Software Product Description

PRODUCT NAME: DECnet/SNA VMS 3270 Data Stream Programming Interface, Version 1.4 **SPD 26.87.05**

DESCRIPTION

The DECnet/SNA VMS 3270 Data Stream Programming Interface (3270 DS) 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 messages with cooperating applications in an IBM host. The 3270 DS software exists in the VMS system as a shareable image. Access between the cooperating DIGITAL and IBM® applications is via the DECnet/SNA Gateway or via VMS/SNA software.

The 3270 DS programming interface is a collection of subroutines designed to provide an easy-to-use interface for the DECnet/SNA Gateway (or VMS/SNA) application programmer who has a specific need to interface to an IBM application subsystem which uses LU Type 2 (LU2) protocol. The product can be used with many types of applications. As an example, a customized 3270 terminal emulator application can be written by a user and layered on top of 3270 DS. Applications can be event driven or synchronous in nature with no loss in available functions.

Features

The 3270 DS product is designed to insulate the VMS application programmer from the inner workings of the SNA network environment as much as possible, thus allowing the user to concentrate on solving the application problem. The product performs the following SNA functions on the user's behalf:

- Receives and interprets the bind
- Accepts the bind and starts the session
- Maintains the state machines for chaining, bracketing, and data flow control
- Processes an Unbind Type 2 automatically

As a result, the VMS user is required to perform a minimum of SNA functions including processing the CLEAR and CANCEL functions and handling contention.

This product is a set of subroutines used to perform such functions as establishing sessions, sending data, receiving data, and disconnecting sessions. In addition, the 3270 DS interface may be used to interpret the 3270 data stream and build a screen image. The VMS application is then free to interact with the screen image.

The 3270 DS product allows two modes of connection: Data Stream Mode and Field Mode.

Data Stream Mode

Data Stream Mode provides a means to send and receive uninterpreted 3270 data streams as defined by IBM. In this mode, all SNA specific functions are performed by the interface. For example, the VMS application is not required to handle chaining, brackets, RUs, or RHs. At the same time, this mode allows the interface to provide the VMS application with the complete 3270 data stream. It is the VMS user's responsibility to interpret the outbound data stream for 3270 orders and commands, and to build and manipulate a screen image (if desired). Similarly, it is the VMS user's responsibility to build the inbound data stream from his own screen image or from some other data structure.

A VMS application which needs to use extended attributes must use a Data Stream Mode connection. Extended attributes are extensions to the basic field attributes, namely:

- Extended highlighting (blink, reverse video, underscore)
- Color
- Programmed symbols (selectable symbol set)
- Screen partitions and windows

Field Mode

Field Mode performs a presentation service to provide a screen image interface. The screen image may be read field by field, or accessed directly. The interface interprets 3270 commands and orders in an outbound data stream to build the screen. In addition, it produces an inbound 3270 data stream from the updated screen image.

As with the Data Stream Mode, Field Mode insulates the VMS user from the SNA protocol. Extended attributes are not supported by the Field Mode connection.

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Asynchronous Event Notification

The 3270 DS product provides a mechanism for a VMS user application to receive control when an asynchronous ''network event'' occurs such as 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.

User Interface

Users of the DECnet/SNA VMS 3270 DS product 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 segments written in the following languages:

- MACRO-32
- VAX BLISS-32 Implementation Language
- VAX C
- VAX COBOL
- VAX FORTRAN
- VAX PASCAL
- VAX PL/I

The users of the 3270 DS product are not required to have extensive knowledge of SNA.

Features of Version 1.4

- VMS 3270 DS V1.4 supports Digital's License Management Facility.
- VMS 3270 DS V1.4 allows, on supported DECnet/SNA gateways and VMS/SNA systems, secured Logical Unit (LU) access via the SNA3270$REQUEST__CONNECT procedure call.

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 3270 DS Programming Interface.
- 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 3270 DS Programming Interface.

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	1.3 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

Software Product	Version	Release
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	1.0
ISPF/PDF	1	1.0
CICS/DOS/VS	1	6.0
NCCF	2	2.0

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 3270 DS Programming Interface.

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 the DECnet/SNA gateway.

HARDWARE REQUIREMENTS

- VAX, MicroVAX or VAXstation configuration as specified in the System Support Addendum (SSA 26.87.05-x).
- Any properly configured DECnet/SNA gateway system as specified in the System Support Addendum (SSA 26.87.05-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

DECnet/SNA VMS 3270 Data Stream 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 26.87.05-x).

ORDERING INFORMATION

Software Licenses: QL-363A*-**
Software Media: QA-363A*-**
Software Documentation: QA-363AA-GZ
Software Product Services: QT-363A*-**

* 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.