Software Product Description

PRODUCT NAME: DECnet/SNA VMS Application Programming Interface, Version 2.3 **SPD 26.86.04**

DESCRIPTION

The DECnet/SNA VMS Application Programming Interface (API) is a layered software product that allows user-written applications running on suitably configured VMS systems within a DECnet network or on suitable VMS systems within a VMS/SNA environment to exchange information with cooperating applications on an IBM host. The API software exists in the VMS system as a shareable image. Access between the cooperating DIGITAL and IBM® applications takes place via the DECnet/SNA Gateway or via VMS/SNA software.

Features

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

This product implements all of the path control layer, and portions of the transmission and data flow control layers of SNA for the VMS user. The interface supports a number of differing applications each using the SNA function management, data flow control, and transmission control layers in its own way. It is not limited to supporting a particular application, such as 3270 terminals or 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, described in the product documentation.

The API provides extensive parameter checking, state machine management, and other high level services, relieving the VMS application programmer of tedious protocol details such as state machine processing or "standard" SNA message format checking. The interface appears to the VMS 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
- Re-establish 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

The API product provides a mechanism for a VMS 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 VMS 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

The API provides VMS applications with access to the SNA functions performed by either the DECnet/SNA Gateway or VMS/SNA software. These include SNA path control functions, data link control functions, and upper-level functions such as checking access information. The API provides assistance with some functions such as brackets and chaining. In addition, the API product 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.)

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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

Basic and Extended Modes

The DECnet/SNA Application Interface (Version 2.3) can be used in either basic or extended mode (it cannot be used in both modes simultaneously). In basic mode, VMS applications written for the Version 1.x product are compatible with this product's new version, provided that they ran successfully with the earlier version.

Extended mode subroutines are layered on the basic mode subroutines, providing VMS programmers with an easier-to-use interface into the SNA environment. Some additional services the extended mode provides for the VMS programmer include chaining, state machine checking, building request and response headers, and implementing the transmission control and data flow control of SNA sessions for the user.

For additional details of the two modes of operation, refer to the product documentation.

User Interface

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

- MACRO-32
- VAX C
- VAX COBOL
- VAX FORTRAN
- VAX PASCAL
- VAX 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.

SOURCE CODE

Sources of message files are available only for translation to languages other than English. Source Code will not be distributed for general purposes.

INSTALLATION

Only experienced customers should attempt installation of this product. DIGITAL recommends that all other customers purchase DIGITAL's Installation Services. These services provide for installation of the software product by an experienced DIGITAL Software Specialist.

Customer Responsibilities

Before DIGITAL installation of the software the customer must:

- Have previously installed all requisite hardware including terminals and DECnet/SNA gateway products.
- Obtain, install, and demonstrate as operational any modems and other equipment and facilities necessary to interface to DIGITAL's communications equipment.
- Have generated, to DIGITAL's satisfaction, any necessary IBM host software that will be communicating with the DECnet/SNA gateway or VMS/SNA and the Application Programming Interface product.
- Make available for a reasonable period of time, as mutually agreed by DIGITAL and the customer, all hardware, communications facilities, and terminals that are to be used during installation.

Delays caused by any failure to meet these responsibilities will be charged at the prevailing rate for time and materials.

Successful use of this product requires that:

- The customer must be prepared to work with both DIGITAL and IBM systems personnel to coordinate the pre-installation activities.
- The customer should be capable of modifying IBM component generation parameters to support either the DECnet/SNA gateway or VMS/SNA and the Application Interface software.

Since the introduction of this software, other configurations may have been tested. Please contact your local DIGITAL office for up-to-date information regarding listed configurations.

PREREQUISITE SUPPORT

A Network Profile and a DECnet Customer Support Plan (where appropriate) must be prepared jointly by DIGITAL and the customer covering all VMS nodes that wish to install the Application Interface product.

In order for this product to be DIGITAL supported, the customer must have a DIGITAL supported DECnet/SNA gateway or VMS/SNA configuration.

To have a DIGITAL supported DECnet/SNA gateway configuration or VMS/SNA configuration, purchase of the Gateway Orientation/Installation Service (QSF0X-SZ) is REQUIRED in conjunction with the customer's first purchase of a DECnet/SNA gateway.

HARDWARE REQUIREMENTS

VAX, MicroVAX or VAXstation configuration as specified in the System Support Addendum (SSA 26.86.04-x).

- Any properly configured DECnet/SNA gateway system as specified in the System Support Addendum (SSA 26.86.04-x).

SOFTWARE REQUIREMENTS*

In a DECnet/SNA Gateway Environment:

- VMS Operating System
- DECnet-VAX

In a VMS/SNA Environment:

- VMS Operating System
- VMS/SNA Software

The DECnet/SNA VMS Application Programming Interface software requires one of the following products:

- VMS/SNA
- DECnet/SNA Gateway-CT
- DECnet/SNA Gateway-ST
- DECnet/SNA Gateway

* Refer to the System Support Addendum for availability and required versions of prerequisite/optional software (SSA 26.86.04-x).

ORDERING INFORMATION

Software Licenses: QL-455A*-**
Software Media: QA-455A*-**
Software Documentation: QA-455AA-GZ
Software Product Services: QT-455A*-**

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

SOFTWARE LICENSING

This software is furnished under the licensing provisions of DIGITAL's Terms and Conditions. For more information about DIGITAL's licensing terms and policies, contact your local DIGITAL office.

LICENSE MANAGEMENT FACILITY SUPPORT

This layered product supports the VMS License Management Facility. License units for this product are allocated on a CPU-capacity basis.

For more information on the License Management Facility, refer to the VMS Operating System Software Product Description (SPD 25.01.xx) or the License Management Facility manual of the VMS Operating System documentation set.

For more information about DIGITAL's licensing terms and policies, contact your local DIGITAL office.

SOFTWARE PRODUCT SERVICES

A variety of service options are available. For more information on these or other services, please contact your local DIGITAL office.

SOFTWARE WARRANTY

Warranty for this software product is provided by DIGITAL with the purchase of a license for the product as defined in the Software Warranty Addendum of this SPD.

WARRANTY LIMITATIONS

IBM Supported Configurations

This software has been tested and is warranted against IBM System/370 (includes 30xx and 43xx series) class processor systems configured with the following IBM software. While this software may function correctly with other IBM software and equipment, and with software other than that supported by IBM, DIGITAL cannot offer its standard warranty for this software unless it has been tested with such equipment and software configurations.

The following list shows the configurations with which the software has been tested and is warranted:

Software Product	Version	Release
IBM MVS Environment		
MVS/SP	1	3.6
		3.7
	2	1.5
		1.7
		2.0
TSO/E/XA		3.0
		4.0
ISPF/MVS	2	2.0
		3.0
ISPF/PDF	2	2.0
		3.0
IMS	2	1.0
		3.0
CICS/OS/MVS	1	6.1
		7.0
NCCF	2	2.0
NETVIEW	1	1.0
		2.0
IBM VM Environment		
VM/SP	1	4.1
		5.0
CMS		4.1
		5.0
ISPF/VM	2	2.0
ISPF/PDF	2	2.0
NCCF	2	1.0
NETVIEW	1	1.0
		2.0
IBM DOS/VSE Environment		
VSE/SP	2	1.6
VSE/ICCF	2	1.0
ISPF/VSE		1.0
ISPF/PDF		1.0
CICS/DOS/VS	1	6.0
NCCF	2	2.0