Software Product Description

PRODUCT NAME: POLYCENTER Software Distribution, Version 3.0 **SPD 29.59.05**

DESCRIPTION

POLYCENTER Software Distribution (PSD) is an OpenVMS and ULTRIX layered product that permits a system manager to manage a number of computer systems efficiently.

PSD uses the DECnet network to automate the recurring system management tasks of:

- Software distribution and installation - both operating systems (OpenVMS AXP and OpenVMS VAX only) and applications (all Clients)
- File backup and restore
- System administration (OpenVMS VAX and OpenVMS AXP systems)

For flexibility in configuration, the clients and servers of PSD are available as separately licensed products:

- OpenVMS VAX Server
- OpenVMS AXP Server
- OpenVMS VAX Client
- OpenVMS AXP Client
- ULTRIX VAX Client
- ULTRIX RISC Client

POLYCENTER Software Distribution OpenVMS Server

The Server software runs on OpenVMS VAX and OpenVMS AXP and maintains Client software and administrative information, maintains libraries of application software, directs the installation of software, schedules file backups, and receives file backups.

Additionally, for OpenVMS VAX and OpenVMS AXP Clients, the Server provides remote maintenance of user accounts, directories, DECnet proxies, licenses, and libraries of operating systems.

The Server license includes the right to install the OpenVMS Client on the same node.

Server software can be installed on a cluster and configured to use the distributed resources available to all nodes that share the cluster alias. Alternatively, the Server software can be configured to operate on a single, specified node in the cluster. Configuring the Server for operation on a single cluster-member restricts the use of PSD and the associated workload to a single node.

Configuring the Server for full VMScluster system operation allows more efficient use of cluster-wide resources, providing redundancy and load balancing with minimum manager preparation and effort. In this configuration, all members of the cluster who share the cluster alias will share the work.

Typical networks would have one or more PSD Servers, each serving a number of Clients. It is possible to have multiple Servers for a given set of Clients. In such a case, one Server is designated for management operations and the others are Software Library Servers or Backup Target Servers, or combination Software Library /Backup Target Servers.

POLYCENTER Software Distribution OpenVMS Clients

These products provide OpenVMS systems with the ability to receive software, including operating systems, distributed from a PSD Server. They also permit files to be backed up to and restored from a Server.

POLYCENTER Software Distribution ULTRIX Clients

These products provide ULTRIX systems with the ability to receive software distributed from a PSD Server. Operating systems cannot be installed on ULTRIX Clients. These products also permit files to be backed up to and restored from a Server.

Features

Software Distribution and Installation

The Software Distribution Services (SDS) component of the PSD Server installs software on Clients. PSD stores copies of applications for both OpenVMS and ULTRIX and operating systems for OpenVMS systems in a library on the Server, and uses the DECnet network to

distribute software automatically to the Client during the installation process.

Note: Software that is installed using SDS remains subject to any licensing restrictions associated with that software.

Application Software Installation

PSD provides users with the ability to take applications from a library Server and install those applications on one or more Clients. Application software is installed on the Client using the standard installation utility for that system (for OpenVMS systems, VMSINSTAL or POLYCENTER Software Installation (PCSI); for ULTRIX systems, setld).

An Application Sets feature provides for the creation and manipulation of "sets" of related applications. The concept of Application Sets makes performing operations on an entire set of applications as easy as performing operations on a single application.

PSD provides users with the ability to manage and enforce application prerequisites. Applications may be stored in the library along with information on the software prerequisites for the application. Upon request to install an application, PSD automatically verifies that it has installed all of the software prerequisites on the Client. If any prerequisite software is not present on the Client, PSD automatically installs it.

Restrictions

For OpenVMS:

SDS can install any OpenVMS application that can be installed using the VMSINSTAL utility or the PCSI utility and conforms to the following rules:

- The application's installation procedure must conform to the guidelines presented in the *OpenVMS Developer's Guide to VMSINSTAL* or the *POLYCENTER Software Installation Utility Developer's Guide.*
- The application must be installable while VMSINSTAL or PCSI is running as a noninteractive process. In addition, the application must be installable using a VMSINSTAL auto-answer file or a PCSI configuration file.

SDS executes VMSINSTAL or PCSI as a detached process. Therefore, any application installation procedure that performs terminal-related activities (such as SET TERMINAL) or modifies its execution based on process mode (such as INTERACTIVE or BATCH) may fail.

The application installation procedure must not depend on local conditions such as node name or pre-existing files.

For ULTRIX:

SDS can install any ULTRIX application that can be installed using the setld utility. The setld program does not permit the installation of subsets that cannot fit into the available disk space.

Application subset naming has changed as of ULTRIX V4.0. The version labeling used by SDS supports only this new naming convention. ULTRIX applications present in SDS libraries prior to RSM V2.3 will not work; however, applications prior to ULTRIX V4.0 can be reinstalled if needed with a modified use of the subset version naming.

All NFS file systems should be dismounted before using setld with the -a, -d, and -l options.

Operating System Software Installation — OpenVMS (VAX and AXP Clients Only)

PSD can install an OpenVMS operating system on a PSD Client. Using this capability, managers of PSD Servers can take a VAX, VAXstation, MicroVAX, VAXserver, AXP Workstation, AXP Server, or AXP system, connect it to an Ethernet network, and have a preconfigured operating system transmitted over the Ethernet and installed on the PSD Client.

The system manager selects a FETCHed operating system from the SDS library for downloading; it must be a version of OpenVMS that supports the system to be initial system loaded (ISLed). Once designated for ISLing, the Client is booted from the Ethernet and the Client system is downloaded.

Restrictions

For the installation of operating system software, both the PSD Server and its Client must be on the same Local Area Network, or a copy of the operating system software image must reside on an InfoServer or local disk drive (such as a CD-ROM player) on the same LAN as the Client.

File Backup and Restore

The Backup and Restore Services (BRS) component provides scheduled file backups from PSD Clients to PSD Servers. BRS also has the ability to restore files that it backed up.

Backups are scheduled by creating a Server database entry for each backup task required for each Client. This entry defines all of the attributes of the backup task, such as the frequency of the backup (daily, weekly, monthly), the style of backup (incremental or full), the files to be backed up, and whether to store the backed up data on disk or tape.

Restrictions

When restoring to a Client from a tape backup, POLYCENTER Software Distribution copies the information to be restored to a Server disk prior to transferring this information to the Client. There must be sufficient disk space on the Server for this operation.

In order for PSD to perform an image restore of a Client, that Client must have at least two writable storage devices.

For ULTRIX:

Backups on ULTRIX systems use the native backup utilities (dump and tar) in multiuser mode, and these utilities are subject to certain limitations. Specifically, any user or system activity that modifies files while they are being backed up may corrupt the backup. Digital recommends that non-image backups be performed whenever possible, because during non-image backups PSD uses the tar utility, which is less vulnerable to corruption problems.

System Administration

The Client Administrative Services (CAS) component of the PSD Server provides remote management of user accounts, directories, and proxies on OpenVMS Clients. It provides a mechanism for maintaining consistent logical names, symbol names, and DECnet node names across the set of Clients. Also, it maintains and distributes OpenVMS license information for Clients and checks security of DECnet and guest accounts on Clients.

Restrictions

There is no command line interface to this component of PSD.

Additional Features

Multiple Server Type

Each PSD environment contains one and only one Management Server. The Management Server performs centralized PSD operation while other servers may contain the SDS library or receive backup output files. While no architectural limitations exist on the number of other Servers the Management Server can use, practical considerations influence the performance of the Management Server. A general suggestion for maintaining satisfactory performance is to configure a maximum of four other Servers to assist the Management Server.

Menu and Command Line User Interface

This version of PSD supports both a menu-style and a command line interface. The menu interface helps the user to correctly structure PSD command lines.

Groups

In many situations, a number of computer systems perform similar tasks. These systems typically use the same software and can operate on the same backup schedule. PSD's Group feature permits all of these systems to be referenced by a single group name. An operation on a Group is performed on each system in the group.

Management of LMF licenses

PSD provides the ability to create and maintain an OpenVMS License Management database on the Management Server for each OpenVMS Client. PSD can then transmit this database to the OpenVMS Client and install it as a Secondary LMF Database. This feature is supported only for OpenVMS Clients (VAX and AXP).

Configuration

PSD supports a single level of Server hierarchy. Therefore, each POLYCENTER Software Distribution environment must contain one and only one Management Server. While no architectural limitations exist on the number of clients any Server can serve, practical considerations such as Server processor type and available disk space influence Server performance. A general suggestion for maintaining satisfactory performance is to configure the Management Server to serve a maximum of approximately 40 clients. If you use several Management Servers, partition the Client population into distinct management domains, with one management domain for each Management Server.

Other Servers are Target Servers, Library Servers, combined Target and Library Servers, or any combination of these. You can add as many other Servers as you need.

PSD uses extensively the facilities provided by the operating system on which it runs and is highly dependent upon the configuration of the base operating system. You must maintain operating system files where they were placed during installation. Also, search lists should not be created which prevent PSD from accessing these files in the standard locations. All modifications to operating system data files (i.e., DECnet databases, user authorization files, etc.) should be done using the operating system provided utilities or as described in the appropriate documentation.

HARDWARE REQUIREMENTS

A VAX or Alpha AXP processor is required in the network for the PSD Server. Processor and/or hardware configurations are supported as follows:

For OpenVMS AXP Systems

Processors Supported:

Alpha AXP:
DEC 3000 Model 400 AXP Workstation,
DEC 3000 Model 400 AXP Server,
DEC 3000 Model 500 AXP Workstation,
DEC 3000 Model 500 AXP Server

DEC 4000 Model 610 AXP System

DEC 7000 Model 610 AXP System

DEC 10000 Model 610 AXP System

For OpenVMS VAX Systems

Processors Supported:

VAX:
VAX 4000 Model 100,
VAX 4000 Model 200,
VAX 4000 Model 300,
VAX 4000 Model 400,
VAX 4000 Model 500,
VAX 4000 Model 600

VAXft Model 110,
VAXft Model 310,
VAXft Model 410,
VAXft Model 610,
VAXft Model 612

VAX 6000 Model 200 Series,
VAX 6000 Model 300 Series,
VAX 6000 Model 400 Series,
VAX 6000 Model 500 Series,
VAX 6000 Model 600 Series

VAX 7000 Model 600 Series

VAX 8200, VAX 8250, VAX 8300,
VAX 8350, VAX 8500, VAX 8530,
VAX 8550, VAX 8600, VAX 8650,
VAX 8700, VAX 8800, VAX 8810,
VAX 8820, VAX 8830, VAX 8840

VAX 9000 Model 110,
VAX 9000 Model 210,
VAX 9000 Model 300 Series,
VAX 9000 Model 400 Series

VAX 10000 Model 600 Series

VAX–11/730, VAX–11/750,
VAX–11/780, VAX–11/785

MicroVAX:
MicroVAX II, MicroVAX 2000,
MicroVAX 3100 Model 10/10E,
MicroVAX 3100 Model 20/20E,
MicroVAX 3100 Model 30,
MicroVAX 3100 Model 40,
MicroVAX 3100 Model 80,
MicroVAX 3100 Model 90,
MicroVAX 3300, MicroVAX 3400,
MicroVAX 3500, MicroVAX 3600,
MicroVAX 3800, MicroVAX 3900

VAXstation:
VAXstation II, VAXstation 2000,
VAXstation 3100 Model 30,
VAXstation 3100 Model 38,
VAXstation 3100 Model 40,
VAXstation 3100 Model 48,
VAXstation 3100 Model 76,
VAXstation 3200, VAXstation 3500,
VAXstation 3520, VAXstation 3540

VAXstation 4000 Model 60,
VAXstation 4000 Model 90,
VAXstation 4000 VLC

VAXserver:
VAXserver 3100 Model 10/10E,
VAXserver 3100 20/20E,
VAXserver 3300, VAXserver 3400,
VAXserver 3500, VAXserver 3600,
VAXserver 3602, VAXserver 3800,
VAXserver 3900

VAXserver 4000 Model 200,
VAXserver 4000 Model 300,
VAXserver 4000 Model 500

VAXserver 6000 Model 210,
VAXserver 6000 Model 220,
VAXserver 6000 Model 310,
VAXserver 6000 Model 320,
VAXserver 6000 Model 410,
VAXserver 6000 Model 420,
VAXserver 6000 Model 510,
VAXserver 6000 Model 520,
VAXserver 6000 Model 610,
VAXserver 6000 Model 620,
VAXserver 6000 Model 630

Processors Not Supported:

MicroVAX I, VAXstation I, VAX–11/725, VAX–11/782, VAXstation 8000

For ULTRIX/VAX Systems

Processors Supported:

VAX: VAX 6000 Model 200 Series,
VAX 6000 Model 300 Series,
VAX 6000 Model 400 Series,
VAX 6000 Model 500 Series

VAX 8200, VAX 8250, VAX 8300, VAX 8350,
VAX 8500, VAX 8530, VAX 8550, VAX 8600,
VAX 8650, VAX 8700, VAX 8800, VAX 8810,
VAX 8820, VAX 8830, VAX 8840

VAX 9000 Model 110,
VAX 9000 Model 210,
VAX 9000 Model 300,
VAX 9000 Model 410 Series,
VAX 9000 Model 420

VAX–11/750, VAX–11/780, VAX–11/785

MicroVAX: MicroVAX II, MicroVAX 2000,
MicroVAX 3100, MicroVAX 3300,
MicroVAX 3400, MicroVAX 3500,
MicroVAX 3600, MicroVAX 3800,
MicroVAX 3900

VAXstation: VAXstation II, VAXstation II/GPX,
VAXstation 2000, VAXstation 3100,
VAXstation 3200, VAXstation 3500,
VAXstation 3520, VAXstation 3540

VAXserver: VAXserver 100, VAXserver 2000,
VAXserver 3100, VAXserver 3300,
VAXserver 3400, VAXserver 3500,
VAXserver 3600, VAXserver 3602,
VAXserver 3800, VAXserver 3900

VAXserver 6000 Model 210,
VAXserver 6000 Model 220,
VAXserver 6000 Model 310,
VAXserver 6000 Model 320,
VAXserver 6000 Model 410,
VAXserver 6000 Model 420,
VAXserver 6000 Model 510,
VAXserver 6000 Model 520

For ULTRIX/RISC Systems

Processors Supported:

DECstation: DECstation 2100, DECstation 3100,
DECstation 3100s

Personal DECstation 5000 Model 20/25 HX,
Personal DECstation 5000 Model 20/25 MX,
Personal DECstation 5000 Model 20/25 TX,
Personal DECstation 5000 Model 20/25 PXG+,
Personal DECstation 5000 Model 20/25 PXG Turbo+

DECstation 5000 Model 120/125/133 CX,
DECstation 5000 Model 120/125/133 HX,
DECstation 5000 Model 120/125/133 MX,
DECstation 5000 Model 120/125/133 PX,
DECstation 5000 Model 120/125/133 TX,
DECstation 5000 Model 120/125/133 PXG,
DECstation 5000 Model 120/125/133 PXG+,
DECstation 5000 Model 120/125/133 PXG Turbo,
DECstation 5000 Model 120/125/133 PXG Turbo+

DECstation 5000 Model 200 CX,
DECstation 5000 Model 200 HX,
DECstation 5000 Model 200 MX,
DECstation 5000 Model 200 PX,
DECstation 5000 Model 200 TX,
DECstation 5000 Model 200 PXG,
DECstation 5000 Model 200 PXG+,
DECstation 5000 Model 200 PXG Turbo,
DECstation 5000 Model 200 PXG Turbo+

DECstation 5000 Model 240 HX,
DECstation 5000 Model 240 MX,
DECstation 5000 Model 240 TX,
DECstation 5000 Model 240 PXG+,
DECstation 5000 Model 240 PXG Turbo+

DECsystem: DECsystem 3100,
DECsystem 5000 Model 25,
DECsystem 5000 Model 200,
DECsystem 5000 Model 240,
DECsystem 5100, DECsystem 5400,
DECsystem 5500, DECsystem 5810,
DECsystem 5820, DECsystem 5830,
DECsystem 5840, DECsystem 5900

Processor Restrictions:

Operating System Installation (Initial System Load) for Clients is supported on the following processor types under OpenVMS VAX and AXP systems only:

Alpha AXP: DEC 3000 Model 400 AXP Workstation,
DEC 3000 Model 400 AXP Server,
DEC 3000 Model 500 AXP Workstation,
DEC 3000 Model 500 AXP Server

DEC 4000 Model 610 AXP System

MicroVAX: MicroVAX II, MicroVAX 2000,
MicroVAX 3100, MicroVAX 3300,
MicroVAX 3400, MicroVAX 3500,
MicroVAX 3600, MicroVAX 3800,
MicroVAX 3900

VAXstation: VAXstation II, VAXstation II/GPX,
VAXstation 2000, VAXstation 3100,
VAXstation 3200, VAXstation 3500,
VAXstation 3520, VAXstation 3540

VAXstation 4000 Model 60,

	VAXstation 4000 Model 90, VAXstation 4000 VLC
VAXserver:	VAXserver 3100, VAXserver 3300, VAXserver 3400, VAXserver 3500, VAXserver 3600, VAXserver 3602, VAXserver 3800, VAXserver 3900
	VAXserver 4000 Model 200, VAXserver 4000 Model 300, VAXserver 4000 Model 500
VAX:	VAX 4000 Model 100, VAX 4000 Model 200, VAX 4000 Model 300, VAX 4000 Model 400, VAX 4000 Model 500, VAX 4000 Model 600

Other Hardware Required:

As required to support DECnet.

Disk Space Requirements (Block Cluster Size = 1)

To install the PSD management server on an AXP system, the system disk must have one of the two following amounts of free disk blocks on the system disk:

- 84,000 blocks, to install the entire kit, including ISL suport for operating systems fetched with PSD Version 2.4 software
- 21,000 blocks, to install without any of the optional features

For permanent use on an AXP system, the management server requires the all of the following:

- 18,000 blocks on the system device
- 3,000 blocks on the system device or other device specified during installation
- 21,000 blocks on the system device or other device specified during installation, for ISL support for VAX operating systems fetched with PSD Version 2.4 software
- 42,000 blocks on the system device or other device specified during installation, for ISL support for AXP operating systems fetched with PSD Version 2.4 software

To install the PSD management server on a VAX system, one of following amounts of free disk blocks is required on the system disk:

- 80,000 blocks, if AXP operating system load support is required
- 17,000 blocks, to install without any of the optional features

For permanent use on a VAX system, the management server requires the all of the following:

- 17,000 blocks of disk space on the system device
- 3,000 blocks on the system device or other device specified during installation
- 21,000 blocks on the system device or other device specified during installation, for ISL support for VAX operating systems fetched with PSD Version 2.4 software version 2.4
- 42,000 blocks on the system device or other device specified during installation, for ISL support for AXP operating systems fetched with PSD version 2.4

For OpenVMS Client:

Disk space required for installation:	1,900 blocks
Disk space required for use (permanent):	1,900 blocks

For ULTRIX Client:

Disk space required for installation:	100 Kbytes (VAX)
	300 Kbytes (RISC)
Disk space required for use (permanent):	275 Kbytes (VAX)
	470 Kbytes (RISC)
Temporary disk space required during SDS operations:	1.2 Mbytes (RISC)
	830 Kbytes (VAX)

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, configuration, and software options selected.

CLUSTER ENVIRONMENT

OpenVMS Server

This layered product is fully supported when installed on any valid and licensed VMScluster configuration with the following restriction: The Initial System Load is performed from a single node, chosen during product configuration, which enables service to receive boot requests.

The *HARDWARE REQUIREMENTS* section of this product's Software Product Description details any special hardware required by the product.

OpenVMS Client

This layered product is fully supported when installed on any valid and licensed VMScluster configuration without restrictions. The *HARDWARE REQUIREMENTS* section of this product's Software Product Description details any special hardware required by this product.

The PSD Server must be licensed on all members of the VMScluster system that share the cluster alias.

- VMScluster configurations are fully described in the VAXcluster Software Product Description (29.78.07) and include CI, Ethernet, and Mixed Interconnect configurations.

SOFTWARE REQUIREMENTS

PSD Clients require that there be at least one PSD Server on a VAX or AXP in the network.

Server Software

For OpenVMS VAX Systems:

- VAX/VMS Version 5.4 or higher
- OpenVMS VAX Operating System, Version 6.0 or higher
- DECnet–VAX, Version 5.4 or higher

Server Software

For OpenVMS AXP Systems:

- OpenVMS AXP Operating System, Version 1.5 or higher

  Note: PSD Initial System Load (ISL) is not supported for OpenVMS AXP V1.5, but is supported by OpenVMS AXP V6.1 or higher.
- DECnet for OpenVMS AXP

Client Software

For OpenVMS VAX Systems:

- VAX/VMS Version 5.4 or higher
- OpenVMS VAX Operating System, Version 6.0 or higher

For OpenVMS AXP Systems:

- OpenVMS AXP Operating System, Version 1.5 or higher
- DECnet for OpenVMS AXP

For ULTRIX Systems (RISC and VAX):

- ULTRIX Operating System, Version 4.2 or higher
- DECnet–ULTRIX Version 4.2

OpenVMS Tailoring

For OpenVMS systems, the following OpenVMS classes are required for full functionality of this layered product:

- OpenVMS Required Saveset
- Network Support
- Secure User's Environment
- Utilities

For more information on OpenVMS classes and tailoring, refer to the operating system Software Product Description.

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

TK50 Streaming Tape

This product is also available as part of the OpenVMS Consolidated Software Distribution on CD-ROM.

The software documentation for these products is also available as part of the OpenVMS Online Documentation Library on CD-ROM.

ORDERING INFORMATION

Server (OpenVMS AXP)

Software License: QL-2Q5A*-**
Software Documentation (hardcopy): QA-B13AA-GZ
Software Product Services: QT-2Q5A*-**

Server (OpenVMS VAX)

Software License: QL-B13A*-**
Software Media/Documentation (CD-ROM):
QA-03XAA-H8
Software Media (TK50): QA-B13A*-**
Software Documentation (hardcopy): QA-B13AA-GZ
Software Media/Documentation Update (TK50):
QA-B13AA-H5
Software Product Services: QT-B13A*-**

Customers wishing to add an AXP Client to a Server running PSD earlier than V2.4 need to update the Server to V2.4 either through a service contract or via an update license and H-kit purchase.

Client

Software Licenses:
OpenVMS VAX Client: QL-B14A*-**
OpenVMS AXP Client: QL-0EFA*-**
ULTRIX/VAX Client: QL-VWWA*-**
ULTRIX/RISC Client: QL-GUXA*-**

No separate media/documentation kit is required. Client software and documentation are included with Server software and documentation.

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

The above information is valid at time of release. Please contact your local Digital office for the most up-to-date information.

SOFTWARE LICENSING

The licensing terms are based on ClusterWide licensing in which the license applies to a purchase power rating rather than a specific CPU. Customers continue to receive the right-to-use software on nodes within a cluster system. The PSD Server must be licensed on all members of the VMScluster system that share the cluster alias. In this case, the VMScluster license would be restricted to the rating purchased rather than the total rating of the VMScluster system, unless the entire VMScluster system shared the cluster alias.

This software is furnished only under a license. For more information about Digital's licensing terms and policies, contact your local Digital office.

License Management Facility Support

The PSD OpenVMS VAX Server, PSD OpenVMS Client, and PSD ULTRIX/RISC Client layered products support the OpenVMS 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 appropriate operating system Software Product Description or documentation.

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 from Digital. For more information, 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.