COMPAQ

Software Product Description

PRODUCT NAME: Compaq DECnet™ SNA Gateway for Synchronous Transport, Version 1.3 **SPD 25.C6.06**

DESCRIPTION

Compaq DECnet SNA Gateway for Synchronous Transport (DECnet SNA Gateway-ST) is a member of the DECnet SNA Gateway product family. This family consists of hardware and software products that allow users to exchange information and share resources bidirectionally between suitably configured Compaq systems in a DECnet environment and IBM® systems in a Systems Network Architecture (SNA) environment.

Users on one or more Compaq systems can simultaneously perform functions such as accessing IBM application programs or other system resources, act as a 3270 display station, perform data transfer between Compaq and IBM file systems, exchange electronic documents and mail messages, submit jobs to IBM batch subsystems acting as a Remote Job Entry workstation, and implement distributed, task-to-task application programs that run between Compaq and IBM systems.

The DECnet SNA Transport product set provides a means of connecting DECnet and SNA networks that can be used by a wide variety of Compaq-supplied access routines running on OpenVMS Alpha, OpenVMS VAX, and Tru64 UNIX operating environments. DECnet SNA Gateway-ST is managed and configured using the DECnet SNA gateway management software that is part of the *Compaq DECnet SNA Gateway-ST* product. For additional information on the various access routines and their capabilities, see the Optional Software section of this Software Product Description.

Compaq DECnet SNA Gateway-ST is part of both the DECnet and the SNA networks. Architecturally, it is a DECnet Phase IV end node implementation to DECnet and a Physical Unit (PU) Type 2.0 to SNA. It provides bidirectional network access between DECnet and SNA networks.

Compaq DECnet SNA Gateway-ST works with either of the DEC™ MicroServer hardware platforms. The DEC MicroServer (DEMSA-S*) provides connectivity for up to four synchronous lines and the DEC MicroServer-SP (DEMSB-S*) provides a single synchronous line connection.

Note: In this document, the term "DEC MicroServer" refers to either hardware device, unless specifically stated otherwise. The DEC MicroServer hardware devices are no longer available from Compaq, but are still supported. For details, please contact your local Compaq representative.

The DEC MicroServer provides physical connectivity to an Ethernet local area network (LAN) and, when used in conjunction with *Compaq DECnet SNA Gateway-ST* software, it provides SNA connectivity to any DECnet system in a DECnet network.

This product can be used in networks currently using other DECnet SNA Gateway systems and can share access routines, Ethernet LANs, and load host resources with those systems.

Compaq DECnet SNA Gateway-ST software is downline loaded into the DEC MicroServer system. The gateway management software, which is part of *Compaq DECnet SNA Gateway-ST*, is required for the OpenVMS node designated as the load host for *Compaq DECnet SNA Gateway-ST*. Other DECnet systems wishing access to the SNA network through the DEC MicroServer should be configured with the appropriate DECnet SNA access routines.

Compaq DECnet SNA Gateway-ST V1.3 supports SNA synchronous communications using the SDLC protocol. The number of links supported depends on the hardware unit being used (DEC MicroServer or DEC MicroServer-SP), line speeds required by the customer, and the electrical interface used. Table 1 shows the configuration matrix for connecting to the SNA network.

Table 1
Number of Synchronous Lines Supported

	Maximum Line Speed (Kbps)			
Electrical Interface	**19.2**	**56/64**	**128**	**256**
DEC MicroServer				
RS232-D/V.24	4	–	–	–
V.35	4	4	2	1
DEC MicroServer-SP				
RS232-D/V.24	1	–	–	–

Lines connected to the DEC MicroServer or DEC MicroServer-SP should be configured according to guidelines specified in the *Compaq DECnet SNA Gateway-ST* user documentation.

Features

- NRZI support — Signaling mode for the line(s) from the Gateway to the IBM system can be set to NORMAL or NRZI (non-return-to-zero-inverted) so that line characteristics match those set in the IBM ACF/NCP LINE macro.
- Support for FULL duplex transmission — Circuits can be set FULL duplex to allow data to be sent and received simultaneously on full duplex lines. This setting corresponds to DATMODE=FULL in the IBM ACF/NCP PU macro.
- Support for RECFMS — The Gateway can send Record Formatted Maintenance Statistics (RECFMS) messages to the IBM system. These messages contain counters requested by the IBM Network Problem Determination Application (NPDA) using Request Maintenance Statistics (REQMS) messages. Not all RECFMS messages are supported by the Gateway. Refer to the DECnet SNA Gateway-CT and -ST Management user documentation for more information.
- A simplified configuration procedure — After installing Gateway-ST gateway management software, a single configuration procedure is run which creates command procedures that define items for the DECnet database on the load host, and the SNA and DECnet databases on the Gateway.
- Extended SDLC — Support for Extended Response Mode SDLC (Modulo 128).

When Using DEC MicroServer Hardware

- Synchronous line support — *Compaq DECnet SNA Gateway-ST* supports up to four SDLC connections at speeds of 64 Kbs/circuit or less, two connections at 128 Kbs/circuit, or a single connection at 256 Kbs.
- Session support — *Compaq DECnet SNA Gateway-ST* supports up to 128 concurrent (Logical Unit) sessions for selected access routines.

When Using DEC MicroServer-SP Hardware

- Synchronous line support — *Compaq DECnet SNA Gateway-ST* supports one SDLC connection at up to 19.2 Kbps.
- Session support — *Compaq DECnet SNA Gateway-ST* supports up to 32 concurrent (Logical Unit) sessions for selected access routines.

Loading *Compaq DECnet SNA Gateway-ST* Software

The DEC MicroServer requires software to be loaded into memory before DECnet SNA Gateway operation. *Compaq DECnet SNA Gateway-ST* software is downline loaded into the hardware across the Ethernet LAN from an OpenVMS Alpha or OpenVMS VAX system acting as a DECnet load host system.

Most Alpha and VAX systems running OpenVMS software are supported as Ethernet load hosts for *Compaq DECnet SNA Gateway-ST*. Supported OpenVMS configurations are described in the OpenVMS Operating System for Alpha and VAX Software Product Description (SPD 25.01.xx).

DECnet SNA Gateway Management Software

DECnet SNA gateway management software, which is part of the DECnet SNA Gateway-ST, provides configuration and management functions for use with *Compaq DECnet SNA Gateway for Synchronous Transport*. This management software allows the gateway administrator to configure the software executing in the *Compaq DECnet SNA Gateway-ST* system. The administrator can set up parameters relating to lines, circuits, physical units, logical units, and other key variables necessary for network-to-network communications between the DECnet and SNA networks. In addition, the software allows the administrator to manage and diagnose problems related to the *Compaq DECnet SNA Gateway-ST*.

DECnet SNA gateway management software is required on the Compaq load host node for *Compaq DECnet SNA Gateway-ST*. It must also be present on any other OpenVMS node where users want to manage *Compaq DECnet SNA Gateway-ST* and the DEC MicroServer.

It is strongly recommended that the software also be installed on OpenVMS systems in order to facilitate debugging functions where IBM Interconnect application programs are developed using the DECnet SNA Programming Interface products.

Gateway management software includes DECnet style network management tools for configuring, controlling, monitoring, and troubleshooting *Compaq DECnet SNA Gateway-ST*. These activities are generally performed by the Compaq system manager responsible for the designated load host node. Most management functions are performed from a node on the Compaq network rather than at or on the Gateway itself.

Management of the DECnet SNA Gateway-ST should be viewed as part of the Compaq environment, while management of the synchronous circuits connecting the DECnet SNA Gateway to the IBM network is a joint responsibility of the IBM and Compaq system managers.

DECnet SNA gateway management software allows a Compaq system operator to bootstrap or restart a DECnet SNA Gateway remotely and provide configuration and initialization facilities for the DECnet SNA Gateway.

Problem Isolation and Determination Tools for the Gateway

In addition to event logging and error counters, a wide range of fault isolation tools are included.

Trace capabilities SNATRACE and NETTRACE for OpenVMS are provided with *Compaq DECnet SNA Gateway-ST* to help debug application programs as well as assist in identifying system problems. An operator can run a trace at the Circuit, Physical Unit (PU), or Session level, and then format the data on a specified Compaq system. The trace features are helpful in identifying an error for remedial action.

A snapshot monitoring utility is provided to display on Compaq host-controlled terminal the status of the gateway's buffer availability, the number of SNA sessions currently in progress, and other information that pertains to both the DECnet and SNA network.

If an irrecoverable error should occur during operation of the DECnet SNA Gateway system, a memory image may be dumped to a designated Ethernet-attached Alpha or VAX host. This memory image may then be provided to your Compaq support personnel for problem diagnosis.

INSTALLATION

Only experienced customers should attempt installation of this product. Installation services from Compaq recommended for all other customers. These services provide for installation of the software product by an experienced software specialist.

HARDWARE REQUIREMENTS

In Ethernet LANs

- Alpha and VAX system configurations as specified in the OpenVMS Operating System for Alpha and VAX Software Product Description (SPD 25.01.xx) to act as load host
- DEC MicroServer (DEMSA-Ax or DEMSB-Ax) and appropriate adapter cables as described in the Communications Hardware Requirements section of this Software Product Description
- Bell System compatible modems, or, in Europe, PTT-approved modems
- VT™ series terminal for diagnostic use

Processors Supported

For information about supported processors, refer to the OpenVMS Operating System for Alpha and VAX Software Product Description (SPD 25.01.xx).

Processors Not Supported

VAX-11/730, VAX-11/750, VAX-11/780, VAX-11/782, VAX-11/785, VAXstation 8000

Disk Space Requirements (Block Cluster Size = 1)

Disk space required for installation:

OpenVMS Alpha	5,185 blocks (2,593 KB)
OpenVMS VAX	5,185 blocks (2,593 KB)

Disk space required for use (permanent):

OpenVMS Alpha	3,536 blocks (1,768 KB)
OpenVMS VAX	2,674 blocks (1,337 KB)

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

In addition to disk space allocated to *Compaq DECnet SNA Gateway-ST* software, some disk space (approximately 5,000 blocks) should be reserved for any dump files that may be generated by *Compaq DECnet SNA Gateway-ST*. The location of these dump files is determined by the system administrator. In addition, each Gateway-ST configured will require additional disk space (at least 40 blocks (20 KB)) for configuration scripts.

Communications Hardware Requirements

DEC MicroServer

Compaq DECnet SNA Gateway-ST software runs on the DEC MicroServer unit, which is supported in the following forms:

- DEMSA-AA for use with 120V AC power supplies
- DEMSA-AB for use with 240V AC power supplies

The DEC MicroServer has a built-in LAN controller but needs a suitable connection to connect to the customer's LAN, together with any necessary extension cables.

The DEC MicroServer uses adapter cables to provide the necessary interchange circuits at the appropriate electrical interface types and ISO standard connections for each synchronous line. One of these cables is needed for each line used. Table 2 shows the cable numbers for each of the electrical interface types.

Table 2
DEC MicroServer Adapter Cables

Electrical Interface	Adapter Cable	Connector/ Pinout
RS232-D/V.24	BS19D-02	ISO 2110
V.35	BC19F-02	ISO 2593

The BS19D-02 cable provides the RS232-D/V.24 interface, but is supplied with an adapter that allows it to be used for RS232-C as well.

DEC MicroServer synchronous ports do not provide clock signals; an external clock source (such as a modem or modem eliminator) is required.

DEC MicroServer-SP

Compaq DECnet SNA Gateway-ST software runs on the DEC MicroServer-SP unit, which is supported in the following forms:

- DEMSB-AA for use with 120V AC power supplies
- DEMSB-AB for use with 240V AC power supplies

The DEC MicroServer-SP has a built-in LAN controller but needs a suitable connection to connect to the customer's LAN, together with any necessary extension cables.

The DEC MicroServer-SP uses adapter cables to provide the necessary interchange circuits at the appropriate electrical interface types and ISO standard connections for each synchronous line. Table 3 shows the cable numbers for the electrical interface types supported.

Table 3
DEC MicroSever-SP Adapter Cables

Electrical Interface	Adapter Cable	Connector/ Pinout
RS232-D/V.24	BS19D-02	ISO 2110

The BS19D-02 cable provides the RS232-D/V.24 interface, but is supplied with an adapter that allows it to be used for RS232-C as well.

The DEC MicroServer-SP synchronous port does not provide clock signals; an external clock source (such as a modem or modem eliminator) is required.

OPTIONAL HARDWARE

Additional adapter cables (with the necessary extension cables and modems) to make use of additional synchronous lines on the DEC MicroServer, up to the maximum defined in the SPD.

SOFTWARE REQUIREMENTS

OpenVMS Operating System for Alpha and VAX, Version 6.2, 7.1 (VAX), 7.1-2 (Alpha), 7.2, 7.2-1 (Alpha), 7.3 (SPD 25.01.xx).

Using SNA Gateway-ST software requires a networking product appropriate for the version of OpenVMS.

Networking options include:

- DECnet for OpenVMS (Phase IV, SPD 48.48.xx)
- DECnet-Plus (Phase V, SPD 50.45.xx for Alpha, SPD 25.03.xx for VAX).

Choose a networking option appropriate for OpenVMS Versions 6.2, 7.1 (VAX), 7.1-2 (Alpha), 7.2, 7.2-1 (Alpha), or 7.3 from the following table:

OpenVMS	DECnet IV	DECnet V
6.2	6.2	6.3
7.1	7.1	7.1
7.1-2	7.1-2	7.1
7.2	7.2	7.2
7.2-1	7.2-1	7.2-1
7.3	7.3	7.3

OpenVMS Tailoring Classes

The following OpenVMS classes are required for full functionality of this layered product:

- OpenVMS Required Saveset
- Network Support

For more information on OpenVMS classes and tailoring, refer to the OpenVMS Operating System for Alpha and VAX Software Product Description (SPD 25.01.xx).

Cluster Environment

This layered product is fully supported when installed on any valid and licensed VMScluster™* configuration without restrictions. The Hardware Requirements section of this product's Software Product Description explains any special hardware required by this product.

* VMScluster configurations are fully described in the OpenVMS Cluster Software Product Description (29.78.xx) and include CI™, Ethernet, and Mixed Interconnect configurations.

OPTIONAL SOFTWARE

Table 4 lists the optional DECnet SNA access routines available for use with *Compaq DECnet SNA Gateway-ST*. For information on these products, consult the respective Software Product Descriptions.

Table 4
Access Routines

Supported on OpenVMS Alpha Systems
Compaq SNA 3270 Terminal Emulator for OpenVMS (SPD 26.84.xx)
Compaq SNA APPC/LU6.2 Programming Interface for OpenVMS (SPD 26.88.xx)
Compaq SNA Data Transfer Facility for OpenVMS (SPD 27.85.xx)
Compaq DECnet SNA Application Programming Interface for OpenVMS (SPD 26.86.xx)
Compaq DECwindows™ DECnet SNA 3270 Terminal Emulator for OpenVMS (SPD 31.58.xx)
Compaq SNA 3270 Data Stream Programming Interface for OpenVMS (SPD 26.87.xx)
Compaq SNA Printer Emulator for OpenVMS (SPD 26.70.xx)
Compaq SNA Remote Job Entry for OpenVMS (SPD 26.85.xx)
Supported on OpenVMS VAX Systems
Compaq SNA 3270 Terminal Emulator for OpenVMS (SPD 26.84.xx)
Compaq SNA APPC/LU6.2 Programming Interface for OpenVMS (SPD 26.88.xx)
Compaq SNA Data Transfer Facility for OpenVMS (SPD 27.85.xx)
Compaq DECnet SNA Application Programming Interface for OpenVMS (SPD 26.86.xx)
Compaq DECwindows DECnet SNA 3270 Terminal Emulator for OpenVMS (SPD 31.58.xx)
Compaq SNA 3270 Data Stream Programming Interface for OpenVMS (SPD 26.87.xx)
Compaq SNA Printer Emulator for OpenVMS (SPD 26.70.xx)
Compaq SNA Remote Job Entry for OpenVMS (SPD 26.85.xx)
Supported on Tru64 UNIX Systems
Compaq SNA APPC/LU6.2 Programming Interface for Tru64 UNIX (SPD 56.11.xx)
Compaq SNA LUA Programming Interface for Tru64 UNIX (SPD 70.69.xx)

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

Media and documentation for this product are available on the OpenVMS Alpha and OpenVMS VAX Software Product Libraries and Online Documentation Libraries on CD-ROM. Documentation in hardcopy format can be ordered separately.

SOFTWARE LICENSING

Users need a separate license for each DEC MicroServer unit on which they will be using *Compaq DECnet SNA Gateway-ST* (except as otherwise specified by Compaq).

The *Compaq DECnet SNA Gateway for Synchronous Transport* license applies to the DEC MicroServer unit on which the software executes.

This software is furnished only under a license. For more information about Compaq's licensing terms and policies, contact your local Compaq office.

License Management Facility Nonsupport

This product does not provide support for the OpenVMS License Management Facility. A Product Authorization Key (PAK) is not required for installation or use of this version of the product.

SOFTWARE WARRANTY

This software is provided by Compaq with a 90-day conformance to warranty in accordance with the Compaq warranty terms applicable to the license purchase.

WARRANTY LIMITATIONS

IBM Supported Configurations

This product is warranted with the IBM software configurations listed in the following table.

Table 5
IBM Software Configurations

Software Product	Version	Release
ACF/NCP/VS (for the 3745)	5	4.0
	6	3.0
	7	3.0, 4.0, 5.0, 6.0, 7.0, 8.0
NetView	3	1.0, 2.0
OS/390	2	7.0, 8.0, 9.0, 10.0
Tivoli TIME 10 NetView	1	2.0, 3.0
VM/ESA	2	3.0, 4.0
VSE/SP	3	2.0
z/OS	1	1.0

Note: Compaq will support IBM software configurations, version and release numbers, as long as support for such configurations is generally available from IBM. Other configurations may have been tested since this SPD was published. Please contact your local Compaq office for up-to-date information regarding listed configurations.

FUJITSU SUPPORT

The Fujitsu hardware and software environments listed below are supported with the following restrictions:

These configurations are supported by Compaq Japan (Compaq Computer K. K.) for installations in the Country of Japan **only** and **only** with the "F" version access routines listed below, which are available from and supported by Compaq Japan.

Please contact Compaq Japan for additional information.

Hardware

- FUJITSU FACOM M-series mainframe
- FUJITSU F2806G front end

Software

- FUJITSU NCP-G V10L20 (similar to IBM's ACF/NCP)
- FUJITSU OS IV/F4 MSP E20 (similar to IBM's MVS/XA)
- FUJITSU VTAM-G V10L20 (similar to IBM's VTAM)

"F" Access Routines

The following products provide local language support and are supported by Compaq Japan for use with Fujitsu environments in Japan.

F Access Routines	Version	SPD (Japan)
F6650 Terminal Emulator	1.0	27.J3.xx
F6650 Data Stream Programming Interface	1.0	27.J4.xx
DECwindows F6650 Terminal Emulator for VMS	1.0	27.T7.xx
F-RJE	1.0	27.J5.xx
F-PRE	1.0	26.T8.xx

ORDERING INFORMATION

Note: The license and documentation for this product are the same for both the OpenVMS Alpha and OpenVMS VAX platforms.

Software License: QL-S01A9-AA

Software Documentation: QA-S01AA-GZ

Media and documentation for this product are available on the OpenVMS Alpha and OpenVMS VAX Software Product Libraries and Online Documentation Libraries on CD-ROM. Documentation in hardcopy format can be ordered separately.

SOFTWARE PRODUCT SERVICES

Installation

Installation provides comprehensive installation and of Compaq and non-Compaq hardware, software, and networks products. These products include systems, servers, upgrades, workstations, terminals, PCs, peripherals, network equipment, operating systems, and layered products. Optional pieces of the Installation offer include site planning and preparation, orientation, and other projects which are based on the installation of computer equipment (e.g. relocation services).

License Subscription

License Subscription provides the license rights to use all new versions of those products, which are released during the contract period. Also included are the rights to use certain server-resident products whose license is included in a corresponding client license.

Telephone Software Support

Software Support provides software problem identification and resolution and operational support for system managers, technical support/helpdesk personnel who manage Compaq and popular multivendor server software in either a standalone or networked environment. This service provides access both to technical resources to assist in problem diagnosis and resolution and to Compaq's information database. This combination of support resources will address system management questions and inquiries on a wide variety of topics including information on the latest product features, known problems and available solutions, and operational advice and assistance to help the system manager, system administrator better manage its information technology environment.

Please contact your local Compaq office for additional information on specific services in your area.

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