COMPAQ

Software Product Description

PRODUCT NAME: Compaq SNA Domain Gateway, Version 2.1A **SPD 38.69.04**

DESCRIPTION

Compaq SNA Domain Gateway (Domain Gateway) is a member of Compaq's family of Compaq SNA network transport products. This family consists of hardware and software products that connect suitably configured networked systems in a Compaq environment with suitably configured IBM systems in a Systems Network Architecture (SNA) environment. With appropriate OpenVMS, Tru64 UNIX, and DECnet-Plus access routines, users can exchange information and share resources between Compaq and IBM networked systems in a bidirectional manner.

The Domain Gateway is managed and configured using the management software that is part of the Domain Gateway product.

The Domain Gateway supports TCP/IP and DECnet-Plus network protocols. Networks using these protocols are referred to as the non-SNA networks. The Domain Gateway is part of both the SNA network and the non-SNA network. Architecturally, it is a DECnet-Plus and/or TCP/IP end node and an SNA Physical Unit Type 5 (PU T5) node. The Domain Gateway appears to the SNA network as an SNA domain that contains one subarea.

The *Compaq SNA Domain Gateway* software is supported on the DEC ChannelServer II hardware platform [DESNB] and the DEC MicroServer hardware platform [DEMSA]. When used with the Domain Gateway software, each of these hardware products provides SNA connectivity to any DECnet-Plus or TCP/IP system in the non-SNA network.

Note: The DEC ChannelServer II [DESNB] and DEC MicroServer [DEMSA] hardware platforms are no longer available from Compaq. However, hardware and software support for these products will continue. For details, please contact your local Compaq representative.

The DEC ChannelServer II hardware unit connects directly to an Ethernet local area network (LAN), using a standard Ethernet transceiver cable, and to an IBM S/370 Block Multiplexer channel, using a single set of Bus and Tag connectors. The combination of the Domain Gateway software and the DEC ChannelServer II hardware unit is referred to as a Domain Gateway-CT.

The DEC MicroServer hardware unit connects directly to an Ethernet LAN, using a standard Ethernet transceiver cable. The DEC MicroServer hardware unit connects to up to four front-end communications controllers (37**-style), using standard synchronous data lines and modems. These front-end processors must all be in the same SNA network. The combination of the Domain Gateway software and the DEC MicroServer hardware unit is referred to as a Domain Gateway-ST.

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

The Domain Gateway supports a single physical unit (PU) with its own System Services Control Point (SSCP). The Domain Gateway supports up to 16 explicit routes for each destination subarea in the SNA network, supports IBM Class of Service capability, and allows up to eight virtual routes (each of which can have three transmission priority levels) for each explicit route. The Domain Gateway-CT supports a single transmission group (TG). The Domain Gateway-ST supports multiple (up to four) TGs and multilink TGs.

The Domain Gateway-CT supports the configuration of up to 1024 logical units (LUs), and the Domain Gateway-ST supports up to 128 LUs. All LUs can have multiple sessions. Table 1 shows the maximum number of active LU-LU sessions supported by the two hardware platforms.

Table 1
Maximum Sessions Supported by the Domain Gateway

Hardware Unit	Maximum Active Sessions
DEC ChannelServer II	1024
DEC MicroServer	32 or 128 (depending on software license)

Because the Domain Gateway is a PU T5 implementation, it enables DECnet-Plus or TCP/IP based applications to be either primary logical units (PLUs) or secondary logical units (SLUs) when communicating with IBM applications and peripheral devices. This means that suitably configured Compaq based applications can be interactively accessed from IBM SNA networked 3270 devices.

Features Common to All Domain Gateways

- Implements an SNA PU T5
- Multiple session support for each LU
- Supports applications acting as either PLUs or SLUs
- Provides access to OpenVMS Alpha, OpenVMS VAX, and Tru64 UNIX applications from SNA 3270 devices
- Implements IBM Class of Service support
- Supports SNA explicit routes, virtual routes, and transmission priority levels
- Supports a wide variety of access routines
- Supports IBM MVS, VM, and VSE systems
- Gateway Configuration Utility simplifies installation and configuration
- Gateway Management Utilities simplify management and troubleshooting
- Supports SNA-initiated outbound sessions
- DECnet-Plus and/or TCP/IP end node implementation
- Access from DECnet-Plus or TCP/IP systems
- TN3270 Server support

Features Unique to the Domain Gateway-CT

- Supports high-bandwidth communication using a block multiplexer channel attachment to an IBM mainframe
- Supports up to 1024 active sessions
- Is upward compatible with *Compaq SNA Gateway for Channel Transport*

Features Unique to the Domain Gateway-ST

- Supports SNA synchronous communications using the SDLC protocol
- Supports SDLC's Extended Response Mode, allowing a window modulo of 128
- Supports NRZI signaling mode on its synchronous data lines. This allows the Domain Gateway to support IBM data lines coded with either the NORMAL or NRZI option for the IBM NCP LINE resource definition
- Supports full duplex transmission on its synchronous data lines. This allows data to be sent and received simultaneously. This setting corresponds to the DATMODE = FULL option for the IBM NCP PU resource definition
- Supports up to 128 active sessions (depending on software license)
- Is upward compatible with *Compaq SNA Gateway for Synchronous Transport*
- Supports the line configurations listed in Table 2

Table 2
Supported DEC MicroServer Line Configurations

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

Loading *Compaq SNA Domain Gateway* Software

The Domain Gateway software is downline loaded into the DEC ChannelServer II or DEC MicroServer product over the Ethernet LAN from an OpenVMS Alpha, OpenVMS VAX, or Tru64 UNIX system, acting as DECnet-Plus load hosts. Most OpenVMS Alpha, OpenVMS VAX, and Tru64 UNIX systems can be used as Domain Gateway load hosts. The Hardware Requirements section of this Software Product Description describes valid configurations.

Other networked systems requiring access to the SNA environment through the Domain Gateway should be configured with the appropriate SNA access routines.

When loaded on the DEC ChannelServer hardware unit, the Domain Gateway appears to the SNA network as an IBM 3088 Channel-to-Channel Adapter (CTCA). System programmers configure the IBM channel address as a 3088 device according to specifications listed in both the hardware and software user documentation.

When loaded on the DEC MicroServer hardware unit, the Domain Gateway appears to adjacent front-end processors as another front-end processor and appears to IBM hosts in the SNA network as another IBM host. IBM system programmers should configure the adjacent front-end processors and adjacent IBM hosts according to specifications listed in both the hardware and software user documentation.

Components

The *Compaq SNA Domain Gateway* software includes two software components: the Domain Gateway Load Host software (with its Configuration Utility) and the Domain Gateway Management software.

Domain Gateway Load Host Software

The Domain Gateway Load Host software includes the system image that is downline loaded to one of the supported hardware units and the Configuration Utility that provides a convenient method for configuring the Domain Gateway.

The Configuration Utility allows Domain Gateway managers to save answers and to modify discrete parts of the configuration. The Configuration Utility can also read path definition files created by IBM network definition utilities and use that information in the Domain Gateway configuration.

Because the Domain Gateway supports multiple sessions per LU, the Domain Gateway manager can configure a single LU for the access routines that support multiple sessions, thus reducing configuration time.

Most Tru64 UNIX, OpenVMS Alpha, and OpenVMS VAX systems can serve as Domain Gateway load hosts.

Domain Gateway Management Software

The Domain Gateway Management software includes DECnet-Plus style network management tools for configuring, controlling, monitoring, and troubleshooting the Domain Gateway. The Domain Gateway manager can set up or modify parameters relating to routes, physical units, logical units, and other key variables necessary for network-to-network communications between the SNA and non-SNA networks. In addition, the Domain Gateway Management software allows the manager to diagnose and solve most problems related to the Domain Gateway. These DECnet style network management tools are also available in a TCP/IP-only environment.

Although all management of the Domain Gateway is performed from a gateway management node in the non-SNA network, the management of the Domain Gateway's SNA components is conceptually part of the management of the IBM SNA network. Therefore, the management of the routes and the data links connecting the Domain Gateway to the IBM network is the joint responsibility of the IBM system or network programmer and the Domain Gateway manager.

The Domain Gateway Management software includes support for Network Control Language (NCL) commands, a monitoring utility (SNAP), and Common Trace Facility (CTF) analysis routines. The SNAP utility displays the status of the Domain Gateway's buffer availability, the number of SNA sessions in progress, and information about the non-SNA and SNA networks. The CTF analysis routines help debug application programs and assist in identifying system problems by capturing and analyzing multiprotocol data. CTF can be used at the transmission group, virtual route, logical unit, or session level.

The Domain Gateway Management software resides on a Domain Gateway load host system or, optionally, on additional nodes called Domain Gateway management nodes.

Most Tru64 UNIX, OpenVMS Alpha, and OpenVMS VAX systems can serve as Domain Gateway management hosts.

Access Routines

OpenVMS and Tru64 UNIX Compaq access routines can use the Domain Gateway. The Domain Gateway supports Compaq-supplied access routines as either SLUs or PLUs. For example, an application written for *Compaq SNA 3270 Applications Services* access routine could enable 3270 terminals in an SNA network to connect to applications on OpenVMS systems. The Domain Gateway works with all of the Compaq SNA access routines. However,the Domain Gateway does not have a Remote Job Entry (RJE) server. Instead, the Compaq SNA RJE access routine uses an OpenVMS based RJE server. For additional information about supported access routines, see the Optional Software section of this Software Product Description.

INSTALLATION

Compaq recommends that a customer's first purchase of this software product include Compaq Installation Services. These services provide installation of the software by an experienced Compaq installation specialist.

HARDWARE REQUIREMENTS

In Ethernet LANs

- Alpha or VAX system configuration as specified in the relevant operating system Software Product Description to act as load host
- DEC ChannelServer II or DEC MicroServer as described in the Communications Hardware Requirements section of this Software Product Description
- VT series terminal for diagnostic use (Domain Gateway-CT only)

Processors Supported

For information about supported processors, refer to the Software Product Descriptions for the Tru64 UNIX Operating System (SPD 46.61.xx for V4.x, SPD 70.70.xx for V5.x) and the OpenVMS Operating System for Alpha and VAX (SPD 25.01.xx).

Processors Not Supported

MicroVAX I, VAXstation I, VAX-11/725, VAX-11/782, VAXstation 8000

Disk Space Requirements (Block Cluster Size = 1)

Disk space required for installation:

OpenVMS Alpha	12,000 blocks (6 MB)
OpenVMS VAX	37,000 blocks (19 MB)
Tru64 UNIX	5 MB

Disk space required for use (permanent):

OpenVMS Alpha	9,000 blocks (5 MB)
OpenVMS VAX	36,000 blocks (17 MB)
Tru64 UNIX	5 MB

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 the Domain Gateway software, some disk space (approximately 8K to 10K blocks) should be reserved for any dump files that may be generated by the Domain Gateway. The location of these dump files is determined by the system administrator. In addition, each Domain Gateway configured will require additional disk space for configuration scripts (upwards of 40 blocks [20 KB]).

Communications Hardware Required

Domain Gateway software runs on two hardware platforms: the DEC ChannelServer II and the DEC MicroServer.

DEC ChannelServer II

The DEC ChannelServer II hardware unit is no longer available, but is supported by the Domain Gateway software in the following forms:

- DESNB-AA for use with 120 V ac power supplies
- DESNB-A3 for use with 240 V ac power supplies

Each DEC ChannelServer II hardware unit has a built-in Ethernet LAN controller, but needs a suitable connection to connect to the customer's Ethernet LAN along with any extension cables.

In addition, S/370 Bus and Tag cables (with terminators, if appropriate) are required for connection into the S/370 system.

Note: A raised-floor environment is required for installation of a DEC ChannelServer II system.

DEC MicroServer

The DEC MicroServer is no longer available, but is supported by the Domain Gateway software in the following forms:

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

The DEC MicroServer-SP is no longer available, but is supported by the Domain Gateway software in the following forms:

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

Each DEC MicroServer hardware unit has a built-in Ethernet LAN controller, but needs a suitable connection to connect to the customer's Ethernet LAN along with any extension cables.

Each DEC MicroServer hardware unit uses adapter cables to provide the necessary interchange circuits at the appropriate electrical interface types and ISO standard connections for each synchronous line. The DEC MicroServer supports up to four synchronous lines; therefore, it requires up to four adapter cables. Table 3 shows the cable number for each of the supported electrical interfaces.

Table 3
DEC MicroServer Adapter Cables

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

IBM Hardware Support

The DEC ChannelServer II hardware has been tested and warranted with the following IBM and PCM hardware configurations:

- IBM 3044 Channel-Extender
- IBM 3090 (All models)
- IBM ES/9000 (All models)
- IBM OS/390
- Amdahl 5860
- Amdahl 5870
- Amdahl 5990-700
- Amdahl 5990-1400

Note: The Amdahl 5890 is not supported with the IBM 3044 Channel Extender. The DEC ChannelServer II hardware is supported on the ESCON converter (9034-1).

OPTIONAL HARDWARE

None

SOFTWARE REQUIREMENTS

OpenVMS

OpenVMS Operating System for Alpha and VAX, Version 6.2, 7.1 (VAX), 7.1-2 (Alpha), 7.2, 7.2-1 (Alpha), or 7.3 (SPD 25.01.xx).
Using *Compaq SNA Domain Gateway* software requires a networking product appropriate for the version of OpenVMS. Networking options include:

- TCP/IP Services for OpenVMS (SPD 46.46.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	TCP/IP	DECnet V
6.2	4.2	6.3
7.1	5.1	7.1
7.1-2	5.1	7.1
7.2	5.1	7.2
7.2-1	5.1	7.2-1
7.3	5.1	7.3

Tru64 UNIX

A Tru64 UNIX operating system environment consisting of the following:

- Tru64 UNIX V4.0D or later (SPD 46.61.xx for V4.x, SPD 70.70.xx for V5.x)
- DECnet-Plus for Tru64 UNIX (SPD 41.92.xx)

Choose a version of DECnet-Plus appropriate for Tru64 UNIX versions as follows:

Tru64 UNIX	DECnet-Plus
V4.0D or higher	V4.0C
V5.0 or higher	V5.0A

For TCP/IP only environments on OpenVMS and Tru64 UNIX

For a TCP/IP-only environment, the following DECnet-Plus subsets are required for management and downline loading of the gateway:

- CTF User Environment
- CTF Collector Components

- Installed WAN Utilities
- DECnet-Plus Network Management
- DECnet-Plus MOP Utilities
- DECnet-Plus Base Components
- DECnet-Plus Datalink Components

A DECnet-Plus license is not required.

OPTIONAL SOFTWARE

Table 4 lists the optional SNA access routines available for use with *Compaq SNA Domain Gateway*. 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 Data Transfer Facility for Tru64 UNIX (SPD60.54.xx)
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)
Compaq SNA TN3270-C for Tru64 UNIX (SPD 64.89.xx)

OpenVMS Tailoring

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).

OpenVMS Cluster Environment

This layered product is fully supported when installed on any valid and licensed VMScluster* configuration without restrictions. The Hardware Requirements sections of this product's Software Product Description detail 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.

GROWTH CONSIDERATIONS

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

DISTRIBUTION MEDIA

This product is distributed on the Compaq CD-ROM Software Product Library for OpenVMS Alpha, OpenVMS VAX, and Tru64 UNIX.

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	6	3.0
	7	4.0
ACF/VTAM	4	3.0, 4.0
OS/390	2	7.0, 8.0, 9.0, 10.0
VM/ESA	2	3.0, 4.0
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.

ORDERING INFORMATION

Software Licenses:

QL-MKHA9-AA	1024-session license for use with the DEC ChannelServer II hardware unit
QL-23DA9-BG	32-session license for use with the DEC MicroServer hardware unit
QL-23DA9-BR	128-session license for use with the DEC MicroServer hardware unit

Software Documentation:

QA-MKHAA-GZ	Documentation-only kit (Media for this product is via the Compaq CD-ROM Software Product Library for OpenVMS Alpha, OpenVMS VAX, and Tru64 UNIX)

* Denotes variant fields. For additional information on available licenses, services, and media, refer to the appropriate price book.

SOFTWARE LICENSING

Customers need a separate license for each hardware unit they load with the Domain Gateway software (except as otherwise specified by Compaq). The *Compaq SNA Domain Gateway* license applies to the hardware unit on which the software executes, not to the load host processor on which the software is configured.

The single Domain Gateway license agreement includes the right to install and configure the product on a backup load host, in standby mode, for downline loading the Domain Gateway in case of a failure at the primary load host. This backup load host installation requires duplicate installation of the primary Product Access Key (PAK).

Under the terms of the software license, the Domain Gateway management utilities that are included in this product (NCL commands, SNAP, and CTF analysis routines) may be installed freely on alternate Gateway management nodes in addition to the load host. A PAK is not necessary to install or execute the management utilities.

This software is furnished under the licensing provision of Compaq Computer Corporation's Standard Terms and Conditions. For more information about Compaq's licensing terms and policies, contact your local Compaq representative.

License Management Facility Support

This product supports the License Management Facility on OpenVMS and Tru64 UNIX.

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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