Software Product Description

PRODUCT NAME: DEC PrintServer Supporting Host Software for VMS, Version 4.0 **SPD 27.68.06**

DESCRIPTION

The DEC PrintServer Supporting Host Software for VMS is a VMS layered product that enables suitably configured VMS systems within an Ethernet local area network to boot and provide support functions for the PrintServer 20, Turbo PrintServer 20, PrintServer 40, and PrintServer 40 Plus.

Supporting Host software consists of the following components:

- A primary boot image which is downline loaded into the PrintServer upon receipt of a boot request. It continues the boot process and becomes the "loader" for the remaining components.
- A management component which includes support via DECnet for PrintServer configuration files, downline loading of secondary boot files, and remote storage of event log and accounting files.
- A console component which allows management and monitoring of a printer from a terminal on the supporting host system or from the local console terminal for a PrintServer 40 or PrintServer 40 Plus.
- A PrintServer component which is downline loaded into the PrintServer. It includes DECnet and INTERNET distribution services, remote console services (also local console client for the PrintServer 40 and PrintServer 40 Plus and local panel services for the PrintServer 20 and Turbo PrintServer 20), and the PostScript® interpreter. The interpreter processes PostScript commands and generates imaging data for the printer controller.

If multiple PrintServers reside within the local area network, the same number of Supporting Hosts may be used to load and manage them. Alternatively, the load and management operations can be consolidated onto any number of suitably configured supporting hosts which would perform these operations for all PrintServers on the local area network.

In a VMS environment, DECprint Printing Services for VMS (SPD 32.41.xx) is the companion product if you are running VAX VMS V5.3 or V5.4; otherwise, the companion product is VAX PrintServer Client Software (SPD 27.67.xx). In an ULTRIX environment, the ULTRIX Operating System V4.0 began bundling the PrintServer Client functionality. For systems at some version of ULTRIX less than V4.0, the PrintServer Client Software for ULTRIX (SPD 30.86.01) is the companion product. Please refer to System Support Addendum (SSA 27.68.06-x) for specific software prerequisites.

The client software must reside on each system that either wants to print directly to the PrintServer or provide distributed printing services for other systems printing indirectly or spooling. A system running the client software can transmit print requests to any suitably configured PrintServer on the network that is defined in its network database. The maximum number of print clients that can simultaneously be connected to a PrintServer 20, Turbo PrintServer 20, or PrintServer 40 Plus is sixteen; on the PrintServer 40, the maximum is twelve.

Features

PostScript

The PostScript language's page description capabilities include the following features, which may be used in any combination:

- Arbitrary shapes constructed from straight lines, arcs, and cubic curves; such shapes may self-intersect and contain disconnected sections and holes.
- Painting primitives that permit a shape to be outlined with lines of any thickness, filled with any gray shade, or used as a clipping path to crop any other graphics.
- Text fully integrated with graphics. Text characters are treated as graphical shapes that may be operated on by any PostScript graphics operator.
- Sampled images derived from natural sources or generated synthetically. The PostScript graphics model allows sampled images at any resolution and with a variety of dynamic ranges, and it provides a number of facilities to control the rendering of images on the PrintServer.

- A general coordinate system facility that supports all combinations of linear transformations including translation, scaling, rotation, reflection, and skewing. These transformations apply uniformly to all elements of a page description, including text, graphical shapes, and sampled images.
- A rendering algorithm, DECimage, which enhances the quality of natural (halftone) images when printed on laser printers.

PrintServer Console Clients

PrintServer console clients are available for all PrintServers through a command-line interface at terminals on the Supporting Host or at the local PrintServer consoles for the PrintServer 40 and PrintServer 40 Plus. The console services enables the system manager to monitor the status of the PrintServer. There are two types of console functions, privileged and unprivileged. To access the privileged functions, a password must be entered.

Unprivileged console functions include:

Command	Operation
configuration	displays PrintServer configuration
exit	exits to system command line
help	provides help on commands
jobs	shows jobs currently queued at the PrintServer
netstat	shows current status of the Internet subsystem
permissions	shows current network access control restrictions
privs	prompts user for password and enters privileged mode
showq	same operation as "jobs"
status	shows status of different components of PrintServer
versions	displays version number of each component
?	displays list of commands available in current console mode

Privileged console functions include:

Command	Operation
abort	aborts the specified job
accept	enables job acceptance
continuous	continually prints jobs
exit	exits privileged mode
newfile	creates a new accounting or event log file or both
next	causes next job to print if in single job mode
reconfigure	causes the PrintServer to re-read its configuration and defaults files
reject	disables job acceptance
repeat	repeats the next operation
single	enables single job mode causing the PrintServer to pause between print jobs

In addition, the PrintServer 20 and Turbo PrintServer 20 have a front panel with a 2x24 LED display which provides PrintServer information. The front panel status messages can be displayed in English, French, German, Dutch, Swedish, or Norwegian.

Centralized Event Logging

The types of events that are logged by the PrintServer range from successful completion of jobs to fatal errors. These events can optionally be displayed on remote console terminals and are always displayed on the local console of the PrintServer 40 and PrintServer 40 Plus; a small subset of similar event messages are displayed on the front panel of the PrintServer 20 and turbo PrintServer 20. Events can also be recorded in an event log file on the Supporting Host. A separate event log file is maintained for each PrintServer managed by the Supporting Host software. The PrintServer communicates with the management client component running on the supporting host, which in turn, writes to the event log. Each PrintServer can send the logging data to multiple supporting hosts that request this data.

Centralized Accounting

The PrintServer's accounting utility provides the system manager with a convenient way to monitor all access of a PrintServer and to bill for printer usage. As with event logging data, accounting information can be sent to multiple Supporting Host systems on the network.

The accounting utility is provided to prepare each PrintServer's usage report on a per-user-basis. Information captured includes username (including client system), total number of sheets/sides printed, accounting by tray, and PostScript CPU time used (in seconds). In addition, the system manager can specify cost (per sheet, per side, and/or per seconds of CPU time); the utility also allows for accounting to begin from a specific date.

Controlled Access to a PrintServer

The PrintServer's client access feature provides the system manager with a convenient way to control all access to a PrintServer. Printing restrictions to a PrintServer are specified by either "allowing" or "denying" access to a PrintServer. The allow command adds DECnet area numbers or node addresses and Internet addresses, networks, or subnet numbers to the list of nodes or areas that are allowed to communicate with the PrintServer system. The deny command adds DECnet area numbers or node addresses and Internet addresses, networks, or subnet numbers to the list of nodes or areas that are not allowed to communicate with the PrintServer system.Access restriction applies not only to print clients, but to management and console clients as well.

Downline Loading the PrintServer Image

The Supporting Host Software downline loads the PrintServer primary image upon receipt of a load request from a PrintServer. In the event multiple systems on the Ethernet are running the Supporting Host Software (and are enabled to service boot requests), the first system to respond to a PrintServer's load request will downline load the PrintServer primary image. The management client provides configuration and administrative services as well as secondary image loading.

For users requiring DECnet or DECnet and INTERNET access, the MOP booting protocol is required from either the VMS or ULTRIX supporting host.

PrintServer Component

The PrintServer Component is the software that is downline loaded to and runs in the PrintServer.

This software consists of the following parts:

- Distribution Software accepts print and control data from DECnet or INTERNET print client systems or a supporting host on the network and passes the data to the imaging software (PostScript interpreter). The distribution software also passes system messages from the imaging software to the apporpriate print client or management client and provides console client services.
- Imaging Software which interprets data from the distribution software, builds the corresponding bitmaps, and sends those bitmaps to the print engine to be converted to printed output.
- The Imaging Software also passes any system messages from the print engine or interpreter to the distribution Software which passes the information to the appropriate print, console, and/or management client running on a Supporting Host system.
- The Imaging software includes an interpreter based on Adobe's PostScript Page Description Language and twenty-nine resident typefaces. The twenty-nine resident typefaces are:
- Courier
- Courier Oblique
- Courier Bold
- Courier Bold Oblique

- Times® Roman
- Times Bold
- Times Italic
- Times Bold Italic

- Helvetica®
- Helvetica Oblique
- Helvetica Bold
- Helvetica Bold Oblique

- ITC Avant Garde Gothic® Book
- ITC Avant Garde Gothic Book Oblique
- ITC Avant Garde Gothic Demi
- ITC Avant Garde Gothic Demi Oblique

- New Century Schoolbook
- New Century Schoolbook Italic
- New Century Schoolbook Bold
- New Century Schoolbook Bold Italic

- ITC Lubalin Graph® Book
- ITC Lubalin Graph Book Oblique
- ITC Lubalin Graph Demi
- ITC Lubalin Graph Demi Oblique

- ITC Souvenir® Light
- ITC Souvenir Light Italic

- ITC Souvenir Demi
- ITC Souvenir Demi Italic
- Symbol/Math

OPTIONAL SOFTWARE

ALL–IN–1

Scripts

This unsupported option provides a collection of ALL–IN–1 Scripts and a WPS-Plus Printer Table file that enhance compatibility between ALL–IN–1, WPS-Plus, and Digital PostScript printers. ALL–IN–1/WPS-Plus users can access the many unique features of these printers; these include support for duplex printing, number_up, landscape page orientation, printing of multiple paper sizes, and sheet_count. PrintServer performance is greatly improved for ALL–IN–1 multiple selection and print operations. Support for LN03 font cartridge emulation (via DECprint Printing Services for VMS or Third Party) is also included.

Ansi Device Control (Set-Up) Module

SYS$EXAMPLES includes unsupported sample ANSI device control library that can be installed on the system and will allow system users to control the features of DEClaser and LN03 printers from the print command. The feature allows users to select simplex/duplex, landscape/portrait, paper sizes, envelopes, and input trays by location.

PostScript Compatibility Module

SYS$EXAMPLES includes an unsupported sample PostScript set-up file for emulating many PostScript extensions. The use of this file allows the correct emulation and printing of PostScript extensions found in other PostScript devices (e.g., Apple® LaserWriter®).

INSTALLATION

Only experienced customers should attempt installation of this software product. Digital recommends that all other customers purchase Digital's Installation Services. These services provide for the installation of the software product and PrintServer hardware by an experienced Digitial.

If Digital's Installation Services are purchased, the customers responsibilities (before installation of the software) include:

- Previously have installed all prerequisite software and hardware, as described in the System Support Addendum (SSA 27.68.06-x)
- Obtain, install and demonstrate as operational any equipment and facilities necessary to interface to Digital's communication equipment
- Make available for a reasonable period of time, as mutually agreed upon by Digital and the customer, all hardware, communication facilities and terminals that are to be used during installation
- Supply to Digital all of the information necessary for installation of the software as described in the PrintServer Site Preparation Guide (e.g. for the PrintServer 40 and PrintServer 40 Plus)

Installation of PrintServer Supporting Host software will consist of the following:

- Verification that the PrintServer hardware installation is complete
- Verification that a complete set of PrintServer Supporting Host Software media and documentation have been received
- Verification that all hardware and software prerequisites have been met and the equipment is operational
- Installation of the PrintServer Supporting Host Software on one system
- Perform all post-installation requirements as documented
- Downline loading the PrintServer software to the PrintServer
- Use the remote console utility to monitor the second phase of the boot process

Note: Should a Digital Specialist be required to modify the previously installed software parameters, a time and materials charge will apply.

HARDWARE REQUIREMENTS

VAX, MicroVAX or VAXstation configuration as specified in the System Support Addendum (SSA 27.68.06-x).

SOFTWARE REQUIREMENTS*

- VMS Operating System
- DECnet–VAX

* Refer to the System Support Addendum (SSA 27.68.06-x) for availability and required versions of prerequisite/optional software.

ORDERING INFORMATION

Software License: QL-798A9-AA
Software Media: QA-798A*-**
Software Documentation: QA-798A*-GZ
Software Product Services: QT-798A*-**

* 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 Equipment Corporation's Standard Terms and Conditions. For more information about Digital's licensing terms and policies, contact your local Digital office.

A single use license for the Supporting Host software is included with each PrintServer. The license gives you the right to install the PrintServer Component software on a single CPU or equipment configuration. To provide redundancy and flexibility in managing the PrintServer system, the license also provides the right to copy the software on one additional CPU within the local area network.

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.

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