



# Software Product Description

**PRODUCT NAME: HP SNA Application Programming  
Interface for OpenVMS, Version 2.7**

**SPD 26.86.10**

This SPD describes *HP SNA Application Programming Interface for OpenVMS*, which is available for the OpenVMS 164, OpenVMS Alpha and OpenVMS VAX platforms. All information applies to all platforms unless otherwise indicated.

## DESCRIPTION

The *HP SNA Application Programming Interface for OpenVMS* (API) is a layered software product that allows user-written applications running on suitably configured OpenVMS systems within a DECnet or TCP/IP network or on suitably configured OpenVMS systems within an OpenVMS SNA environment to exchange information with cooperating applications on an IBM host. The API software exists in the OpenVMS system as a shareable image. Access between the cooperating HP and IBM applications is via one of the following SNA server or gateway products:

### *TCP/IP or DECnet Connections*

- *HP SNA Peer Server*
- *HP SNA Domain Gateway*
- *HP SNA Access Server for Windows NT®*
- *HP SNA Server for OpenVMS Alpha*, a layered product that supports local access as well as TCP/IP and DECnet clients

### *DECnet Only Connections*

- *HP DECnet SNA Gateway for Synchronous Transport*
- *HP DECnet SNA Gateway for Channel Transport*

- *HP SNA Server for OpenVMS VAX*, an OpenVMS VAX layered product that supports local access as well as remote DECnet clients

## Features

The *HP SNA Application Programming Interface for OpenVMS* (API) is a collection of subroutines designed to provide an easy-to-use interface for the OpenVMS application programmer who has a specific need to interface to an IBM application subsystem. It supports many different types of sessions between OpenVMS applications and applications running on an IBM host.

API implements all of the path control layer and portions of the transmission and data flow control layers of SNA. The interface supports a number of different applications, each of which uses the SNA function management, data flow control, and transmission control layers in a different way. API is not limited to supporting a particular application, such as 3270 terminals or Remote Job Entry (RJE) workstations; the supported session types are Logical Unit types 0, 1, 2, and 3, using the FM and TS profile types 3 and 4, as described in the product documentation.

API provides extensive parameter checking, state machine management, and other high-level services, relieving the OpenVMS application programmer of tedious protocol details such as state machine processing or "standard" SNA message format checking. The interface appears to the OpenVMS application as a set of subroutines that it calls to request the following operations:

- Establish an SNA session with an application running on an IBM host

- Respond to a session request initiated by an IBM application
- Reestablish a session if the connection is broken
- Disconnect from a session
- Receive messages from an IBM host on the normal or expedited flow
- Send messages to an IBM host on the normal or expedited flow
- Provide positive or negative responses to messages transmitted from an IBM host

### Asynchronous Event Notification

API provides a mechanism for an OpenVMS user application to receive control when an asynchronous "network event" occurs, such as the disconnection of a DECnet logical link, an SNA circuit failure, or the receipt of an Unbind Type 2 from IBM. The OpenVMS application is called at a notification entry point defined by the application at connection time; an indication of the event that occurred is reported.

### SNA Functions

API provides OpenVMS applications with access to the SNA functions performed by either an SNA gateway or SNA server. These include SNA path control functions, data link control functions, and upper-level functions such as checking access information. API provides assistance with some functions such as brackets and chaining. In addition, API supports negotiable binds and handles exception responses for the user application. For complete details about which SNA functions are provided by this product, refer to the product documentation.

The application must provide the remaining SNA functions it requires. For example, the application must be designed to:

- Process all FMD layer protocols
- Take into account all data flow control and session control request/response units
- Keep track of any "states" relevant to the application
- Translate between ASCII and EBCDIC, and vice versa
- Parse the bind request
- Respond to request units

### User Interface

Users of API should be experienced OpenVMS application programmers. They can use any of the OpenVMS programming languages that conform to the OpenVMS Calling Standard to create application programs that interact with application programs on an IBM system. The user documentation provides example programs written in the following languages:

- MACRO-32
- ADA
- BASIC
- BLISS
- C
- COBOL
- FORTRAN
- PASCAL
- PL/I

Users of this product should be familiar with SNA and have some knowledge of the type of logical unit that will be used.

### INSTALLATION

Installation services from HP are recommended for a customer's first purchase of this software product. These services provide for installation of the software product by an experienced software specialist.

### HARDWARE REQUIREMENTS

#### Processors Supported

- Itanium, Alpha and VAX configuration as specified in the OpenVMS Operating System for I64, Alpha and VAX Software Product Description (SPD 82.35.xx and 25.01.xx).

#### Disk Space Requirements (Block Cluster Size = 1)

*Disk space required for installation:*

OpenVMS I64	19,122 blocks (9.561 MB)
OpenVMS Alpha	18,000 blocks (9.0 MB)
OpenVMS VAX	17,900 blocks (9.0 MB)

*Disk space required for use (permanent):*

OpenVMS I64	8,210 blocks (4.105 MB)
OpenVMS Alpha	7,900 blocks (4.0 MB)
OpenVMS VAX	6,800 blocks (3.4 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.

**SOFTWARE REQUIREMENTS**

Using *HP SNA Application Programming Interface for OpenVMS* requires:

- OpenVMS Operating System for I64 Version 8.2-1 or 8.3 (SPD 82.35.xx)
- OpenVMS Operating System for Alpha Version 8.2 or 8.3 (SPD 82.35.xx)
- OpenVMS Operating System for VAX Version 7.3 (SPD 25.01.xx)

Using *HP SNA Application Programming Interface for OpenVMS* software requires a networking product appropriate for the version of OpenVMS, plus one of the SNA products listed below.

Networking options include:

- TCP/IP Services for OpenVMS (SPD 46.46.xx)
- DECnet for OpenVMS (Phase IV, SPD 48.48.xx)
- DECnet-Plus (Phase V, SPD 50.45.xx for I64 and Alpha, SPD 25.03.xx for VAX)

Choose a networking option appropriate for the selected OpenVMS version from the following table:

OpenVMS	TCP/IP	DECnet IV	DECnet V
8.3 (I64)	5.6	8.3	8.3
8.2-1 (I64)	5.5	8.2-1	8.2-1
8.3 (Alpha)	5.6	8.3	8.3
8.2 (Alpha)	5.5	8.2	8.2
7.3 (VAX)	5.3	7.3	7.3

Choose *one* of the following SNA options:

- *HP DECnet SNA Gateway for Channel Support (SPD 29.76.xx)*
- *HP DECnet SNA Gateway for Synchronous Transport (SPD 25.C6.xx)*
- *HP SNA Domain Gateway (SPD 38.69.xx)*
- *HP SNA Peer Server (SPD 51.08.xx)*

- *HP SNA Server for OpenVMS Alpha (SPD 70.89.xx)*
- *HP SNA Server for OpenVMS VAX (SPD 27.01.xx)*
- *HP SNA Access Server for Windows NT (SPD 64.79.xx)*

**OPTIONAL SOFTWARE**

This HP OpenVMS SNA access routine has been qualified and tested to run over the Data Access Incorporated (DAI) Mainframe Gateway for OpenVMS (MGO). Questions and issues related to the DAI MGO product are managed by DAI and are not an HP OpenVMS obligation.

**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**

This product is available as part of the OpenVMS I64, Alpha and VAX Software Product Libraries on CD-ROM. The software documentation for this product is available as part of the OpenVMS I64, Alpha and VAX Online Documentation Library on CD-ROM. Documentation in hardcopy format can be ordered separately.

**SOFTWARE LICENSING**

**License Management Facility Support**

HP SNA Application Programming Interface for OpenVMS supports the OpenVMS License Management Facility (LMF). This facility allocates license units as follows:

- For OpenVMS Integrity, each Per Core License (PCL) allows any number of individuals to use the product at the same time, with one PCL license required for each processor core running OpenVMS.
- For OpenVMS Alpha and VAX, the Unlimited license allows any number of individuals to use the product at the same time.

**ORDERING INFORMATION**

*Licenses*

License types vary by platform.

HP OpenVMS Integrity Licenses <sup>1</sup>	
SNA API Per Core License (PCL) <sup>2</sup> :	BA478AC

<sup>1</sup>Update licenses not available; updates available through SW Updates Service.

<sup>2</sup>Order one PCL license for each active processor core running OpenVMS.

HP OpenVMS Alpha Licenses	
SNA API Unlimited Use License	QL-10VA*-AA <sup>1</sup>
SNA API Unlimited Use Update License	QL-10VA*-RA <sup>1</sup>

<sup>1</sup>Asterisk denotes system tier. E=workgroup tier, G=departmental tier, Q=enterprise tier.

HP OpenVMS VAX Licenses	
SNA API Unlimited Use License	QL-455A*-AA <sup>1</sup>
SNA API Unlimited Use Update License	QL-455A*-RA <sup>1</sup>

<sup>1</sup>Asterisk denotes system tier. B=workgroup tier, 2=departmental tier, 5=enterprise tier.

*Media and Documentation*

Product binary kits and online documentation are delivered on consolidated media libraries. Delivery model varies by platform.

HP OpenVMS Integrity Media and Online Documentation <sup>1</sup>	
Foundation Operating Environment	BA322AA#AJR
Enterprise Operating Environment	BA323AA#AJR
Mission Critical Operating Environment	BA324AA#AJR

<sup>1</sup>Product ships on Layered Products Library media included in all Operating Environment media kits, available with initial OpenVMS OE order.

HP OpenVMS Alpha Media and Online Documentation	
Software Layered Products Library Package <sup>1</sup>	QA-03XAA-H8
Software Layered Products and Operating System Library Package <sup>1</sup>	QA-5G98A-H8

<sup>1</sup>Quarterly Software Updates Service is available.

HP OpenVMS VAX Media and Online Documentation	
Software Layered Products Library Package <sup>1</sup>	QA-5G88A-H8
Software Layered Products and Operating System Library Package <sup>1</sup>	QA-YL48A-H8

<sup>1</sup>Quarterly Software Updates Service is available.

HP OpenVMS Documentation (Printed)	
SNA API Documentation	QL-0455AA-GZ

HP OpenVMS Integrity SW Update <sup>1</sup>	
HP SNA Application Programming Interface VMS I64 Media	BA478AA

<sup>1</sup>For the OpenVMS Integrity platform, media updates are ordered by adding SW Updates Service to individual products. The above media product numbers must be pulled into an order if SW Updates Service is planned.

NOTE: If you are *adding* a layered product to an existing OpenVMS Integrity system and do not have the latest software revision on site, please contact your local Sales Representative to request a Special Media kit.

**SOFTWARE PRODUCT SERVICES**

A variety of service options are available from HP. For more information, contact your HP account representative or distributor. Information is also available on [www.hp.com/hps/software](http://www.hp.com/hps/software).

**SOFTWARE WARRANTY**

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

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