Was Misinterpreted as a TCP/IP Connection

Previously: An incoming connection via DECnet Phase IV to a node named BG001 was interpreted as a TCP/IP connection. The node name was mistaken for a BG device. This is an example of the error:

```
    BG001> dsn its
    DSNlink V2.2E for OpenVMS Alpha Modem Daemon
    Copyright (c) 1989, 1999 by Digital Equipment Corporation
 .
 .
 .
    Establishing ITS connection to domain digital at node cscuvo.
    --- DsnSession::GATEWAYERR, DsnGateway error
      - DsnGateway::TRANSPORTERR, Transport error: caller = d/BG001/FIELD,
callee = d/bg002/dsn_nsd
      - DsnTransport::END, End of data; connection was abruptly terminated
    *** Failed to establish DsnIts session!
```

The DSN$LOGS:NETSERVER.LOG shows the transport was set to TCP/IP instead of DECnet.

Currently: The test for DECnet has been fixed to not mistake a node name that begins with BG for a BG device.

2.2 File Copy

The following problems in the File Copy application have been fixed.

2.2.1 Some File Copies Did Not Create a Work Unit

Previously: When you copied a file to the Compaq host, a record of the file copy should, but did not, appear in the work units you saw when you reviewed the service request. File copies from the host to your system did appear in the work units.

Currently: The work units associated with a service request include the names of files you copy to the host.

2.2.2 TYPE-F-WRITEERR Message Appeared After a File Copy Operation

Previously: After a successful file copy from the host, the following message appeared in the File Copy transfer log, DSN$FILE_TRANSFER.LOG:

```
 .
 .
--- Beginning transfer of all files in job
--- Opening file _DSA2:[DSN.OUTGOING_FILES]A1_FIX033033.A;4
--- Beginning transfer of file _DSA2:[DSN.OUTGOING_FILES]A1_FIX033033.A;4
       to 0:A1_FIX033033.A
--- Creating file 0:A1_FIX033033.A
%TYPE-F-WRITEERR, error writing SYS$OUTPUT:.;
-RMS-F-SYS, QIO system service request failed
-SYSTEM-F-EXQUOTA, process quota exceeded
```

The following transfer update message was overwritten on the screen:

```
Transferred %x of %y bytes for file z ...
```

The overwritten message occurred only when you typed the log file. The message "Transferred %x of %y bytes for file z ..." was missing a form feed character at the end of the line, which caused the message to be overwritten on the screen. The result was that the File Copy application wrote a large record to the batch log file, which produced the process quota exceeded errors.

Currently: The message now has a carriage return and line feed included in batch mode, which fixes the process quota exceeded error. You can view the contents of the File Copy transfer log by typing it or using an editor.

2.2.3 Mail Notification After a File Copy Was Inconsistent

Previously: After a Compaq specialist copies a file from the host to your system, you should receive notification mail about the file copy. However, under some circumstances, no notification mail was sent, and the specialist performing the file copy did not know about the notification mail failure.

Currently: This problem has been fixed. DSNlink notifies the person associated with the service request when mail is copied to their system. Rarely, although it can happen, Compaq copies a file to you with no associated service request. In this case, the specialist must have the email address of the person to notify to send notification mail.

2.3 Installation

2.3.1 Installation on a VAX in a Mixed OpenVMS Cluster Resulted in Missing Files

Previously: A mixed OpenVMS Cluster installation on an Alpha system included having the installation provide the VAX images. Everything was fine on the Alpha system, but not on the VAX. The DECnet objects and TCP/IP services were missing on the on the VAX system.

Currently: This problem has been fixed by using SYSMAN to create the objects, destinations and TCP/IP services during the postinstallation. Also, the installer has to be logged into the SYSTEM account for SYSMAN to work clusterwide.

2.3.2 Route Map Entry for X.25 Corrected

Previously: DSNlink entered DATANET1 for the X.25 line even if the installer entered another line name in the installation. For example:

```
* Enter the X.25 network name for this system: PIE1

* Enter the X.25 DTE address for this system: 1234567
```

At the end of the installation the IVP failed with:

```
Connecting to target cscuto.digital.dsn.  Please wait...
--- DsnGateway::TRANSPORTERR, Transport error: caller = (none),
      callee = x/datanet1.130045250/dsn_nsd
  - DsnTransport::CONNECTERR, Unable to connect to x/datanet1.130045250/dsn_nsd
  - psi$c_err_nosuchnet, The specified network is not known
```

Currently: This problem has been fixed.

2.3.3 The Startup File Was Provided on the Installing Platform Only

Previously: If DSNlink was installed on a mixed-architecture OpenVMS Cluster, the startup file DSN$STARTUP.COM was only provided to SYS$STARTUP on the platform where the installation was performed.

If you installed on a VAX, the startup was not copied to or run on the Alpha systems.

If you install on an Alpha, the startup was not copied to or run on the VAX systems.

The installer had to copy the startup file from the system where DSNlink was installed to to the common disk or disks that are shared by any other nodes that will run DSNlink. Then the installer had to run the startup on each DSNlink node in the OpenVMS Cluster.

Currently: All cluster nodes execute the same DSNlink startup file, DSN$ROOT:[COM]DSN$STARTUP.COM, when the installation is on a cluster-wide common disk. When there is no single cluster-wide common disk, you must install DSNlink on a common disk or disks shared by the VAX systems and again on a common disk or disks shared by the Alpha systems. The installation for the VAX systems runs the startup from the VAXes' common disk for each node, and the Alpha systems run the startup from the Alphas' common disk for each node.

Note that the DSNlink Startup file, DSN$STARTUP, was previously provided to SYS$STARTUP. The installation procedure now provides it to DSN$COMMAND (DSN$ROOT:[COM]). For more information, see Section 1.8.

2.3.4 SYS$COMMON Was Not Translated to Device and Directory Names

Previously: During the DSNlink Version 2.2 for OpenVMS installation, when SYS$COMMON: was entered for the device for the DSNlink directory tree, the logical name was not translated down to the device and directory names. That is, the logical names such as DSN$ROOT and DSN$KEYS were not defined.

Currently: Do not use a rooted logical name, such as SYS$COMMON, for the device for the DSNlink directory tree. Instead, enter SYS$SYSDEVICE: or DISK$USER1: when asked for the device and directory for the DSNlink directory tree in the DSNlink Version 3.0 installation.

You can tell if the logical name is rooted because there is a dot after the directory name before the closing square bracket. For example:

```
$ SHOW LOG SYS$COMMON
   "SYS$COMMON" = "DSA100:[SYS0.SYSCOMMON.]" (LNM$SYSTEM_TABLE)
```

2.4 ITS

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

2.4.1 Using an ITS Initialization File Resulted in an ACCVIO

Previously: An ACCVIO error resulted after using the following ITS initialization file, DSN_ITS_INIT.INI:

```
open eco-summary
open aes
search shadow
dir
mail/dir/subj="DSN dir_listing since 01-jun-2000"
exit
```

The ITS session failed during the DIR command.

Currently: This has been fixed. The ACCVIO no longer occurs. Furthermore, the *DSNlink User's Guide* has an improved example of an ITS initialization file for use with the command line interface.

2.4.2 ACCVIO After Mistyping the Show Database/Open Command

Previously: When using ITS in the command line interface, if you mistyped the ITS `show database/open` command so that the slash was missing from the /open qualifier, an ACCVIO resulted.

Currently: This has been fixed so that if the command is mistyped, a message appears with the ITS command syntax.

2.4.3 ITS Extracted Articles Could Have All the Characters in the First Column

Previously: If you extracted an ITS article to a file on your system, the text might all appear in the first column in your file. For example:

```
*
    O
    p
    e
    n
    V
    M
    S
    ]

    V
    A
    X
    S
    Y
    S
    L
    0

    .
    .
    .
```

Currently: The cause of the error was never pinpointed because it occurred rarely. However, the DSNlink code has been modified with the expectation that it will alleviate the problem.

2.4.4 Interactive Command Procedures Produced the Timed Read Error

Previously: If you created ITS command procedures and ran the file in batch mode, the commands were executed without errors. However, the same command procedure run interactively had this error:

```
DSNITS Unexpected timed read error. Exiting...
```

This is an example of an ITS command procedure:

```
$ dsn its
open openvms
open dsn
open network
open service-offers
open spd
open wis
open cib
dir/all/beginning=yesterday
extract/dir DISK$USER1:[MYTEA.TMP]its_latest.txt
set page off
show data
$ exit
```

Currently: ITS command procedures now run in interactive mode without the timed read error.

2.5 Modem Transport

2.5.1 Customers Could Make Only One ITS Connection with the Modem Transport

Previously: Customers could make only one ITS session with the Version 2.x modem transport. The second session got as far as 'Remote server responding' then eventually died with 'modem heartbeat stopped' and 'object referenced already in use' errors. The original connection kept working.

Currently: This problem has been fixed so that you can start multiple ITS sessions from a DSNlink node.

2.5.2 Modems Did Not Hang Up After a DSNlink Session

Previously: Some modems, for example, USRobotics Sportster Flash or Sportster Voice modems, otherwise operated as expected but did not hang up after a DSNlink session. The same problem occurred on a VAX 6000 with a DMB32 serial port.

Currently: This problem has been fixed. Modems hang up after the DSNlink session ends.

2.5.3 DTE Speed in MDDF Was Not Set on the DTE Device

Previously: When using the modem transport, the DTE speed from the modem devices definition file (MDDF) did not modify the direct port to use the specified speed.

Currently: The terminal server port for an LTA device must have remote modification enabled for the speed from the MDDF to be used. If remote modification is disabled, the change request is ignored. However, you should leave remote modification disabled because the port speed on the terminal server is used regardless.

2.6 Multiple Applications

The following fixes apply to several DSNlink applications.

2.6.1 The Startup Was Sent to the Wrong Batch Queue on an OpenVMS Cluster

Description: DSNlink Version 2.2D did not queue the DSNlink startup batch job correctly on a large OpenVMS Cluster. This error appeared:

```
RMS-W-RTB error, xxxx byte record too large
    from DSN$STARTUP.COM
    $   batchque_nodename ==
```

Currently: This problem has been fixed. DSNlink Version 3.0 creates one execution queue, DSN$BATCH_nodename. The system logical name,DSN$BATCH, points to the node-specific batch queue.

2.6.2 All DSN Commands Invoked the DSN Modem Daemon

Previously: All DSN commands invoked the modem daemon to identify the DSNlink version number. For example:

```
$ DSN ITS
    DSNlink V2.2E for OpenVMS Alpha Modem Daemon
    Copyright (c) 1989, 1999 by Digital Equipment Corporation
    Compaq Computer Corporation Proprietary Service Tool
    All Rights Reserved
```

Currently: Rather than invoking the modem daemon, each application invokes its own DSNlink identifier. For example:

```
$ DSN ITS
DSNlink V3.0 for OpenVMS Alpha Interactive Text Search Application
Copyright 1989, 2000 Compaq Computer Corporation
Compaq Registered in U.S. Patent and Trademark Office.
Proprietary service tool software. Valid license required.
```

2.6.3 DECthreads Bugcheck Error

Previously: Some DSNlink Version 2.2E customers experienced intermittent DECthreads bugcheck errors. The problem was also likely on DSNlink Versions 2.2C and 2.2D.

```
$ TYPE PTHREAD_DUMP.LOG
%DECthreads bugcheck (version V3.13-553), terminating execution.
% Running on OpenVMS VAX [OpenVMS V7.1; MicroVAX 3100-30/40, 1 cpu, 24Mb]
% Reason: krnSpinLock: deadlock at
_$22$DIA11:[PTHREAD.SRC]THD_MUTEX.C;1:1361
%
%     The DECthreads library has detected an inconsistency in its internal
%   state and cannot continue execution. The inconsistency may be due to a bug
%   within the DECthreads library, the application program, or in any library
%   active in the address space. Common causes are unchecked stack overflows,
%   writes through uninitialized pointers, and synchronization races that
%   result in use of invalid data by some thread.
%     Application and library developers are requested to please check for
%   such problems before reporting a DECthreads library problem.
%     The information in this file may aid application program, library, or
%   DECthreads developers in determining the state of the process at the time
%   of this bugcheck. When the problem is reported, this information should be
%   included, along with a detailed procedure for reproducing the problem, if
%   that is possible. The 'detailed procedure' most likely to be of use to
%   developers is a complete program.
%
% The bugcheck occurred at 02-DEC-1999 13:34:02.51, running image
%  DISK03$DKA300:[DSN.][EXE]DSNMODEMDAEMON.EXE in process 00000DB2 (named
%  "line-000"), under username "SYSTEM". AST delivery is enabled for all modes;
%  ASTs are active in user sequence 23, at 0x00491868
% Current thread traceback:
%     0:  PC 0x00122C9B, FP 0x00548B68, AP 0x00548B94
%     1:  PC 0x00124F43, FP 0x00548C04, AP 0x00548C40
%     2:  PC 0x0011CB7D, FP 0x00548C4C, AP 0x00548C64
%     3:  PC 0x0025C6EC, FP 0x00548C70, AP 0x00548C88
%     4:  PC 0x001E60A5, FP 0x00548CC8, AP 0x00548CDC
%     5:  PC 0x8152F647, FP 0x00548CF4, AP 0x00548D08
%     6:  PC 0x0013A0FE, FP 0x00548D24, AP 0x00548D50
%     7:  PC 0x0013B2BE, FP 0x00548D64, AP 0x00548D7C
%     8:  PC 0x0013EC6C, FP 0x00548DCC, AP 0x00548DFC
%     9:  PC 0x8152F647, FP 0x00548E14, AP 0x00548E50
%    10:  PC 0x000674DD, FP 0x00549014, AP 0x00549050
%    11:  PC 0x00074A35, FP 0x00549078, AP 0x0054909C
%    12:  PC 0x002E9A30, FP 0x0054919C, AP 0x005491C4
%    13:  PC 0x002CD120, FP 0x005493E8, AP 0x00549424
%    14:  PC 0x00397488, FP 0x00549988, AP 0x005499BC
%    15:  PC 0x00322FF1, FP 0x0054AA5C, AP 0x0054AA98
%    16:  PC 0x0032291C, FP 0x0054AAAC, AP 0x0054AAC0
%    17:  PC 0x00268BB2, FP 0x0054AAD4, AP 0x0054AAFC
%    18:  PC 0x0012E08C, FP 0x0054ADAC, AP 0x0054ADDC
%    19:  PC 0x0012379F, FP 0x0054ADE4, AP 0x0054ADF8
% DECthreads scheduling database is locked.
```

Currently: This problem has been fixed.

2.6.4 The DSN SHOW VERSION Command Response Is Improved

Previously: The DSN SHOW VERSION command displayed information for the Modem Manager utility. For example:

```
$ DSN SHOW VERSION
DSNlink V2.2E for OpenVMS Alpha Modem Manager Utility
Copyright (c) 1989, 1999 by Digital Equipment Corporation
Compaq Computer Corporation Proprietary Service Tool
All Rights Reserved
```

Currently: The response to the command does not reference the Modem Manager Utility, as shown in the following example:

```
$ DSN SHOW VERSION
DSNlink V3.0 for OpenVMS VAX
Copyright 1989, 2000 Compaq Computer Corporation
Compaq Registered in U.S. Patent and Trademark Office.
Proprietary service tool software. Valid license required.
```

2.7 Network Exerciser Fixes

The following problems with the Network Exerciser application have been fixed.

2.7.1 Defining DSNGATEWAY_TRACE Resulted in a Transport Error

Previously: If you defined the logical name DSNGATEWAY_TRACE to CT to trace connection errors and then ran the Network Exerciser, DSNlink generated transport errors. For example:

```
$ define dsngateway_trace ct
$ dsn netex
DSNlink T2.2D-EFT2 for OpenVMS Alpha Network Exerciser Utility
Copyright (c) 1989, 1999 by Digital Equipment Corporation
Compaq Computer Corporation Proprietary Service Tool
All Rights Reserved

Connecting to target host.digital.dsn.  Please wait...

DsnGateway::Connect HIT:
        Date:            Mon, 30 Aug 1999 14:15:20 -0600
        Hop Count:       1
        Redirect Count:  0
        State:           CONNREPLY
        Status:          --- DsnGateway::OK, Operation successful
        System ID:       digital/host
        Platform ID:     VMS ZHOST V6.2 0 VAX T2.2D-EFT2
        Version:         2.37 Exp
        Network Address: (None)
        Path:   112125/RAINY|VMS RAINY V6.2 0 Alpha T2.2D-EFT2||T/RAINY/1078&
T/host1.compaq.com/DSN_NETEX
                digital/host|VMS HOST1 V6.2 0 VAX
T2.2D-EFT2|T/rainy.splat.com/1078&T/zhost/DSN_NETEX|
Connection established.
Stats: M100/100/100/0   B49070/49070/49070/0   e981400
Testing complete.
        Messages Sent:      100
        Messages Read:      100
        Messages Good:      100
        Messages Bad:         0
        Bytes Sent:       49070
        Bytes Read:       49070
        Bytes Good:       49070
        Bytes Bad:            0
        e-baud:          981400
--- DsnGateway::TRANSPORTERR, Transport error: caller = T/RAINY/1078,
callee =T/host1.compaq.com/DSN_NETEX
  - DsnTransport::END, End of data; connection was abruptly terminated
```

Currently: This problem has been fixed.

2.7.2 The Network Exerciser Had Obsolete Authentication and Encryption Options

Previously: The Network Exerciser window had obsolete fields for the authentication and encryption options to use during Network Exerciser tests. The Authentication field allowed only the MD5 key to be chosen. The Encryption field's default was None.

Currently: The fields have been removed from the window. They are obsolete.

2.7.3 The Verbose Qualifier Had No Effect

Previously: The /VERBOSE qualifier to the DSN NETEX command, was ignored. No connection information was displayed if you enter DSN NETEX /VERBOSE on the command line. Only message statistics appeared.

Currently: This has been fixed. The /VERBOSE qualifier causes connection routing information to be displayed. Note that you cannot use the DECwindows Motif interface to display connection information.

2.7.4 The Initial Network Exerciser Test Failed Using X.25

Previously: Using the X.25 transport, after a new installation, the initial Network Exerciser connection to Compaq failed as follows:

```
$ DEFINE DSNGATEWAY_TRACE CT
$ DSN NETEX
Connecting to target cscabc.digital.dsn.  Please wait...
--- DsnGateway::TRANSPORTERR, Transport error: caller =
X/datanet.12345678/*, callee = X/datanet.130045678/dsn_nsd
  - DsnTransport::END, End of data; connection was abruptly terminated
--- DsnNetEx::FAILURE, Operation failed
  - DsnSession::GATEWAYERR, DsnGateway error
  - DsnGateway::TRANSPORTERR, Transport error: caller = X/datanet.12345678/*,
callee = X/datanet.130045250/dsn_nsd
  - DsnTransport::END, End of data; connection was abruptly terminated
```

The problem was that REDIRECT messages were deleted before they could be sent.

Currently: This problem has been fixed.

2.7.5 Network Exerciser Stopped Responding After a Midtest Error

Previously: During a Network Exerciser test on the modem transport, if an error occurred during the data looping phase, a message said the testing was complete, provided statistics about the test and then the Network Exerciser stopped and did not respond. This error was not reported for other transports but may have occurred on them too.

Currently: This problem is fixed. If errors occur during a Network Exerciser test, messages explain the errors, and then the Network Exerciser terminates properly.

2.7.6 IVP Failed Because of Authentication Key File Format

Previously: DSNlink authentication failed intermittently during the installation verification procedure (IVP), which is a Network Exerciser test, when the authentication key file was created with file attributes of sequential VFC (variable with fixed control). For example:

```
Size:            1/9          Owner:    [CONTRL,AES_DSNLINK]
 .
 .
 .
File organization:  Sequential
Shelved state:      Online
File attributes:    Allocation: 9, Extend: 0, Global buffer count: 0
                    No version limit
Record format:      VFC, 2 byte header, maximum 0 bytes, longest 34
bytes
Record attributes:  Print file carriage control
 .
 .
 .
```

Currently: The record format has been corrected. DSNlink creates the authentication key file as sequential variable. For example:

```
 .
 .
 .
File organization:  Sequential
Shelved state:      Online
File attributes:    Allocation: 9, Extend: 0, Global buffer count: 0
                    No version limit
Record format:      Variable length, maximum 0 bytes, longest 33 bytes
Record attributes:  Carriage return carriage control
 .
 .
 .
```

2.8 Route Map

The following are changes to the route map.

2.8.1 DSNMAPQ Did Not Add Entries to the Route Map

Previously: The DSNMAPQ utility, which allows you to query the route map for entries that match a specified string, did not add entries to the route map. When you attempted to add an entry to the route map, the command was not recognized. For example:

```
$ @dsn$utilities:dsnmapq_setup
$ dsnmapq -A  "test/dsncxo/dsn_nsd"
Usage: zhost$dka200:[dsn.][utilities]dsnmapq.exe;194 [flags]
domain/node/application  (selects based on destination)
       zhost$dka200:[dsn.][utilities]dsnmapq.exe;194 -d [flags]
(dumps contents of route map in sorted order)
flags:  -a "entry" = add "entry" to route map file
        -f file    = specify route map filename
        -i rflags  = ignore entries which have rflags set
        -n         = number output lines from query
        -s rflags  = select only entries which have rflags set
        -t [dmtx]  = display only entries which match listed
transports:
                     d = DECnet
                     m = Modem
                     t = TCP/IP
                     x = X.25
```

Currently: The command has been fixed. The -A option now adds an entry to the route map, DSN$DATA:DSN_ROUTE_MAP.DAT.

2.8.2 Route Map Access Time Reduced

Previously: Route map access can be slow when supporting a large number of DSNlink connections to the host.

Currently: Access time has been improved by sorting the route map. A sorted route map has this file name:

DSN$DATA:DSN_ROUTE_MAP.DAT-SORTED

DSNlink creates the sorted route map as necessary, and it requires no upkeep or monitoring.

2.8.3 Communications from a B Node Did Not Go Through the A Node

Previously: When a B node used an A node to connect to the host, it was redirected to the host and bypassed the A node. This occurred because the cost of the A node's entry was higher than the cost of the host's entry.

Currently: DSNlink no longer writes the host's entries to the route map on the B node. This prevents the B node from bypassing the A node.

2.8.4 Route Map Single-Port Mode Was Not Retained

Previously: When generating a route map, you can choose to use single-port mode. However, the setting was not retained anywhere. Therefore, if you regenerated the route map and did not specify the mode, the route map generator used multi-port mode.

Currently: The single-port mode for communications is now stored in the configuration file parameter Setup.Routemap.IP.Ports.Single.

This value is set to true by default.

For more information on using multiple ports, see Section 1.6.1.

2.9 Service Request Application

The following are fixes to the Service Request Application.

2.9.1 Some Routing Codes Mistakenly Sent Acknowledgement Mail

Previously: If you sent a non-service request to the host, such as a suggestion, you received a service request acknowledgement instead of a thank you note for the suggestion.

Currently: The code has been modified so that the confirmation mail is not sent if no service request number is returned by the host. You receive the appropriate reply.

2.9.2 SICL Requests Via a Modem Might Fail During Batch Processing

Previously: Service requests submitted by the System-Initiated Call Logging (SICL) software occasionally failed to be delivered from a DSNlink Version 2.2E system using the modem transport. The requests were not submitted to the DSN$BATCH queue, which sends them to the Compaq host.

Currently: This problem has been fixed so that the SICL submission is submitted to the DSN$BATCH queue. If, during attempts to send the SICL message, errors occur, the message is requeued until the maximum number of retries is reached.

2.9.3 Service Request Submitter's Name Was Lost

Previously: Beginning in DSNlink Version 2.2D, OpenVMS mail was changed to use batch processing. If mail was sent from a non-DSNlink node to a DSNlink A node (gateway), DSNlink lost the original submitter's node name and username.

For example, prior to DSNlink Version 2.2D, information in the header of a System-Initiated Call Logging (SICL) service request had this information:

```
From:   (280280) source-node::dia$manager@dsn-node.280280.dsn
To:     DSN%SICL
Subj:   DECevent Service Request - SICL End To End Test:[S011F]
```

Beginning with DSNlink Version 2.2D, the information in the From field was from the MAIL$SERVER account as in this example:

```
From:   (280280) MAIL$SERVER@dsn-node.280280.dsn
To:     DSN%SICL
Subj:   DECevent Service Request - SICL End To End Test:[S011F]
```

Consequently, the Customer Support Center's reply mail about SICL events was sent to the MAIL$SERVER account rather than to the system that sent the mail. This error also occurred for any system that submitted a service request in batch mode from a B node. The response went to the MAIL$SERVER account on the A node instead of to the original submitter.

Currently: This problem has been fixed. Replies to service requests are sent to the node where the request originates.

Note that even with this change, some replies may not be seen by the submitter. For example, DECevent automatically forwards mail sent to DIA$MANAGER to the SYSTEM account, which can be verified with this command:

```
MAIL> SHOW FORWARD/USER=DIA$MANAGER

DIA$MANAGER has mail forwarded to SYSTEM
```

In this case, the service request acknowledgement appears in the NEWMAIL folder of the SYSTEM account. The submitter does not get the reply.

2.9.4 DSN%"SRQ$NULL Was Returned for Routing Codes That Generate an Automatic Response

Previously: When submitting a service request to a routing code that automatically responds to the service request, you received the service request acknowledgment with the NULL routing code in the From field instead of the correct routing code. This is an example of a service request acknowledgement:

```
From:   DSN%"SRQ$NULL"
To:     Gotfield
CC:
Subj:   DSNlink Acknowledgment for Service Request

 (via Dsn_Mail T3.0-IFT5; sender Gotfield@znode.282828.dsn)
Support Center:   cscabc.digital.dsn
Access Number:    282828
Routing Code:     MARKM-TEST
Subject:          Test

Your service request has been successfully created.
```

Currently: The routing code you use appears in the From field instead of NULL in the service request acknowledgement mail. For example:

```
From:   DSN%"MAIL-TEST"
To:     Gotfield
CC:
Subj:   DSNlink Acknowledgment for Service Request

 (via Dsn_Mail T3.0-EFT1; sender Gotfield@znode.282828.dsn)
Support Center:   cscabc.digital.dsn
Access Number:    282828
Routing Code:     MAIL-TEST
Subject:          Test

Your service request has been successfully created.
```

2.9.5 The Create Service Request Tutorial Did Not Appear

Previously: When you displayed the Create Service Request window and chose Tutorial from the Help menu, the following error message appeared:

```
Requested document (URL file://localhost/dsn$help/) could not be
accessed.

The information server either is not accessible or is refusing to
serve the document to you.
```

Currently: This has been fixed. The tutorial information for the Create Service Request window now appears.

2.10 SRQ Utility

The following are fixes to the SRQ utility. For a description of the utility, see the "Managing DSNlink" chapter in the *DSNlink User's Guide*.

2.10.1 The SRQ Utility's Hardware Database Could Not Be Accessed

Previously: When you used the VT Menu (which provides a way to use the DSNlink command line interface without having to enter commands), if you chose Service Request => DSNlink Create Service Request, the SRQ utility did not appear. Instead a prompt for the routing code appeared.

Currently: DSNlink now displays the SRQ utility if you choose the Service Request menu item from the DSNlink VT Menu.

If you prefer to not display the SRQ utility when you choose Service Request DSNlink Create Service Request, enter this command before invoking the VT Menu:

$ **RENAME DSN$DATA:DSN$HARDWARE_DB.DAT DSN$DATA:DSN$HARDWARE_DB.OLD**

The prompt for a routing code appears.

3
Known Problems and Restrictions

This chapter lists the known problems and restrictions in DSNlink Version 3.0.

3.1 Restrictions

3.1.1 X.25 Is Not Supported for Intra-Cluster A and B Node Communications

Restriction: The X.25 transport is not supported for communications between A and B nodes within an OpenVMS Cluster. X.25 is supported for communications between A nodes within an OpenVMS Cluster, between standalone A and B nodes that are not within an OpenVMS Cluster, and between A nodes and the DSNlink host. You can use DECnet or TCP/IP for communications between A and B nodes in an OpenVMS Cluster.

3.1.2 Do Not Use Rooted Logical Names for the Installation Device

Restriction: Do not use a rooted logical name, such as SYS$COMMON, for the device for the DSNlink directory tree. Instead, enter SYS$SYSDEVICE: or DISK$USER1: when asked for the device and directory for the DSNlink directory tree in the DSNlink Version 3.0 installation.

3.1.3 OpenVMS Installations Require That You Log In To the SYSTEM Account

You must log in to the SYSTEM account to install DSNlink on OpenVMS. For more information, see Section 1.7.5.

3.1.4 You Cannot Reply to Mail from Compaq

Restriction: When you receive mail from Compaq, 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.

3.1.5 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.

3.1.6 The Modem Daemon Must Be Started from a Privileged Account

Restriction: You must start the modem daemon 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.

3.1.7 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.

3.2 File Copy Problems

The following are problems 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 Compaq for repair, which includes the bytes beyond the EOF marker.

Workaround: If you need to copy a file to Compaq 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 Compaq.

3.2.2 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 Interactive Text Search (ITS) Problems

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

3.3.1 DECthreads Bugcheck Error

Description: Running ITS in command line mode, it did not exit cleanly. After using Ctrl/Y to end the session, this DECthreads error appeared:

```
Selected a non-ready thread -2 (0x...bd9b40)
    state blocked".
```

This PTHREAD_DUMP.LOG;1 was left in DSN$ROOT:[DAT.ZNODE]:

```
    %DECthreads bugcheck (version V3.15-262), terminating execution.
    %Reason:  selected a non-ready thread -2 (0x0000000000BD9B40) state
blocked
    %Running on OpenVMS V7.2-1 on AlphaStation 250 4/266, 384Mb; 1 CPUs
    % The bugcheck occurred at 29-AUG-2000 09:41:15.18, running image
    %  DSA2:[DSN.][EXE.ALPHA]DSNMAIN.EXE in process 210000E9 (named
    "ABIGAIL_DCL"),
    %  under username "ABIGAIL". AST delivery is enabled for all modes; no
    ASTs
    %  active. Upcalls are disabled. Multiple kernel threads are disabled.
    % The current thread sequence number is -2, at 0x00BD9B40
    %  Current thread traceback:
    %     0:  PC 0x7BBADAC8, FP 0x00BD7570, DESC 0x7BB8FBD8
    %     1:  PC 0x7BBABEB4, FP 0x00BD7640, DESC 0x7BB8F698
    %     2:  PC 0x7BBA9C9C, FP 0x00BD76B0, DESC 0x7BB8F778
    %     3:  PC 0x7BBBCCB4, FP 0x00BD7770, DESC 0x7BB922D0
    %     4:  PC 0x7BBBD528, FP 0x00BD7830, DESC 0x7BB92310
    %     5:  PC 0x001C6664, FP 0x00BD7860, DESC 0x00196110
    %     6:  PC 0x0035DF08, FP 0x00BD78B0, DESC 0x00275750
    %     7:  PC 0x000A3CB4, FP 0x00BD7920, DESC 0x0002E5D0
    %     8:  PC 0x8095D16C, FP 0x00BD7990, DESC 0x7BE362E0
    %     9:  PC 0x80068E14, FP 0x00BD7A00, DESC 0x84AD39B8
    %    10:  PC 0x800CC7D0, FP 0x00BD7A50, DESC 0x82C3A3B0
    %    11:  PC 0x800DD5B0, FP 0x00BD7AC0, DESC 0x82C3C140
    %    12:  PC 0x7B034354, FP 0x00BD7C90, DESC 0x82C3AF40
    %    13:  PC 0x7BBD9478, FP 0x00BD7CB0, DESC 0x7BB950F0
    %    14:  PC 0x7BBCD408, FP 0x00BD7CD0, DESC 0x7BB93BA0
    %    15:  PC 0x7BBCC580, FP 0x00BD7D00, DESC 0x7BB93BD8
    %    16:  PC 0x7BBBF15C, FP 0x00BD7DA0, DESC 0x7BB92098
    %    17:  PC 0x7BBAF494, FP 0x00BD7FE0, DESC 0x7BB90470
    %    18:  PC 0x00000000, FP 0x7AF05B10, DESC 0x7BB8E4B0
    %    19:  PC 0x7B03352C, FP 0x7AF09BB0, DESC 0x7B00A330
```

Workaround: None.

3.3.2 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.support.compaq.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.

3.3.3 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.

3.4 Installation and Startup Problems

3.4.1 Netscape Reduces the Colors Available to DSNlink

Description: After installing DSNlink, the DSN/WINDOWS command may result in this message:

```
$ dsn/win
    X Toolkit Warning: Urm__CW_ConvertValue: Could not convert color/pixel
    'Maroon'
    - MrmNOT_FOUND
    X Toolkit Warning: Urm__RealizeColorTable: Could not load color 'Dark
    Orchid' -
    MrmSUCCESS
```

The DECwindows interface appears with fewer colors than it should have.

This error occurs when Netscape is running when you start DSNlink. It is a color display problem that cannot be fixed in DSNlink code. problem. Netscape allocates 216 color map entries for its color table. Most older color graphics adapters have only 256 colors. When Netscape takes 216 colors, not many are left for other applications, such as DSNlink.

Workaround:

1. Exit DSNlink and Netscape.

2. Start Netscape with the -install option to make it use a private color map. For example:

   ```
   $ netscape -install
   ```

   The Netscape color map errors may appear anyway, and any other existing pleasant colors on your screen are replaced with color combinations that were rejected by Netscape for obvious reasons. However, amid the color muck, Netscape looks fine.

3. Start DSNlink.

   DSNlink starts without messages about missing colors.

Or, you can restrict the number of colors Netscape is allowed to allocate with either of these methods:

- Use the following resource setting, which, in this example, sets the maximum colors to 80:

  Netscape*maxImageColors: 80

- Use the -ncols option to specify the maximum number of colors. For example, this command specifies 128 colors:

  ```
  $ MCR NETSCAPE -ncols 128
  ```

3.5 Mail Problems

The errors in this section pertain to DSNlink mail.

3.5.1 Mail to DSN% Addresses Fails with a Timeout Error

Description: Mail to DSN% addresses can fail due to a time-out error.

Workaround: Use the DSN CREATE command. See the ITS article "[DSNlink /OpenVMS] V2.2 Maximum Amount of Time to Deliver Error from Mail" for details on how to obtain the image that corrects this problem.

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 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 Modem Problems

The following sections describe known modem problems.

3.7.1 The DSN TEST HDLC Command Does Not Complete

Description: The HDLC protocol, introduced in DSNlink Version 2.2D, prevents DSN TEST HDLC tests from completing.

Workaround: None. Do not use the DSN TEST HDLC command.

3.7.2 Modem Reset Phase Is Lengthened During Simultaneous Connections

Description: When customer and host systems make simultaneous connections to each other, for example the host begins a Network Exerciser test at the same time your system initiates a Network Exerciser test, it takes the modem about 12 seconds to reset. It should take one or two seconds.

This problem was discovered in DSNlink Version 2.2D.

Workaround: None.

3.7.3 Modem Daemon Ignores Sick and Dead Limits on Alpha Systems

Description: The modem daemon has error thresholds that place it in the sick or dead state. For example, it is in a sick state if it cannot detect a heartbeat message in three consecutive attempts or when there are too many attach errors. The daemon is considered dead if there is no heartbeat message after 20 attempts to detect it, or if the daemon exceeds an error threshold. On Alpha systems, the sick and dead limits for detecting errors are ignored. Consequently, the modem daemon cannot properly process the errors.

Workaround: None.

3.8 Network Exerciser Problems

The following are bugs in the Network Exerciser application.

3.8.1 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.

3.8.2 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.

3.8.3 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.

3.9 Route Map

The following are known bugs related to the route map.

3.9.1 Identical Learned Entries in the Route Map

Problem: When DSNlink connections are forwarded between applications on the same system, and the applications write their learned connection path in the route map, it is possible for duplicate learned entries to be entered into the route map. This problem has little effect on connection routing, but it can clutter the route map.

The following is an example of duplicate entries from backwards learning:

```
280142/zanode/*    t/zanode.cxo.dec.com/dsn_nsd    255
280142/zanode/*    t/zanode.cxo.dec.com/dsn_nsd    255
```

Workaround: Regenerate the route map using the Configuration utility, DSN$COMMAND:DSN$CONFIG.COM. This sorts the entries and removes duplicates.

3.10 Service Request Application Problems

The following are known problems in the Service Request application.

3.10.1 Some Routing Code Descriptions Are Displayed Twice

Description: When you fetch a list of your routing codes, some of the routing code descriptions appear twice. For example:

```
$ DSN FETCH ROUTING_CODES
 .
 .
 .
DIA                         DIA (DIGITAL Dial-In Access) Support

                            DIA (DIGITAL Dial-In Access) Support

DSNLINK                     DSNlink for OpenVMS, DSNlink for ULTRIX and
                              DSNlink for DIGITAL UNIX[R]: Questions with the
                              installation and use of the DSNlink service tool;
                              Modem and phone line connections; Security
                              issues; DSNlink configuration and application
                              management issues.

                            DSNlink for OpenVMS, DSNlink for ULTRIX and
                              DSNlink for DIGITAL UNIX[R]: Questions with the
                              installation and use of the DSNlink service tool;
                              Modem and phone line connections; Security
                              issues; DSNlink configuration and application
                              management issues.
  .
  .
  .
```

Workaround: None.

3.10.2 Problem Description Lines Over 255 Characters Are Truncated

Description: If you create a service request in the DECwindows Motif interface and enter the problem description without pressing the Return or Enter keys, even if the text wraps in the window, DSNlink converts the text into a single line. If you view a copy of the service request, the problem description, now a single line, is truncated after 255 characters.

Workaround: When entering a problem description in the Create Service Request Application window, press the Return or Enter key after each line of text. Make sure that lines do not exceed 256 characters.

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 Getting Help

In the DECwindows interface, use the Help menus or Help buttons to access the online help. It is displayed by the Netscape browser, which is not included in your kit. For information about downloading Netscape, see the *DSNlink Version 3.0 for OpenVMS Installation Guide*.

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.

For VMS Version 5.5-2 customers, who do not have Netscape to disply the DSNlink User's Guide, you can print the *DSNlink Version 3.0 User's Guide for the DECwindows Motif Interface*, which is included in the DSNLINK030.S save set.

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