

StorageTek

Security Guide for SL500, SL3000, and SL8500

E23535-02

October 2013

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E23535-02

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Preface

This document describes the security features of Oracle's StorageTek SL500, SL3000, and SL8500 libraries.

Audience

This guide is intended for anyone involved with using security features and secure installation and configuration of StorageTek SL500, SL3000, and SL8500.

Documentation Accessibility

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This section gives an overview of the SL500, SL3000, SL8500 libraries and explains the general principles of tape library security.

Product Overview

SL500

SL500 is a 40U 19" rack mounted modular automated tape library by Oracle Corporation. It offers storage capacity of 30 to 500 LTO or SDLT tape cartridges, from 1 to 18 LTO or SDLT SCSI LVD, Fibre, or SAS tape drives, with either a separate SCSI LVD or Fibre Library control path, or a bridged drive Fibre or SAS port control path. A bridged path indicates that the control path is through an HP5 drive port.

SL3000

SL3000 is a tape library, which provides the following features:

- Attachment to both open systems and mainframe environments using HLI over Ethernet, and SCSI over FC
- Economic scalability for both tape drives (1 to 56) and cartridges (200 to 4500) to allow entry level pricing and field upgradeable expansion as the customer data storage needs grow
- Live replacement of redundant components, including power supplies, robotics and electronics
- True mixed media support - any cartridge / any slot

SL8500

SL8500 is an automated tape library, which provides the following features:

- Attachment to both open systems and mainframe environments using HLI over Ethernet with either the ACSLS open systems host or the HSC mainframe host
- Economic scalability for both tape drives (1 to 64) and cartridges (500 to 10,000) to allow entry level pricing and field upgradeable expansion as the customer data storage needs grow
- Live replacement of redundant components, including power supplies, robotics and electronics
- True mixed media support - any cartridge / any slot

Security

All tape library products are designed and documented for use within a controlled server environment with no general network access. This will give the best functionality and protection from compromise, both from the internet in general and from the internal entity operating the library.

General Security Principles

The following principles are fundamental to using any product securely.

Keep Software Up To Date

One of the principles of good security practice is to keep all software versions and patches up to date. Throughout this document, we assume software levels of:

- SL500 1485
- SL3000 4.02
- SL8500 8.31

Restrict Network Access

Keep the library behind a data center firewall. The firewall provides assurance that access to these systems is restricted to a known network route, which can be monitored and restricted, if necessary. As an alternative, a firewall router substitutes for multiple, independent firewalls. Identifying the hosts allowed to attach to the library and blocking all other hosts is recommended where possible.

Keep Up To Date on Latest Security Information

Oracle continually improves its software and documentation. Check this document every release for revisions.

Secure Installation

This section outlines the planning and implementation process for a secure installation and configuration, describes several recommended deployment topologies for the systems, and explains how to secure a tape library.

Understand Your Environment

To better understand security needs, the following questions must be asked:

Which resources need to be protected?

Many resources in the production environment can be protected. Consider the resources needing protection when deciding the level of security that you must provide.

From whom are the resources being protected?

The library must be protected from everyone on the Internet. But should the library be protected from the employees on the intranet in your enterprise?

What will happen if the protections on strategic resources fail?

In some cases, a fault in a security scheme is easily detected and considered nothing more than an inconvenience. In other cases, a fault might cause great damage to companies or individual clients that use the tape drive. Understanding the security ramifications of each resource will help protect it properly.

Securing the Library

By default, the library uses ports listed in the following table. The firewall should be configured to allow traffic to use these ports and that any unused ports are blocked. The SL8500 and SL3000 libraries support IPv4.

Table 2-1 Network ports used

Port	SL500	SL3000	SL8500
22 tcp - SSH CLI and SLC access - inbound stateful	X	X	X
115 tcp - SFTP code download from SLC inbound stateful	X	X	X
161 udp - SNMP library agent requests - inbound stateful	X	X	X

Table 2–1 (Cont.) Network ports used

Port	SL500	SL3000	SL8500
162 udp - SNMP library traps and inform notifications - outbound stateless for traps, outbound stateful for inform	X	X	X
68udp - dhcp client - inbound and outbound	X		
50001-50016 tcp - HLI host access - inbound stateful		X	X
33200-33500 udp - traceroute (CLI debugging of route tables) - outbound stateful		X	X

When configuring SNMP, using SNMPv3 is strongly recommended over SNMPv2c for its confidentiality, integrity and authentication capabilities.

Installing Streamline Library Console (SLC) application and the Web Application Archive (WAR) file

SLC should only be installed on systems that are within the same protected network infrastructure as the library. Customer access controls should be enforced on the systems where SLC is installed to assure restricted access to the library. See [Table 2–1](#) for ports used by SLC

Refer to the following library user guides for web launch SLC install instructions.

- SL500 User Guide
- SL3000 User Guide
- SL8500 User Guide

Post Installation Configuration

This section documents security configuration changes that must be made after installation.

Assign the user (admin) password.

The customer admin account password is managed by a One Time Password (OTP) infrastructure. There are 280 passwords available for use over the life of the library if the admin password is forgotten and has to be reset. The first OTP is on a label affixed to the frame. Your service representative will use this OTP when installing your library. You can then enter a password of your choice.

Enforce password management

Basic password management rules, such as password length, and complexity must be applied to the administrator password.

Security Features

This section outlines the specific security mechanisms offered by the product.

The library provides an internal firewall to protect itself. This should not be the only line of security to protect the library. Ideally, the library should be in a physically secured data center that also has a secured network that only allows access from the servers utilizing its functionality. These servers and applications running on them should also be secured.

Secure Deployment Checklist

The following security checklist includes guidelines that help secure the library:

1. Enforce password management.
2. Enforce access controls.
3. Restrict network access.
 - a. A firewall should be implemented.
 - b. The firewall must not be compromised.
 - c. System access should be monitored.
 - d. Network IP addresses should be checked.
4. Contact your Oracle Services, Oracle Tape Library Engineering, or account representative to report suspected vulnerabilities in Oracle tape libraries.

B

References

- SL500 User Guide
- SL3000 User Guide
- SL8500 User Guide

