COMPAQ

Service Tool Description

PRODUCT NAME

This paper describes the **DSNlink Version 2.2D for OpenVMS** software. For convenience, the full name is abbreviated to DSNlink.

DESCRIPTION

DSNlink is a service tool that allows customers with service contracts to receive product support electronically from their Customer Support Center. Using DSNlink, customers submit and track service requests, copy files, perform searches of technical support databases, and send mail pertaining to products for which they have service contracts. Compaq specialists respond electronically to service requests. If granted permission by the customer, specialists can also log in to the customer's system to diagnose and correct problems remotely.

DSNlink provides the communications software necessary to connect to and maintain connections between a customer's DSNlink system and the Compaq host. Furthermore, to prevent impersonation and unauthorized access, DSNlink connections undergo a rigorous cryptographic authentication and authorization process.

REQUIREMENTS FOR USING DSNlink

This service tool is available to entitled customers who have direct connections to Compaq via one of these network transports:

- TCP/IP—Direct connection capabilities such as Telnet access are required. Mail-only access is not sufficient.
- A public X.25 network—The X.25 transport is not available from all Customer Support Centers.
- DECnet (Phase IV or DECnet/OSI)
- A modem transport over PSTN or ISDN lines

Customers must meet any non-commercial use requirements imposed by their network.

WHO CAN USE DSNlink?

To use DSNlink, customers must have a service contract with Compaq that meets the requirements of their Customer Support Center. There is no additional charge for the DSNlink software. However, customers must register to use DSNlink.

APPLICATIONS

DSNlink has these applications:

- Service Request
- Interactive Text Search
- File Copy
- DSNlink Mail
- Remote Login

The following is an overview of the applications.

The Service Request Application

The Service Request application allows customers to get product support from the Customer Support Center. Customers can perform the following operations electronically using the Service Request application:

- Send a service request to Compaq
- Add information to an existing service request
- Review the work on a service request
- Obtain lists of open and closed service requests
- Obtain a list of their supported products
- Obtain a list of routing codes for their supported products

NOTE

Some Customer Support Centers cannot provide lists of closed service requests and supported products.

The Interactive Text Search Application

The Interactive Text Search application (ITS) allows customers to perform searches on the technical support databases related to their supported products. The databases have engineering change orders (ECOs), articles on solved problems, Software Product Descriptions, new product information, and so forth. ITS allows customers to perform operations such as searching databases, reading and extracting articles, and copying ECOs to their systems.

The File Copy Application

The File Copy application supports file copying by customers to Compaq and from Compaq specialists to customers. The files usually pertain to service requests or are submitted for analysis. Files can be in text or binary format.

The DSNlink Mail Application

The DSNlink Mail application allows customers and Compaq to exchange mail. Compaq uses DSNlink Mail to send these types of mail to customers:

- **Flash** mail has urgent product information, such as announcing software engineering change orders (ECOs).
- **Information** mail is general product information.
- **Business** mail explains new products and services and provides information about updates to existing products and services.
- **Survey** mail requests customers' opinions on Compaq services and product quality.

Some Customer Support Centers process service requests in DSNlink Mail rather than the Service Request application.

UTILITIES and MAINTENANCE FEATURES

DSNlink has these utilities and maintenance features:

- A **local authorizations file** allows the system manager to specify which local users have access to DSNlink applications.
- A **remote authorizations file** allows the system manager to specify which remote users have access to DSNlink applications such as the Remote Login application.
- A **history log** keeps a usage history of DSNlink applications.
- The **DSNlink Configuration** utility allows the system manager to reconfigure DSNlink transport attributes, add, remove or correct access numbers, change Support Centers, stop and start DSNlink, rebuild the route map, and deinstall DSNlink.
- The **Network Exerciser** application tests and troubleshoots the connections between your system and Compaq. DSNlink also uses it for installation verification procedures.
- DSNlink creates **server log files** for each connection Compaq makes to your system.
- The **Modem Testing utility** tests your modem components.

Customers can modify the supplied configuration file to automatically supply default values to the applications. These default values appear in the window and dialog box fields. In the command line interface, DSNlink automatically supplies values from the configuration file. Users can override the default values if desired.

USER INTERFACES

DSNlink has two user interfaces for each application:

- A windows interface based on OSF/Motif®
- A command line interface

SOFTWARE and HARDWARE REQUIREMENTS

Software Requirements:

- OpenVMS Version 6.2, 7.1, or 7.2
- Motif Version 1.2 or higher
- Network software for the chosen transport
- Modems must use MNP (Microcom Networking Protocol) class 5 error checking and data compression software

Hardware Requirements:

- An Alpha or VAX system
- If a modem is used, it must be dedicated to DSNlink
- If a DECserver is used, DECserver 700 systems are supported

DISK SPACE REQUIREMENTS

The following table shows the space required by the installed kits and the combined uncompressed kit.

Platform	Kit Size
Alpha	11,500 blocks
VAX	11,700 blocks
Uncompressed combined kit	20,100 blocks

DISTRIBUTION SOURCES

The compressed Alpha and VAX kits can be copied from these sources:

- This Compaq DSNlink Web site:

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

- This FTP directory:

  ftp.service.digital.com

GROWTH CONSIDERATIONS

The minimum hardware and software requirements for any future version of this product may differ from the minimum requirements for the current version.

DSNlink COMMUNICATIONS

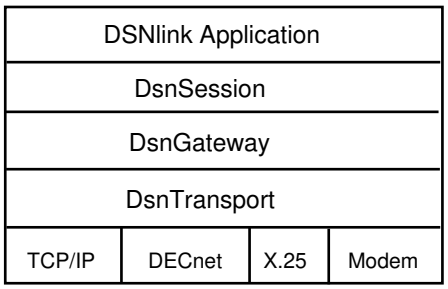
The following sections provide a high-level overview of the communication mechanisms used within DSNlink:

- An architectural overview
- Domain and node identifiers
- Protocols used by the DSNlink communication software
- Details about the use of DSNlink applications over a TCP/IP network such as the Internet

DSNlink Architectural Overview

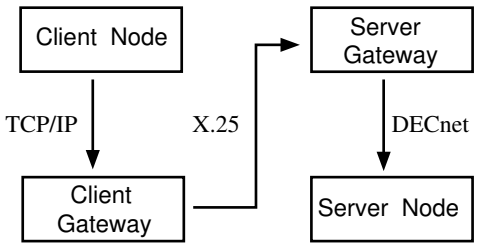
DSNlink provides secure communications even in a hostile networking environment. The architecture, a client/server model, defines five layers: DSNlink Application, DsnSession, DsnGateway, DsnTransport, and the networks. The layers are arranged as shown in Figure 1.

Figure 1
DSNlink Communications Layers



- The **DSNlink Application layer** provides services for a specific application.
- The **DsnSession layer** provides data security through compression and a three-way cryptographic challenge-response handshake. An MD5-based secret key method is used. The DsnSession layer assumes that the underlying layers provide no security. An established connection at this layer guarantees the identity of the client and server to each other.
- The **DsnGateway layer** allows an unlimited number of systems to communicate using heterogeneous protocols. Figure 2 shows gateway nodes connecting heterogeneous protocols between client and server nodes.

Figure 2
Gateways and Heterogeneous Network Protocols



The DsnGateway layer uses a routing database called the route map to manage connections.

- The **DsnTransport layer** selects the appropriate transport and resolves differences between message-oriented network protocols such as X.25 and stream-oriented protocols such as TCP/IP by providing a stream-oriented interface to the DsnGateway layer.
- The host operating system provides the networks.

DSNlink Domains and Nodes

DSNlink uses domain and node names to identify individual systems.

A DSNlink **domain name** is an enterprise-wide name used for security and obligation purposes. Compaq uses a customer's access number, obligation identifier, hardware serial number, or contract number as the DSNlink domain name. Compaq uses the word "digital" as its DSNlink domain name. Authentication keys are identified based on this source domain and destination domain relationship.

A DSNlink **node name** identifies a system within a DSNlink domain. This relationship allows multiple nodes running DSNlink to use the same domain name. A DSNlink node may exist in more than one DSNlink domain, which allows one DSNlink node to choose among multiple access numbers. Usually the DSNlink node name is the IP host name or DECnet node name of the system.

Protocols

The Application, DsnSession, and DsnGateway layers each use their own protocols to provide the necessary services. The DsnTransport layer does not add any protocol to the underlying raw transport.

- The **DsnGateway protocol** performs redirecting and forwarding functions, which provide connection failover and hopping from one network protocol to another.
- The **DsnSession protocol** provides a session context with source and destination identities. Each identity consists of a domain, node, and user tuple.
- Each **application** has its own protocol that includes an authorization check. Because the identities have been validated by the DsnSession layer, the application server uses the client's domain, node, and user DsnSession attributes.

Configuring Firewalls to Use TCP/IP with DSNlink Applications

Customers must configure their firewalls to permit communications between their systems and Compaq. The following is a list of TCP/IP ports used by DSNlink applications.

Port	Abbreviation	Application
2370	dsn_nsd	Name Services Directory
2372	dsn_mail	DSNlink Mail
2373	dsn_its	Interactive Text Search
2374	dsn_login	Remote Login
2375	dsn_netex	Network Exerciser
2376	dsn_sra	Service Request Application
2379	dsn_file	File Copy

SECURITY FOR APPLICATIONS

The following sections explain the security measures for each DSNlink application.

NOTE

Although DSNlink offers cryptographically strong authentication, DSNlink does not provide encryption.

- All applications record their activities in log files on both the customer's and Compaq's systems.
- The **Name Server Directory** application performs connection forwarding and redirecting services in the DsnGateway layer. This application accesses only the route map database. It never accepts a DsnSession layer connection.
- The **DSNlink Mail** application sends mail messages between systems. The customer's remote authorizations file must permit access by the DSNlink Mail application. The DSNlink mail server interacts only with the mail agent on the customer's system.
- The **Interactive Text Search** (ITS) application allows a customer to access articles in Compaq's technical support databases. This is a customer-to-Compaq connection only. DSNlink cannot connect to a customer's system using ITS.
- The **Remote Login** application allows a Compaq specialist to log in to a customer's system. Before logging in, the customer provides the specialist with a user name and password and changes the DSNlink remote authorizations file to enable the Remote Login application. The DsnSession layer performs authentication.
- The **Network Exerciser** application performs simple loopback tests. The Network Exerciser accesses only its log file on the customer's system. Customers can control access by the application with the remote authorizations file.
- The **Service Request** application allows customers to send electronic service requests to Compaq. Specialists reply using DSNlink Mail. Compaq cannot connect to a customer's system with the Service Request application.
- The **File Copy** application transfers files between a customer's system and the DSNlink host system. Compaq cannot copy files to a customer's system unless the customer's remote authorizations file permits it. If access is allowed, Compaq copies files to a specific incoming files directory only.

ORDERING INFORMATION

Contact your Compaq Account Support Representative or call your local Customer Support Center.

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