Software Product Description

PRODUCT NAME: hp DECprint Supervisor (DCPS) for hp OpenVMS, Version 2.2 **SPD 44.15.13**

DESCRIPTION

HP DECprint Supervisor (DCPS) for HP OpenVMS is a layered software application that runs on OpenVMS Alpha and OpenVMS VAX systems to provide access to selected PostScript Level 1, Level 2 and Level 3 printers.

DCPS drives selected PostScript printers and supports these printers' special features, such as tray and media selection and two-sided printing. File formats supported include PostScript, ANSI-Compliant DIGITAL Printing Protocol Level 3 (DEC PPL3) and HP PCL. DCPS also includes features such as number-up, layup, automatic data type detection and high speed image printing, plus translators for a number of printer languages. See the *Other Hardware Required* section of the SPD for the list of supported printer models.

DECprint Supervisor software consists of the following components:

- A print symbiont that processes print requests for the host on which it resides.
- Software to transmit the request and associated data over the following protocols:
  - — Ethernet via TCP/IP to a printer connected to a print server or a terminal server that supports the bidirectional raw TCP/IP socket protocol
  - — Ethernet via TCP/IP to a printer with a network interface card (NIC) that supports the bidirectional raw TCP/IP socket protocol
  - — Ethernet to a PrintServer printer via DECnet or TCP/IP using Common Printer Access Protocol (CPAP)
  - — Local Area Transport (LAT)
  - — Serial line
- Translators to convert various non-PostScript files into the PostScript language for printing.
- Page formatting capabilities such as the ability to print multiple page images on a single side of a sheet of paper and to specify borders, margins and page offsets.
- A series of PostScript tools for application developers. These include a PostScript error handler and Font Encoding Vectors for the ISO Latin Alphabet Number 1 (ISO 8859/1) and DIGITAL Multinational Character Set for use with all the PostScript text fonts that are built into DIGITAL and selected Compaq PostScript printers.

Install DECprint Supervisor software on each node that has print queues for PostScript printers.

A system running DECprint Supervisor software can transmit print requests to printers on a TCP/IP, DECnet or LAT network. Note that not all printers support all these protocols.

To communicate with a printer on a TCP/IP network, HP TCP/IP Services for HP OpenVMS software, or Process Software MultiNet for OpenVMS or TCPware for OpenVMS software must be installed on your system.

For DIGITAL PrintServer printers, whether using the TCP/IP or DECnet protocol, PrintServer Software must be installed on at least one system in your network.

Printing Features

- PostScript printing. The print symbiont passes PostScript files directly to the printer. DECprint Supervisor does not interpret or translate PostScript files. Therefore, they must be created using standard

PostScript Level 1, Level 2 or Level 3 operators as defined within the printer itself.

- ANSI (DEC PPL3) printing. DECprint Supervisor translates ANSI files into PostScript for printing on the output device. These ANSI files may contain ASCII text, sixel graphics and other features of HP's ANSI-compliant Printing Protocol Level 3.
- Selection of input tray via INPUT_TRAY, SHEET_SIZE, or PAGE_SIZE parameters and output tray via OUTPUT_TRAY, within the limitations of the printer and the tray-naming conventions to provide such features.
- Rotation of the page via the PAGE_ORIENTATION parameter for non-PostScript files only.
- Selection of single-sided, double-sided, or tumble printing when available on the printer, via the SIDES parameter.
- Formatting of ANSI text files via the /HEADER, /FORM, /SPACE and /FEED qualifiers and the TAB parameter.
- Control of ANSI file margins, page setup and wrap or truncate options as specified by the DEFINE/FORM command.
- Status and error messages sent to the user's terminal, may be printed on the job trailer page or job log page, written to a log file, or displayed on the operator's console.
- Use of device control modules for basic data types via the /SETUP qualifier. PostScript modules may contain any PostScript operators supported by the printer in the printing context.
- Collection of accounting information for each print job as follows: sheets of paper printed, the number of RMS Gets and the number of QIO Writes. All Compaq, DIGITAL and GENICOM printers support this feature except where noted in the *Other Hardware Required* section of the SPD. This feature may not be available with other printers.
- Access to the PCL interpreter native to selected printers. Printers for which the native PCL interpreter is supported are listed in the *Other Hardware Required* section of the SPD.
- Support for printers via network interface cards, print servers and terminal servers that support bidirectional raw TCP/IP sockets.
- Support for PrintServer printers on DECnet or TCP/IP interconnects using CPAP protocol.
- Automatic data type detection and switching. The software attempts to determine the data type of the file. If successful, it will automatically translate, if necessary, and print the file. If it cannot determine the file data type, it will use the default data type defined by DATA_TYPE=AUTOMATIC.

  If the file is printed using the data type defined by DATA_TYPE=AUTOMATIC, the symbiont will look for a switch to PostScript command (%!) and continue to process the rest of the file as PostScript. This switch may occur only once per file. The switch to PostScript feature is not available when DCPS uses a printer's native PCL interpreter to process the file.
- Printing non-PostScript data types on the PostScript printer. Translators are provided to translate the following data types into PostScript for printing:
  - — DDIF (bitonal Image subset only; requires DECwindows Motif software)
  - — PCL Level 4 (as implemented on the HP LaserJet IID)
  - — IBM Proprinter XL24
  - — ReGIS (monochrome output only)
  - — Tektronix 4010/4014
  - — ASCII LIST translator that formats and numbers ASCII files. This translator numbers each line of text, creates alternating bars of gray and white in the background and creates a running head of the file name and page number.
- Printing two or more page images on a single side of a sheet via the NUMBER_UP parameter.
- Specifying page layup features via the LAYUP_DEFINITION parameter. Page layup features include Borders, Margins, Margin Alternation, Pages Per Sheet, First Page, Page Order and Page Grid. Layup definition options may be provided directly, as arguments to the LAYUP_DEFINITION parameter, or indirectly, as the contents of a file specified by that parameter.
- Specifying a range of pages of the file to be printed via the PAGE_LIMIT parameter.
- Printing jobs with finishing options such as stapling and punching, on supported printers equipped with such options.
- Automatically scaling a page created for one paper size so that it fits on a different paper size via use of both the PAGE_SIZE and SHEET_SIZE parameters on the same print command.
- Printing multiple uncollated copies of each sheet via the SHEET_COUNT parameter.

- Use of device control modules for all data types via the /SETUP qualifier. ANSI modules may include control sequences. PCL modules may include binary font data.
- Support for OpenVMS autostart queues, simplifying startup and ensuring high availability of print queues.

ANSI (DEC PPL3) Emulation

Printing of ANSI text and sixel graphics is compatible with DIGITAL's ANSI-compliant PPL3 printers.

Note: PostScript printers differ in the amount of virtual memory they have available for printing and font storage. Files that require downloading of fonts may be printed differently, may print more slowly or may fail to print on some printers.

INSTALLATION STATEMENT

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

For subsequent purchases of this product, only customers with knowledge of OpenVMS generic and execution print queues in clustered and non-clustered environments and, if operating in a DECserver environment, knowledge of DECserver management, should attempt installation of this software product. HP recommends that all other customers purchase HP's Installation Services.

These services provide for the installation of the software product and HP PostScript Printer hardware by an experienced HP Specialist.

Before installation of the software by HP Installation Services, the customer must:

- Obtain, install and demonstrate as operational any equipment and facilities necessary to interface to HP's communication equipment.
- Make available for a reasonable period of time, as mutually agreed upon by HP and the customer, all hardware, communication facilities and terminals that are to be used during installation.
- For verification of installation and connectivity in a multi-node node network, designate and provide access to a host that has previously been installed by HP.
- Assure that a valid OpenVMS operating system license is installed.

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

Installation of DECprint Supervisor software will consist of the following:

- Verification that all prerequisite software and hardware has been installed.
- Verification that a complete set of DCPS software media and documentation has been received.
- Verification that all hardware and software prerequisites have been met and the equipment is operational.
- Installation of DCPS software on one system.
- Verification that DCPS software has been correctly installed by running the Installation Verification Procedure (IVP).
- Modification of the DECnet database or TCP/IP hosts file to add printer node names and addresses.
- Modification of the OpenVMS start-up files to automate the start-up of print queues.

HARDWARE REQUIREMENTS

Processors Supported

For information about support processors, refer to the Software Product Description for the OpenVMS Operating System for Alpha and VAX (SPD 25.01.xx and 41.87.xx).

Other Hardware Required

At least one PostScript printer, as follows:

- Apple

  LaserWriter IIg
  LaserWriter IIf [1]
  LaserWriter II NT [1]
  LaserWriter II NTR [1]
  LaserWriter II NTX [1]
  LaserWriter Plus [1]
  LaserWriter Pro 600 [1]
  LaserWriter Pro 630 [1]

- Compaq

  Laser Printer LN16 [2]
  Laser Printer LN32
  Laser Printer LNC02 [3]
  Laser Printer LNM40

- DIGITAL

  Colormate PS (LF01R) [1]
  Colorwriter LSR 2000 and 2000+ (LNC01) [1]
  DECcolorwriter 1000 (LF02) [1]

[1] Printer does not have native PCL interpreter

[2] Supported only when the printer is in PostScript mode

[3] Does not support DCPS accounting feature

DEClaser 1150 (LN07R) [1]
DEClaser 1152 (LN07C) [1]
DEClaser 2150 (LN05R) [1]
DEClaser 2250 (LN06R) [1]
DEClaser 3250 (LN08R) [1]
DEClaser 3500 (LN14) [4]
DEClaser 5100 (LN09) [4]
Laser Printer LN15 [2]
Laser Printer LN15+ [2]
Laser Printer LN17+ps
Laser Printer LN20 [3]
Laser Printer LN40 [3]
Laser Printer LNC02 [3]
LN17ps
PrintServer 17 (LPS17)
PrintServer 17/600
PrintServer 20 (LPS20) [1]
turbo PrintServer 20 [1]
PrintServer 32 (LPS32) [1]
PrintServer 32 plus
PrintServer 40 (LPS40) [1]
PrintServer 40 Plus [1]
ScriptPrinter (LN03R) [1]

- GENICOM

  Intelliprint cL160
  Intelliprint mL260
  Intelliprint mL402
  Intelliprint mL450
  LN21
  LN28
  LN45
  LNM40
  microLaser 170 [2]
  microLaser 210
  microLaser 280
  microLaser 320
  microLaser 401

- HP

  Color LaserJet 2500
  Color LaserJet 4500
  Color LaserJet 4550
  Color LaserJet 4600
  Color LaserJet 5500
  LaserJet III with PostScript (Level 1) cartridge [1]
  LaserJet III with PostScript-Plus (Level 2) cartridge [1]
  LaserJet IIID with PostScript (Level 1) cartridge [1]
  LaserJet IIID with PostScript-Plus (Level 2) cartridge [1]
  LaserJet IIISi with PostScript (Level 1) option
  LaserJet IIISi with PostScript (Level 2) option
  LaserJet 4M
  LaserJet 4M Plus
  LaserJet 4ML
  LaserJet 4MP
  LaserJet 4SiMX
  LaserJet 4MV
  LaserJet 5SiMX
  LaserJet 5M (monochrome version)
  LaserJet 2100
  LaserJet 2200
  LaserJet 4000
  LaserJet 4050
  LaserJet 4100
  LaserJet 4100 MFP
  LaserJet 4200
  LaserJet 4300
  LaserJet 5000
  LaserJet 5100
  LaserJet 8000
  LaserJet 8100
  LaserJet 8150
  LaserJet 9000
  LaserJet 9000 MFP
  PaintJet XL300 [1]

- IBM

  Infoprint 21
  InfoPrint 32
  InfoPrint 40

- Lexmark

  C720
  C750
  C910
  Optra C710
  Optra Rt+ [1]
  Optra S 1250
  Optra S 1255
  Optra S 1620
  Optra S 1625
  Optra S 1650
  Optra S 1855
  Optra S 2420
  Optra S 2450
  Optra S 2455
  Optra Se 3455
  Optra T610
  Optra T612
  Optra T614
  Optra T616
  Optra W810
  T520
  T522
  T620
  T622
  W820

- Tektronix

  Phaser 200e [1]

[4] Includes support for direct printing to native PCL interpreter only when printer is in autosensing mode

Phaser 200i [1]
Phaser 220e [1]
Phaser 740 [1]
Phaser 750 [1]
Phaser 780 [1]
Phaser 850 [1]

- Xerox

DocuPrint N24
DocuPrint N32
DocuPrint N40
DocuPrint N2025
DocuPrint N2125
DocuPrint N2825
DocuPrint N3225
DocuPrint N4025

A supported printer must be equipped with one or more of the following supported interconnects:

- EIA-232 (RS-232) serial port
- EIA-422 (RS-422) serial port
- Ethernet port or Network Interface Card (NIC) supporting CPAP, LAT or bidirectional raw TCP/IP socket protocol
- Bidirectional Centronics parallel port connected through a print server or terminal server

Note: DCPS does not support the following types of printer connections:

— A unidirectional connection (for example, a parallel or raw TCP/IP port that is unidirectional)

— The parallel port on an OpenVMS system

— The Telnet or LPD network protocols

The following notes apply when using the above interconnects:

- EIA-232 serial interfaces are optional with some printers and may need to be purchased separately.
- EIA-422 serial interfaces, such as that employed on the HP PaintJet XL300, require an EIA-422/EIA-232 converter/adapter.
- The HP LaserJet 4SiMX is supported for serial communication when equipped with the Extend Systems ESI-2633A interface card.
- Ethernet interfaces may require an adapter to connect the printer's Ethernet hardware to that of the local area network.
- Ethernet protocols supported for certain Desktop and Workgroup printers (not including PrintServer printers) are raw TCP/IP socket and LAT.
- Ethernet protocols supported for DIGITAL PrintServer printers are DECnet CPAP and TCP/IP CPAP.

For Serial Line configurations, the following are required

- At least one printer listed above
- Serial interface and cable for EIA-232 or EIA-422 with converter/adapter
- One of the following serial interfaces or servers:

— CVAX serial interface (CXA16, CXB16, CX08, DZQ-11; 9600 baud)

— DHV11 (9600 baud; serial interface)

— DZQ11 (9600 baud; serial interface)

— DLV11 (9600 baud; serial interface)

— DHU11 (9600 baud; serial interface)

— DMZ32 (4800 baud; serial interface)

— DMF32 (9600 baud; serial interface)

— DMB32 (9600 baud; serial interface)

— DECserver 90L and 90L+ (38.4K baud; LAT)

— DECserver 90M (57.6K baud; LAT and raw TCP/IP socket)

— DECserver 90TL (57.6K baud; LAT and raw TCP/IP socket)

— DECserver 100 (9600 baud; LAT)

— DECserver 200/MC (19.2K baud; LAT)

— DECserver 250 (19.2K baud; LAT)

— DECserver 300 (19.2K baud; LAT

— DECserver 500 (9600 baud; LAT)

— DECserver 550 (9600 baud; LAT)

— DECserver 700 series (115.2K baud; LAT and raw TCP/IP socket)

— DECserver 900 series (115.2K baud; LAT and raw TCP/IP socket)

— MUXserver 100 (19.2K baud; LAT)

— MUXserver 300 (19.2K baud; LAT)

— NetRider 90 - see DECserver 90M

— NetRider 900 - see DECserver 900 series

— LATprint (38.4K baud; LAT)

— RapidPrint 200 (115.2K baud; LAT)

A DECserver or NetRider configuration requires DECserver Network Access Software (DNAS) V2.0 or later and a minimum of 4 Mbytes of memory to support raw TCP/IP sockets.

All of the interfaces above support EIA-232 and some support EIA-422. The customer must select an appropriate combination of host serial interface, cable and printer serial interface. In some cases, an external adapter may be required. Also:

- The printer's communications interface must be set for 8-bit, no parity communication.
- The interface baud rate must be set to a value less than or equal to the value specified above for the chosen host interface.
- Flow control should be set to XON/XOFF for PostScript-only printers or DTR/CTS (hardware handshake) for PostScript/PCL 5 printers.

For parallel port configurations, the following are required

- At least one printer (listed above)
- Bidirectional Centronics parallel port interface
- One of the following print servers:
  - — DIGITAL RapidPrint 200 (LAT)
  - — DIGITAL RapidPrint 500 (Raw TCP/IP socket and LAT)
  - — GENICOM MPS100 (Raw TCP/IP socket and LAT)

A parallel cable may also be required to connect the printer to the print server.

For Raw TCP/IP configurations, the following are required

- At least one printer (listed above)
- A NIC, print server, or terminal server that provides bidirectional raw TCP/IP sockets.

A cable may also be required to connect the printer to a print server or terminal server.

For PrintServer configurations, the following are required

- A DIGITAL PrintServer printer
- An Ethernet Controller Interface for the client system
- An Ethernet physical channel for the printer, and one of the following:
  - — Ethernet Transceiver (H4000 or H4004)
  - — Local Network Interconnect (DELNI)
  - — ThinWire Ethernet Station Adapter (DESTA)
  - — ThinWire Interconnect (DEMPR)

Disk Space Requirements:

DECprint Supervisor for OpenVMS Alpha	
Disk space required for installation:	7,400 blocks (3.7 Mbytes)
Disk space required for use (permanent):	6,900 blocks (3.5 Mbytes)
DECprint Supervisor for OpenVMS VAX	
Disk space required for installation:	5,900 blocks (3.0 Mbytes)
Disk space required for use (permanent):	5,500 blocks (2.8 Mbytes)

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, system disk cluster size, configuration and software options.

SOFTWARE REQUIREMENTS

DECprint Supervisor (DCPS) for OpenVMS Version 2.2 software runs on the following versions of the OpenVMS operating system:

- OpenVMS Alpha V6.2, V7.2-2, V7.3 and V7.3-1
- OpenVMS VAX V5.5-2, V7.2 and V7.3

However, only specific versions of networking software are supported for each version of the operating system. See the following sections for the supported versions.

Raw TCP/IP Configurations

For Raw TCP/IP configurations, you need one of the following TCP/IP products:

- HP TCP/IP Services for HP OpenVMS
- Process Software MultiNet for OpenVMS
- Process Software TCPware for OpenVMS

See Table 1 for supported versions.

Table 1
Supported Network Software Versions

OpenVMS	TCP/IP Services	DECnet	DECnet-Plus
Alpha V6.2	V4.2	V6.2	V6.3
Alpha V7.2-2	V5.1, V5.3	V7.2-2	V7.2-1
Alpha V7.3	V5.1, V5.3	V7.3	V7.3
Alpha V7.3-1	V5.3	V7.3-1	V7.3-1
VAX V5.5-2	V4.0	V5.5-2	—
VAX V7.2	V5.1, V5.3	V7.2	V7.2
VAX V7.3	V5.1, V5.3	V7.3	V7.3

PrintServer Printer Configurations

For PrintServer printer configurations, you need a supporting host and PrintServer Software V4.0 or later.[5] Refer to the PrintServer Software SPD 48.09.xx for more information.

You also need one of the following products:

- hp DECnet for hp OpenVMS
- hp DECnet-Plus for hp OpenVMS
- hp TCP/IP Services for hp OpenVMS
- Process Software MultiNet for OpenVMS
- Process Software TCPware for OpenVMS

See Table 1 for supported versions.

DDIF image printing

- DECwindows Motif software

SOFTWARE LICENSING

This software is furnished under the licensing provisions of Hewlett-Packard Company's Standard Terms and Conditions. For more information about HP's licensing terms and policies, contact your reseller, VAR or local HP office.

DECprint Supervisor for OpenVMS

The right to use DECprint Supervisor for OpenVMS is included with the license for the OpenVMS Alpha and OpenVMS VAX operating systems.

This right permits execution of the DECprint Supervisor for OpenVMS software on any Alpha or VAX processor for purposes of controlling and providing basic printing features for all PostScript printers controlled by the licensed node.

The *Hardware Requirements* section of this SPD lists the supported printers. Supported printers have been tested and verified to work. HP makes no representation relative to the use of this product with PostScript devices not listed in the SPD. Customers' use of the product with PostScript devices not listed in the SPD is at their own risk.

[5] This product has been retired.

CLUSTER ENVIRONMENT

This layered product is fully supported when installed on any valid and licensed VMScluster[6] configuration without restrictions. The *Hardware Requirements* section of this product's Software Product Description and System Support Addendum detail any special hardware required by this product.

OpenVMS Tailoring

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

- OpenVMS Required Saveset
- Network Support (for PrintServer support) [7]
- Secure User's Environment
- Utilities (for support of DECserver connected printers) [7]
- DECwindows Application Files (for printing DDIF encoded bitonal images) [7]

For more information on OpenVMS classes and tailoring, refer to the appropriate OpenVMS Operating System Software Product Description.

OPTIONAL SOFTWARE

- Distributed Queuing Service for OpenVMS (DQS) (SPD 28.80.xx)
- DECnet-Plus for OpenVMS Alpha (SPD 50.45.xx) or DECnet-Plus for OpenVMS VAX (SPD 25.03.xx) when DECnet is used as the communication protocol to PrintServer printers.
- HP TCP/IP Services for HP OpenVMS (SPD 46.46.xx) when TCP/IP is used as the communication protocol to PrintServer printers and to printers with NICs and print servers and terminal servers that support raw TCP/IP socket protocol.
- Process Software MultiNet for OpenVMS when TCP/IP is used as the communication protocol to PrintServer printers and to printers with NICs and print servers and terminal servers that support raw TCP/IP socket protocol.
- Process Software TCPware for OpenVMS when TCP/IP is used as the communication protocol to PrintServer printers and to printers with NICs and print servers and terminal servers that support raw TCP/IP socket protocol.

[6] VMScluster configurations are fully described in the VMScluster Software Product Description (42.18.xx) and include CI, Ethernet, DSSI and SCSI configurations.

[7] These are optional features. Installations that do not use these features do not need to install the tailoring classes indicated.

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

DCPS software is available on CD-ROM as described below, and as part of the OpenVMS Alpha and VAX Software Product Libraries.

DCPS documentation is available on CD-ROM and in hardcopy as described below, and as part of the OpenVMS Alpha and VAX Online Documentation Libraries.

ORDERING INFORMATION

Software Documentation:

QA–09NAA–GZ (hardcopy)

Software Media and Documentation:

QA–09NAB–H8 (CD-ROM)

This CD-ROM contains DCPS software for Alpha and VAX, and documentation in various formats.

- *Documentation*

  Software Product Description (SPD)

  Release Notes

  Installation Guide

  System Manager's Guide

  User's Guide

- *Formats*

  Text

  PostScript (PS)

  Adobe Acrobat Portable Document Format (PDF)

  HyperText Markup Language (HTML)

  Bookreader

SOFTWARE PRODUCT SERVICES

A variety of service options are available from HP. For more information, contact your HP reseller or local HP office.

SOFTWARE WARRANTY

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

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