



# Software Product Description

**PRODUCT NAME:** HP SNA 3270 Terminal Emulator  
for OpenVMS, Version 1.9

**SPD 26.84.12**

This SPD describes *HP SNA 3270 Terminal Emulator for OpenVMS*, which is available for the OpenVMS I64, OpenVMS Alpha and OpenVMS VAX platforms. All information applies to all platforms unless otherwise indicated.

## DESCRIPTION

The *HP SNA 3270 Terminal Emulator for OpenVMS* (3270 TE) is a layered software product that allows users of a VTxxx terminal (or other terminal or personal computer in VT100, VT200, or VT300 mode) on suitably configured OpenVMS systems within a DECnet or TCP/IP network to interactively access IBM® host-based applications. These applications have been originally developed for IBM 3270 display stations in a Systems Network Architecture (SNA) networking environment. Access to the IBM host-based applications system from OpenVMS systems 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 Gateway for Channel Support*

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

In normal operation, an IBM system transfers a formatted screen, much like a "form," to the 3270 block mode terminal, and the user fills in any data required by the form. The completed form is sent to the IBM host as a single unit. This mechanism is emulated with a character mode terminal by buffering the form in the host's memory and displaying it on the terminal. When the screen form is complete, it is sent to the IBM host system via the SNA server or gateway product.

Translation tables on the respective systems convert ASCII terminal input (either Digital Multinational Character Set or National Replacement Character Set) to a subset of IBM multinational EBCDIC code for transfer through the SNA server or gateway product. These translation tables may be modified to fit nonstandard character sets.

Users invoke the 3270 utility using the local OpenVMS system's command language, including qualifiers to specify the target IBM system and system resources. While the emulation utility is operating, the terminal screen is formatted like a 3270 display. When the user has finished work on the IBM system, the 3270 emulator is dismissed and the terminal is "restored" as an OpenVMS command terminal.

## Features

The 3270 Terminal Emulator supports emulation of the following features of an IBM 3270 display station when attached to an IBM 3274 1C controller with the following features:

- Category A terminal adapter (for 32 terminals)
- Configuration support D
- Common communications adapter
- External modem interface
- 3270 TE allows, on supported SNA servers and gateways, secured LUs (Logical Units) to be accessed via a password.
- 3270 TE allows up to 16 alphanumeric characters to be coded in the ACCESS-NAME parameter.
- 3270 TE provides the ability to display status information on the hardware status line when using a VT device (or VT emulator) that supports the hardware status line.
- 3270 TE supports HP's License Management Facility.

*IBM 3178 display station with the following features:*

- 87-key keyboard with 24 program function (PF) keys and 3 program assist (PA) keys
- Audible alarm
- Up to 1920 characters
- Protected and unprotected fields
- Local and host copy and printer order FF (form-feed)
- Alphanumeric and numeric data
- Intensified display, display, and nondisplay characters
- Auto-repeat keys (as available as a VT100 keyboard SET-UP feature)
- Click and ALT CURSR (as available through the VT100 SET-UP feature)
- SYS REQ (Allows user to switch between SSCP-LU and LU-LU sessions)

*Unsupported features of the IBM 3178 display station are:*

- Selector pen, security lock, magnetic strip card, and operator identification card reader
- <-! (new line) as auto-repeat keys
- <!<! (fast left) and !>!> (fast right) keys
- TEST REQ or TEST, IDENT, DEV CNCL, and CURSR BLINK functions
- Structured fields
- Blinking fields
- Local function keys (keys that, when operated, do not transmit any interface codes to the host applications) other than those supported as VT100/VT200/VT300 SET-UP features

*IBM 3180 display station with the following features:*

- 87-key keyboard with 24 program function (PF) keys and 3 program assist (PA) keys
- Audible alarm
- Up to 3564 characters
- Protected and unprotected fields
- Local and host copy and printer order FF (form-feed)
- Alphanumeric and numeric data
- Intensified display, display and nondisplay characters
- Auto-repeat keys (as available, as a VT keyboard SET-UP feature)
- Click and ALT CURSR (as available, as a VT keyboard SET-UP feature)
- SYS REQ (Allows user to switch between SSCP-LU and LU-LU sessions)

*Unsupported features of the IBM 3180 display:*

- Selector pen, security lock, magnetic strip card, and operator
- <-! (new line) as an auto-repeat key
- <!<! (fast left) and !>!> (fast right) keys
- TEST REQ or TEST, IDENT, DEV CNCL, and CURSR BLINK functions
- Structured fields
- Blinking fields
- 3270 Extended Data Stream
- Local function keys (keys that, when operated, do not transmit any interface codes to the host applications) other than those supported as VT100/VT200/VT300 SET-UP features

*IBM 3278 display station Models 1, 2, 3, 4, and 5 with the following features:*

- 87-key keyboard with 24 program function (PF) keys and 3 program assist (PA) keys
- Audible alarm
- Protected and unprotected fields
- Local and host copy and printer order FF (form-feed)
- Alphanumeric and numeric data
- Intensified display, display, and nondisplay characters
- Auto-repeat keys (as available as a VT keyboard SET-UP feature)
- Click and ALT CURSR (as available, as a VT keyboard SET-UP feature)

- SYS REQ (Allows user to switch between SSCP-LU and LU-LU sessions)

*Screen sizes supported by the various models of 3278 are:*

Model 1 - Up to 960 characters  
Model 2 - Up to 1920 characters  
Model 3 - Up to 2560 characters  
Model 4 - Up to 3440 characters  
Model 5 - Up to 3564 characters

*Unsupported features of the IBM 3278 display station models 1, 2, 3, 4, 5 are:*

- Selector pen, security lock, magnetic strip card, and operator identification card reader
- <! (new line) as an auto-repeat key
- <!< (fast left) and !>> (fast right) keys
- TEST REQ or TEST, IDENT, DEV CNCL, and CURSR BLINK functions
- Structured fields
- Blinking fields
- Local function keys (keys that, when operated, do not transmit any interface codes to the host applications) other than those supported as VT100/VT200/VT300 SET-UP features
- Field inherit keys
- Programmed symbol selection keys

This product has been designed such that it can be used with most IBM applications; however, those applications written using features not supported by the emulator (for example, 3270 Extended Data Stream) must be modified.

A readily available online help facility provides information on keys with altered 3270-oriented functions. The status line as implemented on an actual 3270 display is not supported, however much of the same information is reported on a special status line that may be overlaid on the VT200's twenty-fourth line. In addition, the OpenVMS system manager has the ability to remap certain IBM key functions onto different locations on the VT keyboard.

## **INSTALLATION**

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

## **PREREQUISITE SUPPORT**

For *HP SNA 3270 Terminal Emulator for OpenVMS* to be HP-supported, the customer must have a support agreement for the selected prerequisite SNA server or gateway product.

## **HARDWARE REQUIREMENTS**

### **Processors Supported**

For information about supported processors, refer to the OpenVMS Operating System for I64, Alpha and VAX Software Product Description (SPD 82.35.xx and 25.01.xx).

### **Processors Not Supported**

The 3270 TE product is not supported on VAX-11/730, VAX-11/750, VAX-11/780, and VAX-11/785 processors.

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

*For Itanium-Based Systems:*

Disk space required for installation	3400 blocks (1700 KB)
Disk space required for use (permanent)	2721 blocks (1360 KB)

*For Alpha-Based Systems:*

Disk space required for installation	1518 blocks (759 KB)
Disk space required for use (permanent)	684 blocks (342 KB)

*For VAX-Based Systems:*

Disk space required for installation	1179 blocks (590 KB)
Disk space required for use (permanent)	345 blocks (173 KB)

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

**Terminal Requirements**

- A digital terminal capable of VT100, VT200, VT300, or VT400 compatibility (such as VT102, VT2xx, and VT3xx). Refer to the Optional Hardware section of this Software Product Description for more information.
- The Advanced Video Option (AVO) is required on the VT100 and the equivalent on other terminals for some 3270 Terminal Emulation features.

**OPTIONAL HARDWARE**

The following is a list of HP-supplied terminals that have been tested and are supported in VT100 mode by the 3270 Terminal Emulator Software:

- VT100 with Advanced Video Option (AVO)
- VT102
- VT220, VT240, VT241
- VT320, VT330, VT340, VT341
- VT400

The following is a list of HP-supplied terminals that have been tested and are supported in VT200 mode by the 3270 Terminal Emulator Software:

- VT220, VT240, VT241

The following is a list of HP-supplied terminals that have been tested and are supported in VT300 mode by the 3270 Terminal Emulator Software (emulation status information will be displayed on the hardware status line):

- VT320, VT330, VT340, VT341

**SOFTWARE REQUIREMENTS**

Using *HP SNA 3270 Terminal Emulator* software 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 3270 Terminal Emulator* software requires a networking product appropriate for the version of OpenVMS, plus one of the SNA server or gateway 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 server or gateway 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) 25.01.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)*

**Cluster Environment**

This layered product is fully supported when installed on any valid and licensed OpenVMS Cluster\* software configurations without restrictions. The Hardware Requirements section of this SPD details any special hardware required by this product.

**OpenVMS Tailoring Classes**

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

- OpenVMS Required Saveset
- Network Support
- Utilities

For more information on OpenVMS classes and tailoring, refer to the OpenVMS Operating System for I64, Alpha and VAX Software Product Description (SPD 82.35.xx and 25.01.xx).

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

**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/software requirements for any future version of this product may be different from the minimum 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 Libraries on CD-ROM. Documentation in hard-copy format can be ordered separately.

**SOFTWARE LICENSING**

**License Management Facility Support**

HP SNA 3270 Terminal Emulator 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.

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**HP OpenVMS Integrity Licenses<sup>1</sup>**

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SNA 3270 TE Per Core License (PCL)<sup>2</sup>:      BA476AC

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

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

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**HP OpenVMS Alpha Licenses**

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SNA 3270 TE Unlimited Use License	QL-10ZA*-AA <sup>1</sup>
SNA 3270 TE Unlimited Use Update License	QL-10ZA*-RA <sup>1</sup>

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

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**HP OpenVMS VAX Licenses**

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SNA 3270 TE Unlimited Use License	QL-454A*-AA <sup>1</sup>
SNA 3270 TE Unlimited Use Update License	QL-454A*-RA <sup>1</sup>

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

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*Media and Documentation*

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

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**HP OpenVMS Integrity Media and Online Documentation<sup>1</sup>**

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Foundation Operating Environment	BA322AA#AJR
Enterprise Operating Environment	BA323AA#AJR
Mission Critical Operating Environment	BA324AA#AJR

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

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**HP OpenVMS Alpha Media and Online Documentation**

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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

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

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**HP OpenVMS VAX Media and Online Documentation**

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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

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

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**HP OpenVMS Documentation (Printed)**

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SNA 3270 Terminal Emulator Documentation	QL-454AA-GZ
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**HP OpenVMS Integrity SW Update<sup>1</sup>**

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HP SNA 3270 Terminal Emulator VMS      BA476AA  
I64 Media

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<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.

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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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