Software Product Description

PRODUCT NAME: HP Storage Library System Version 2.9J for OpenVMS **SPD 29.67.27**

DESCRIPTION

Data center managers face major storage management problems: system backup and restore complexity and effective file archiving and retrieval. HP Storage Library System (SLS) for OpenVMS provides the solution for OpenVMS environments.

SLS for OpenVMS includes a remote backup facility for OpenVMS clients.

Features

- Automatic, flexible scheduling of backup operations
- Centralized services for user-requested backup and archiving operations
- Can be used for remote backup and archiving operations directly between disks and tape drives located on different OpenVMS systems within a DECnet or DECnet Plus network without staging data across disks
- Online maintenance of information about backed up and archived files and volumes; this allows quick retrieval of the files or restoration of disk volumes without the user having to know the names of the tape volumes on which the data was saved
- Can be used for OpenVMS systems in both mixed-interconnect and mixed architecture OpenVMS Clusters
- Integration with RMU/BACKUP and RMU/RESTORE, allowing backup and restore of Oracle® Rdb™ databases using SLS managed media
- Effective use of all media capacity by appending multiple sets of backed up or archived files to the same volume or volume set
- Direct positioning to the start of each save set file during a restore operation using saved information about the tape position of each save set file. SLS does not qualify SCSI fast tape positioning
- DCL and menu interfaces with online help for users, operators, and storage administrators
- Customization features to meet a variety of operational and site requirements

SLS for OpenVMS provides the following important media and device management capabilities:

- Qualified for unattended backup operations using a variety of automated libraries and loaders. For a complete list of qualified devices, refer to the section *'Qualified Devices'* in this SPD
- Media life cycle control including maintenance of volume retention period, availability status, location, and scheduling of dates when volumes are to move offsite and return
- Maintenance of counters for each volume noting the number of times a volume has been mounted and the number of errors associated with the volume; these counters are used to schedule volume cleaning when the counters exceed threshold values
- Control of media allocation based on customer-defined media pools
- Ability to print external tape labels in a customized format
- Built-in report generation and custom report generation capability
- Security features to prevent unauthorized media or device use

- "Round robin" device allocation to distribute drive usage among available tape drives
- In an OpenVMS Cluster environment, automatic failure recovery from the loss of a processor to allow continuous access to the SLS for OpenVMS media databases. This feature requires two server licenses.

SLS version 2.9J-ECO01 and later use MRU V1.8A for performing loader or library related operations on new media libraries. MRU V1.8A is also required for facilitating migration from SLS/MDMS V2.x to ABS/MDMS V4.x environment.

Remote Device Facility (RDF™)

The Remote Device Facility (RDF) software is included within SLS and is optionally installed during the SLS software installation procedure. No additional license is needed for RDF when used along with SLS.

RDF allows SLS to access tapes from other OpenVMS nodes across the DECnet or DECnet-Plus network for backup and archive operations. RDF includes the following capabilities:

- RDF servers that execute tape I/O requests on behalf of a remote client. Servers are located on systems that have tape drives attached or on systems that can access drives through the OpenVMS TMSCP Server.
- RDF clients that provide the communications interface between applications reading or writing data to a tape drive and to the RDF servers.

SLS for OpenVMS software makes access to remote tape drives transparent to SLS backup and archive operations by issuing RDF commands as appropriate if a designated tape drive is a remote one. SLS for OpenVMS software also manages volume load requests to remote systems to allow unattended backups or to communicate with a console operator. SLS for OpenVMS makes no direct use of the remote disk capabilities inherent in RDF.

LICENSE OPTIONS

To qualify a variety of configuration requirements, the following SLS for OpenVMS license options are available:

- SLS for OpenVMS VAX Server
- SLS for OpenVMS Alpha Server
- SLS for OpenVMS VAX Client
- SLS for OpenVMS Alpha Client

SLS for OpenVMS VAX and OpenVMS Alpha Server:

SLS for OpenVMS server software provides full functionality, as described above, to users on the node or OpenVMS Cluster on which SLS is executing. A node or OpenVMS Cluster executing SLS for OpenVMS software provides media management services for itself and for any "client nodes" connected to it. At least one SLS for OpenVMS server license in the network is required for use of the SLS for OpenVMS product.

SLS for OpenVMS VAX and Alpha Clients:

SLS for OpenVMS Client software provides backup scheduling and archiving services for the node or OpenVMS Cluster on which it is executing, and acts as a client of the SLS server software when the client requires media management services.

Like the SLS Sever software, the SLS Client software maintains SLS history files where it records information about user files backed up or archived locally under its control. The node executing SLS for OpenVMS client software communicates using DECnet or DECnet-Plus software to a node running the SLS for OpenVMS server software. The SLS server node maintains the SLS media database. The SLS media database contains information about volume location and pool access authorization.

Each SLS for OpenVMS client node must be reached from a node or OpenVMS Cluster system executing the SLS for OpenVMS server software. Any number of SLS for OpenVMS client nodes may be served by a single SLS for OpenVMS server node.

Qualified DEVICES

The following libraries and loaders have been tested and qualified by Storage Management Software Engineering. However, Storage Management Software Engineering does not test each of the devices with every possible combination of controllers and host systems. Because Storage Library System and the Media Robot Utility (MRU) run in common environments, these combinations are tested first with MRU. Upon successful completion of the MRU tests, Storage Library System is then tested in representative configurations. Note that MRU is not a prerequisite for Storage Library System.

Therefore, to determine if your specific configuration has been qualified follow these steps:

1. If you have a tape drive that is not software-defined as a jukebox (is not a library or a loader device), refer to the OpenVMS Software Product Description (SPD 25.01.xx) to determine if your tape drive is qualified for your platform and controller/adapter combination.

2. If your device is software-defined as a jukebox (it is a library or loader device), first check the following list to determine if it is tested by the media manager. If the device is listed, see the following instructions:

   a. Check the OpenVMS Software Product Description (SPD 25.01.xx) to make sure the tape drive(s) in your library/loader are qualified for your platform and controller/adapter combination.

   b. Check the MRU Software Product Description (SPD 64.44.xx) to make sure your library/loader is listed by MRU for your specific controller/adapter combination.

3. Assuming your device is correctly connected and configured, it should work with Storage Library System and its clients.

If you have devices that are not shown on the list, they may still have been qualified. HP continually tests its software on additional devices that may have been released since the last publication of this SPD. If you have a question about a particular device, contact HP customer support.

ESL9326D	ESL9595L2
MSL5026SL	-
SSL2020	STK ACS
TLZ6L	TLZ7L
TLZ9L	TKZ6*x*
TL810	TL812
TL820	TL822
TL826	TL890
TL891	TL892
TL893	TL894
TL895	TL896
TL857	TZ867
TZ875	TZ875*n*
TZ877	TZ877*n*
TZ885	TZ887
TL891DX	TSL10000

OpenVMS Cluster ENVIRONMENT

This layered product is fully qualified when installed on any valid and licensed OpenVMS Cluster configuration. OpenVMS Cluster configurations are fully described in the OpenVMS Cluster Software Product Description (29.78.xx) and include CI, Ethernet, and Mixed Interconnect configurations.

OpenVMS Tailoring:

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

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

HARDWARE REQUIREMENTS

SLS runs on VAX and Alpha processors qualified by OpenVMS. For a detailed list of processors qualified by OpenVMS, see the *OpenVMS Operating System Software Product Description (SPD 25.01.xx).*

As with OpenVMS, the following processors are not qualified:

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

Processor Restrictions:

A minimum system configuration includes:

- 4 MB memory
- One or more tape drives
- Disk drive, recognized by OpenVMS as having a Files–11 structure
- Any other minimum configuration requirements for the OpenVMS Operating system

SOFTWARE REQUIREMENTS

Operating System:

SLS is qualified on:

- OpenVMS VAX version, V7.3
- OpenVMS Alpha versions, V7.3-2, V8.2, and V8.3

Note: SLS V2.9J does not utilize ODS5 disk structure.

Layered Products:

- DECnet Phase IV for OpenVMS, or
- DECnet-Plus

Oracle Rdb:

- Oracle Rdb 7.0.3, 7.0.5, 7.0.6, 7.0.6.1, 7.0.9 and 7.1-02

Optional Software:

Digital Cartridge Server Component (DCSC) is required for support StorageTek ACSLS silos. Refer to the DCSC Software Product Description (SPD 33.59.xx). *OpenVMS Disk space required for SLS Server Node:*

Server	Without RDF	With RDF
Peak (during installation):	9,000 blocks (4.5 MB)	(client and server) 10,200 blocks (5.1 MB)
Net (permanent):	7,800 blocks (3.9 MB)	8,400 blocks (4.2 MB)

OpenVMS Disk space required for SLS Client Node:

Client	Without RDF	With RDF
Peak (during installation):	8,700 blocks (4.4 MB)	(client and server) 9,800 blocks (4 MB)
Net (permanent):	7,100 blocks (3.6 MB)	7,900 blocks (4.0 MB)

Disk space required by the SLS for OpenVMS media database and history files:

The SLS media database is present only on nodes executing SLS for OpenVMS server software (not on nodes executing SLS for OpenVMS client software). The disk space required by the SLS media database depends on the number of pieces of media to be managed. During installation, you may designate the disk on which the SLS media database will be kept. For enhanced data safety, the SLS media database may be stored on a shadowed disk.

SLS history files are present on any node executing either SLS for OpenVMS server software or SLS for OpenVMS client software. The disk space required for a SLS history file depends upon the number of files to be tracked by SLS for OpenVMS software. During installation, you may designate the disk on which SLS history files are will be kept. For enhanced data safety, the SLS history files may be stored on a shadowed disk.

Total Disk Space Requirement for SLS for OpenVMS Server Software:

Execution of SLS for OpenVMS Server software requires approximately 8,400 blocks (the number of blocks occupied by SLS for OpenVMS and RDF software) plus one block for every piece of media it manages plus one block for every six files it tracks.

Example: Assume that there are 1,500 pieces of media under management by SLS for OpenVMS software and that 60,000 files are tracked. The space required is:

Component	Required Disk Space
SLS for OpenVMS Server Software:	8,400 blocks
Media database:	1,500 blocks
History files:	10,000 blocks
TOTAL	19,900 blocks (10.0 MB)

Total Disk Space Requirement for SLS Client software:

Execution of SLS for OpenVMS Client software requires 7,900 blocks (the number of blocks occupied by SLS for OpenVMS Client and RDF software) plus one block for every six files it tracks.

Example: Assume that there are 60,000 files known to SLS for OpenVMS Client software. The disk space required is:

Component	Required Disk Space
SLS for OpenVMS Client software:	7,900 blocks
History files:	10,000 blocks
TOTAL	17,900 blocks (8.0 MB)

In addition to the disk space specified above, adequate disk storage must be available on the host system to accommodate history files if that option is selected.

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.

GROWTH CONSIDERATIONS

The minimum hardware/software requirements for any future version of this product may be different from the requirements for the current version.

DOCUMENTATION

The SLS documentation set is provided for SLS server and client on OpenVMS VAX and Alpha.

DISTRIBUTION MEDIA

SLS is available as part of the OpenVMS Consolidated Software Distribution for VAX and Alpha systems on CD-ROM.

SOFTWARE LICENSING

This software is furnished under the licensing provisions of HP's Standard Terms and Conditions. For more information about HP's licensing terms and policies, contact your HP account representative or distributor.

License Management Facility

SLS Server for OpenVMS, and SLS Client for OpenVMS qualify the OpenVMS License Management Facility.

For more information on the OpenVMS License Management Facility, refer to the OpenVMS Operating System Software Product Description (SPD 82.35.xx) or the OpenVMS License Management Facility manual of the OpenVMS Operating System documentation set.

ORDERING INFORMATION

The Media Management software is included with the SLS server and client.

VAX Systems:

SLS Server for OpenVMS VAX:

Software Licenses: QL-0L7A*-AA
Software Documentation: QA-0L7AA-GZ
Software Update Licenses: QL-0L7A*-RA

SLS Client for OpenVMS VAX:

Software Licenses: QL-YE8A*-AA
Software Update Licenses: QL-YE8A*-RA

DCSC for OpenVMS VAX:

Software License: QL-YWNA9-AA

Alpha Systems:

SLS Server for OpenVMS Alpha:

Software Licenses: QL-0YPA*-AA
Software Documentation: QA-0YPAA-GZ
Software Update Licenses: QL-0YPA*-RA
Software Consulting PLUS Service: Covered under SLS for OpenVMS Consulting PLUS Service

SLS Client for OpenVMS Alpha:

Software Licenses: QL-0YQA*-AA
Software Update Licenses: QL-0YQA*-RA

DCSC for OpenVMS Alpha:

Software License: QL-4EUA9-AA

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

Note: It is recommended that first time SLS for OpenVMS users purchase the Consulting Service for SLS for OpenVMS or Consulting PLUS Service for SLS for OpenVMS.

SOFTWARE PRODUCT SERVICES

A variety of service options are available from HP. For more information, contact your HP account representative or distributor. This information is also available on www.hp.com/hps/software.

SOFTWARE WARRANTY

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