

**StorageTek®**

---

**Automated Cartridge  
System Library  
Software**

**Product Information**

**Version 5.3**

The information in this document is confidential and proprietary to Storage Technology Corporation and may be used only under the terms of the product license or nondisclosure agreement. The information in this document, including any associated software program, may not be disclosed, disseminated, or distributed in any manner without the written consent of Storage Technology Corporation.

### **Limitation on Warranties and Liability**

**This document neither extends nor creates warranties of any nature, expressed or implied.** Storage Technology Corporation cannot accept any responsibility for your use of the information in this document or for your use of any associated software program. Storage Technology Corporation assumes no responsibility for any data corruption or erasure as a result of the use of the information in this document, or the use of software programs. You should be careful to ensure that your use of the information complies with all applicable laws, rules, and regulations of the jurisdictions with respect to which the information is used.

**Warning:** No part or portion of this document may be reproduced in any manner or in any form without the written permission of Storage Technology Corporation.

### **Restricted Rights**

Use, duplication, or disclosure by the U.S. Government is subject to restrictions as set forth in subparagraph (c) (1) (ii) of the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 or subparagraphs (c) (1) and (2) of the Commercial Computer Software — Restricted Rights at 48 CFR 52.227-19, as applicable.

### **Trademarks**

StorageTek is a registered trademark of Storage Technology Corporation.

IBM is a registered trademark of International Business Machines Corporation.

Other product names mentioned in this manual may be trademarks. They are used for identification purposes only.

### **ACSL 5.3, October 1998**

This edition applies to Version 5.3 of Automated Cartridge System Library Software. Information contained in this publication is subject to change. Comments concerning the contents of this manual should be directed to:

Storage Technology Corporation  
Manager, Software Information Development  
2270 South 88th Street  
Louisville, Colorado 80028-5209

© Copyright Storage Technology Corporation 1998. All Rights Reserved.

## About this Book

---

The Product Information provides information about ACSLS 5.3 for both Solaris and AIX platforms.

### Audience

This information is provided for system programmers, system administrators, and operators who need general requirements, enhancements for ACSLS 5.3, and other information.

#### Reader's Comments

We'd like to know what you think about this book. For that purpose, we've included a reader's comment form in the back of this book. Please copy the form, fill it out, and mail it to us.

If you prefer, you can e-mail your comments to Software Information Development directly. Our Internet address is:

**sid@stortek.com**

### Technical Support

Refer to the *Requesting Help from Software Support* guide for information about contacting StorageTek for technical support.

## Related Documentation

### ACSL5 5.3 Documentation

The following publications provide more information about ACSLS 5.3:

- The *ACSL5 5.3 Information CD-ROM*, part number 311250301, which is automatically shipped with the 5.3 program package and provides HTML format of all the ACSLS 5.3 publications.
- *ACSL5 Installation and Configuration Guide* for your platform, part number 311250001 for the Solaris platform and part number 311250401 for the AIX platform. Hardcopy of the guide for your platform is also shipped with the program package.
- *ACSL5 System Administrator's Guide*, which is provided in HTML format on the ACSLS 5.3 Information CD-ROM and on the CRC. Hardcopy can be ordered by contacting StorageTek at 1-800-436-5554. The hardcopy part number is 311250101.
- *ACSL5 Quick Reference*, part number 311253501, which is automatically shipped with the 5.3 program package.
- *ACSL5 Messages*, which is provided in HTML format on the ACSLS 5.3 Information CD-ROM and on the CRC. Hardcopy can be ordered by contacting StorageTek at 1-800-436-5554. The hardcopy part number is 311250201.

## ACSLs Online Information on the StorageTek CRC

In addition to the HTML and PDF collections on the *ACSLs 5.3 Information CD-ROM*, the StorageTek Customer Resource Center (CRC) on the World Wide Web provides PDF collections for ACSLS 5.1 and above. Use the following procedure to access these collections on the StorageTek CRC.



**Hint:** The latest service updates appear in red print throughout the online information.



### To access ACSLS PDF collections on the StorageTek CRC:

1. **Using an Internet browser such as Netscape 3.0, go to the StorageTek CRC. The URL is:**

<http://www.stortek.com/StorageTek/doc/index.html>

2. **Select the Request a Login/Password link.**

3. **Fill in the information requested in the form.**

You should receive your account ID and password within two days.

4. **When you receive your account information, go to the storage software documentation on the CRC:**

<http://www.stortek.com/StorageTek/doc/software/index.html>

5. **In the Nearline Enablement Software table under User Documentation, select the red square opposite ACSLS.**

6. **When prompted, fill in your User ID and password.**

The Software: ACSLS User Documentation page appears.

7. **Find the ACSLS version you want and click the link to the desired information unit.**

The ACSLS information for the selected version and information unit appears.

## ACS Hardware Documentation

The StorageTek CRC on the World Wide Web provides .pdf file format of many of StorageTek's ACS hardware publications. Use the following procedure to access these publications on the StorageTek CRC.



### To access StorageTek ACS hardware documentation on the StorageTek CRC:

1. **Using an Internet browser such as Netscape 3.0, go to the StorageTek CRC. The URL is:**

<http://www.stortek.com/StorageTek/doc/indexf.html>

2. **Select the Request a Login/Password link.**

3. **Fill in the information requested in the form.**

You should receive your account ID and password within two days.

4. **When you receive your account information, go to the storage hardware documentation on the CRC:**

<http://www.stortek.com/StorageTek/doc/hardware.html>

5. **In the Hardware table under User Guides, select the red square opposite the product for which you want information.**

6. **When prompted, fill in your User ID and password.**

The online documentation page for the requested product appears.

7. **Download the .pdf file you want.**

Most download pages contain a link you can use to download Adobe Acrobat Reader to view the .pdf file.

# Contents

---

<b>About this Book</b> .....	<b>iii</b>
Audience .....	iii
Reader's Comments .....	iii
Technical Support .....	iii
Related Documentation .....	iv
ACSL5 5.3 Documentation .....	iv
ACSL5 Online Information on the StorageTek CRC .....	v
ACS Hardware Documentation .....	vi
<b>ACSL5 5.3 Product Information</b> .....	<b>1</b>
What is ACSL5? .....	1
ACSL5 5.3 Enhancements .....	3
LSM, Transport, and Media Compatibility .....	5
4410 LSMs .....	5
9310 LSMs .....	5
9360 LSMs .....	5
9740 SCSI-Attached LSMs .....	6
9740 Serial-Attached LSMs .....	6
9710 LSMs .....	7
9714 LSMs .....	7
9730 LSMs .....	7
Transport and Media Compatibility .....	8
Co-hosting on the ACSL5 Server .....	9
AIX Requirements .....	10
CSCI Requirements .....	12
Solaris Requirements .....	13
Memory Requirements .....	17
Microcode Requirements .....	18
Database Conversion Requirements .....	19

Upgrading from SunOS .....	20
ACSLs Manager 1.1 Requirements .....	21
What is ACSLS Manager? .....	21
ACSLs Manager 1.1 Requirements .....	21
<b>Glossary .....</b>	<b>23</b>

# List of Figures

---

Figure 1. Library with ACSLS Server ..... 2

## List of Tables

---

Table 1.	Media and Transport Compatibility .....	8
Table 2.	AIX Requirements .....	10
Table 3.	CSCI Requirements .....	12
Table 4.	Solaris Requirements .....	13
Table 5.	Memory Requirements for ACSLS 5.3 .....	17
Table 6.	ACSLs Manager 1.1 Requirements .....	21

## ACSL5 5.3 Product Information

---

### What is ACSLS?

Automated Cartridge System Library Software (ACSL5) is StorageTek's server software that controls a StorageTek Automated Cartridge System (ACS). ACSLS accesses and manages information stored in an ACS through command processing across a network. The software includes a system administration component, interfaces to client system applications, and library management facilities.

Figure 1 shows how ACSLS connects the client system with the library. The client system consists of a Client System Component (CSC), an interface between client applications and ACSLS written using the CSC developer's toolkit. Independent Software Vendors commonly write CSCs for their applications.

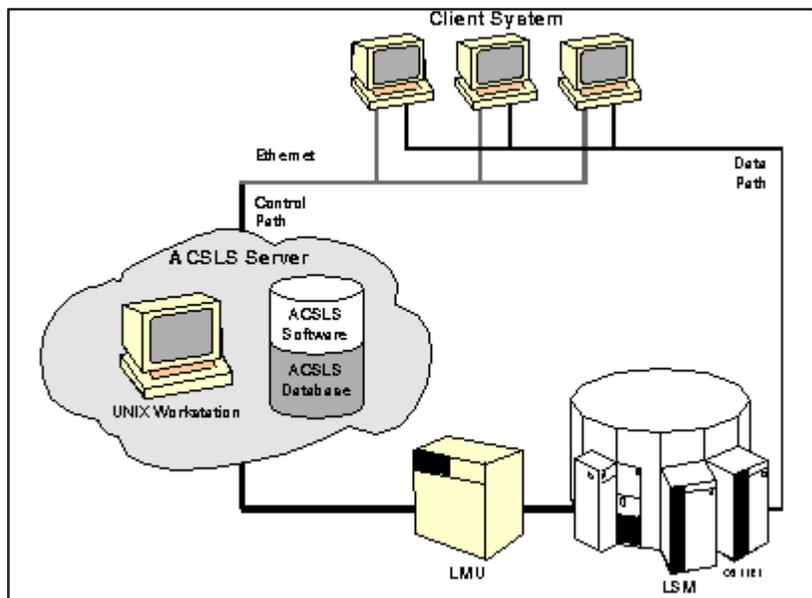


Figure 1. Library with ACSLS Server

### See Also

- Solaris Requirements
- Upgrading from SunOS
- Microcode Requirements

## ACSL5 5.3 Enhancements

ACSL5 5.3 supports the following enhancements:

- Support for Solaris 2.6 (menu interface only)
- Support for AIX 4.2.1 and AIX 4.3.1
- Performance enhancement for the following commands:
  - `query server`
  - `query acs`
  - `query lsm`
  - `query mount *`
  - `query pool`
- Support for the 9730 LSM (30-cell configuration only)
- Support for the 9840 transport



**Note:** The ACSLS Small Product Enhancement download page provides support for product enhancements such as new drive or library types. The SPE download page allows you to obtain small enhancement support prior to its availability in the next release of ACSLS. The SPE page is accessed from:

[http://www.storitek.com/StorageTek/doc/maint/html/acsls\\_maint.htm](http://www.storitek.com/StorageTek/doc/maint/html/acsls_maint.htm)

- The Move command, which moves a specified volume to an available storage cell in a specified LSM
- Support for pass-thru port functionality for 9740 LSMs (serial-attached)
- Support for Timberline 9490EE transports and EECART media for SCSI-attached and serial-attached 9740 LSMs
- Improved ACSLS initialization/recovery time
- LMU Compatibility Level 12
- Support for Year 2000 date formats



**Note:** The default volrpt output has grown for year 2000 formats and will exceed 80 characters per line.

To prevent reports from line-wrapping:

- For Solaris users, resize the window.
- For AIX users, choose a terminal emulator that is wider than 80 characters for displaying to terminal or editing an output file.

### **See Also**

- Solaris Requirements
- Upgrading from SunOS
- Microcode Requirements
- ACSLS Manager 1.1 Requirements

## LSM, Transport, and Media Compatibility

4410 LSMs    4410 LSMs support mixing the following transport types:

- 4480
- 4490
- 9490 (Timberline)
- SD-3 (Redwood)

9310 LSMs    9310 LSMs support mixing the following transport types:

- 4480
- 4490
- 9490 (Timberline) and 9490EE
- SD-3 (Redwood)
- 9840

9360 LSMs    9360 LSMs support mixing the following transport types:

- 4480
- 4490
- 9490 (Timberline) and 9490EE
- SD-3 (Redwood)

9740  
SCSI-Attached  
LSMs

9740 LSMs support mixing the following transport types:

- SD3 and 9490
- or*
- 9490 and 9490EE transports
- or*
- DLT 4000 and 7000 transports
- or*
- 9840 and DLT 4000 and 7000

You cannot mix 9840 transports with SD3 or 9490 or 9490EE transports.

You cannot mix DLT transports with SD3 or 9490 or 9490EE transports.

9740  
Serial-Attached  
LSMs

9740 serial-attached LSMs (which support multi-LSM configurations with PTP connections), support mixing the following transport types:

- SD3 and 9490
- or*
- 9490 and 9490EE
- or*
- DLT 4000 and 7000
- or*
- 9840 and DLT 4000 and 7000

You cannot mix 9840 transports with SD3 or 9490 or 9490EE transports.

You cannot mix DLT transports with SD3 or 9490 or 9490EE transports.

9710 LSMs 9710 LSMs support mixing the following transport types:

- 4890 (TwinPeaks) and DLT 4000 and 7000

*or*

- DLT 4000 and 7000

*or*

- 9840 and DLT 4000 and 7000

9714 LSMs 9714 LSMs support mixing the following transport types:

- DLT 4000

- DLT 7000

9730 LSMs 9730 LSMs support mixing the following transport types:

- DLT 4000

- DLT 7000

## Transport and Media Compatibility

Table 1. lists the compatible media for each transport type. Use these values as input to the `media media_type` and `drive drive_type` parameters on ACSLS commands.

**Table 1. Media and Transport Compatibility**

Transport Type ( <i>drive_type</i> )	Compatible Media ( <i>media_type</i> )	
	Data	Cleaning
4480	3480	3480
4490	3480, 3490E	3480
9490	3480, 3490E	3480
9491 (9490EE transport)	3480 (read only), 3490E, ZECART (EECART media)	3480
SD3	DD3A, DD3B, DD3C	DD3D
4890	3480, 3490E	3480
9840	STK1R	STK1U
DLT 4000	DLTIII, DLTIIIIXT, DLTIV	DLTIII
DLT 7000	DLTIII, DLTIIIIXT, DLTIV	DLTIII

## Co-hosting on the ACSLS Server

If ACSLS is to be one of several applications running on a server, then the system configuration guidelines presented in the installation guides may require adjustments in order to accommodate conflicting applications. STK recommends that co-hosted installations are undertaken by a qualified system administrator who is knowledgeable of the system resource requirements for each application.

ACSLs interprocess communications utilize sockets which reside in /tmp. The /tmp filesystem should be considered non-volatile for all applications. Disk allocation requirements have been defined to assure sufficient disk resources for the ACSLS application. The amount of required swap space may need to increase depending upon the requirements of co-resident applications. The sizes defined for all disk partitions have been optimized exclusively for ACSLS. Remaining disk space has been allocated to /export/home, which is the filesystem in which ACSLS and Oracle normally reside. The minimum requirement for the ACSLS/Oracle filesystem is 800 MB.

StorageTek does not specifically test or certify any non-StorageTek products on the ACSLS server. REELaccess and the ACSLS Manager are the only products that StorageTek has specifically tested and certified to be installed and run on the ACSLS server.

## AIX Requirements

Table 2. describes the hardware and software requirements for the AIX platform.

**Table 2. AIX Requirements**

<b>Requirement</b>	<b>Description</b>
<b>AIX operating system version</b>	AIX 4.2.1 or AIX 4.3.1 Comes with the Common Desktop environment, which is automatically installed when you install AIX 4.2.1 or 4.3.1.
<b>Server hardware</b>	The following hardware is required: RS6000 <b>Memory Requirements</b> , see page 17 <b>Disk Requirements:</b> Two disks are required for ACSLS 5.3: <ul style="list-style-type: none"> <li>• A 2.10 GB primary disk</li> <li>• A minimum 1.05 GB second disk</li> </ul> <b>Note:</b> A small database configuration is no longer supported. ACSLS 5.3 supports only a large database configuration.
<b>Repartitioning server disk</b>	1) Add a new partition for Oracle database backups, /export/backup, with 245 MB minimum free disk space. 2) Add a partition for /export/home that is at least 540 MB. This partition will contain the contents of the installation media.
<b>Paging Size</b>	For dedicated ACSLS machines running high library activity (more than 100 mounts per hour), a minimum of 192 MB paging size. For dedicated ACSLS machines running low library activity (fewer than 100 mounts per hour), a minimum of 100 MB paging size.

**Table 2. AIX Requirements**

<b>Requirement</b>	<b>Description</b>
<b>Cabling for serial LSMs</b>	Standard RS-232 cable (max length 50 feet)
<b>Cabling for SCSI LSMs</b>	You need either of the following: <ul style="list-style-type: none"><li>• A differential connection. Requires a SCSI host adapter card STK differential cables available for ordering: PN 10083311 (15 meters) PN 10083312 (20 meters)</li><li>• A single-ended SCSI connection. Requires no special adapter. Connects directly to the system SCSI bus on the ACSLS server workstation. External cable should not exceed 2 meters.</li></ul>
<b>Drives</b>	A device compatible with the installation media you chose (CD-ROM, 8 mm tapes, or 4 mm tapes) is required.  A tape backup device such as a 4 mm SCSI-attached tape drive or equivalent backup device is recommended.

**See Also**

- Microcode Requirements
- CSCI Requirements
- Database Conversion Requirements
- Upgrading from SunOS

# CSCI Requirements

Table 3. describes CSCI requirements.

**Table 3. CSCI Requirements**

Requirement	Description
<b>IBM Token Ring support</b>	Specific requirements as follows: <ul style="list-style-type: none"><li>• The IEEE 802.5–1988 standard for CSCI support</li><li>• A Token Ring interface card and drop cable for the Server system to connect to the TR network</li><li>• A Token Ring interface card and drop cable for the Client system to connect to the TR network</li><li>• A TR speed at a data rate of either 4 Mbps or 16 Mbps</li><li>• SNA Server 6000 version 3.1 and latest PTFs</li></ul>
<b>APPC (LU6.2)</b>	<ul style="list-style-type: none"><li>• Advanced Program-to-Program Communication is an enhancement to IBM's SNA designed for distributed transaction processing.</li><li>• APPC is also referred to as Logical Unit 6.2.</li><li>• The CSCI application uses the LU6.2 architecture to provide CSCI Server and CSCI Client connections.</li><li>• APPC can be transported over IBM's TR technology in local area networks.</li></ul>

### See Also

- Microcode Requirements
- AIX Requirements
- Database Conversion Requirements
- Upgrading from SunOS

## Solaris Requirements

Table 4. describes the hardware and software requirements for the Solaris platform.

**Table 4. Solaris Requirements**

<b>Requirement</b>	<b>Description</b>
<b>Solaris operating system version</b>	Solaris 2.6 (menu interface only)  Comes with the Common Desktop Environment.  <b>Note:</b> The Solaris installation guide provides procedures for Solaris 2.6 installation that include the Common Desktop Environment (CDE). The procedures do not include the option for not installing the CDE.

**Table 4. Solaris Requirements**

<b>Requirement</b>	<b>Description</b>
<b>Server hardware</b>	<p>ACSL5 5.3 can run on any of the following systems:</p> <ul style="list-style-type: none"> <li>• SPARCstation 5</li> <li>• SPARCstation 10</li> <li>• SPARCstation 20</li> <li>• SPARCServer 1000</li> <li>• Ultra 1e</li> <li>• Ultra 2</li> <li>• Ultra 5</li> <li>• Ultra 10</li> <li>• Ultra 450</li> <li>• Ultra 4000/5000</li> </ul> <p><b>Memory Requirements</b>, see page 17</p> <p><b>Disk Requirements</b></p> <p>Two disks are required for ACSLS 5.3:</p> <ul style="list-style-type: none"> <li>• A 2.10 GB primary disk</li> <li>• A minimum 1.05 GB second disk</li> </ul> <p><b>Note:</b> A small database configuration is no longer supported. ACSLS 5.3 supports only a large database configuration.</p>
<b>Repartitioning server disk</b>	<p>1) Add a new partition for Oracle database backups, /export/backup, with 260 MB minimum free disk space.</p> <p>2) Add a partition for /export/home with at least 540 MB. This partition will contain the contents of the installation media.</p>
<b>Swap space</b>	<p>Minimum of 256 MB for dedecated ACSLS server.</p>

**Table 4. Solaris Requirements**

<b>Requirement</b>	<b>Description</b>
<b>Cabling for serial LSMs</b>	<p>Standard RS-423 DTE-to-DCE (straight-through) cable</p> <p>STK RS-423 cables available for ordering:</p> <p>PN 410891205 (15 meters)</p> <p>PN 410891210 (30 meters)</p> <p>PN 410891220 (60 meters)</p>
<b>Cabling for SCSI LSMs</b>	<p>You need either of the following:</p> <ul style="list-style-type: none"> <li>• A differential connection.               <p>Requires a SCSI host adapter card.</p> <p>STK adapter cards for SPARCStation 5 available for ordering:</p> <p>PN 112167001</p> <p>STK differential cables available for ordering:</p> <p>PN 10083311 (15 meters)</p> <p>PN 10083312 (20 meters)</p> </li> <li>• A single-ended SCSI connection.               <p>Requires no special adapter.</p> <p>Connects directly to the system SCSI bus on the ACSLS server workstation. External cable should not exceed 2 meters.</p> </li> </ul>
<b>Drives</b>	<p>The following drive is required:</p> <ul style="list-style-type: none"> <li>• A CD-ROM drive</li> </ul> <p>The following drive is recommended:</p> <ul style="list-style-type: none"> <li>• A 4 mm SCSI-attached tape drive or equivalent backup device</li> </ul>

## See Also

- [Microcode Requirements](#)
- [Database Conversion Requirements](#)
- [Upgrading from SunOS](#)

## Memory Requirements

Table 5. describes the memory requirements for ACSLS 5.3 for the Solaris and AIX platforms.

**Table 5. Memory Requirements for ACSLS 5.3**

<b>If you are installing...</b>	<b>AND...</b>	<b>You need this much memory...</b>
ACSL5 5.3	—————	A minimum of 32 MB on the ACSLS server*
ACSL5 5.3	ACSL5 Manager 1.1 in stand-alone mode on ACSLS server	A minimum of 32 MB on the ACSLS server*
ACSL5 5.3	ACSL5 Manager 1.1 on remote host	A minimum of 32 MB on the ACSLS server* and 32 MB on each remote host
ACSL5 5.3	ACSL5 Manager 1.1 integrated with Network Management Platform (NMP)	A minimum of 32 MB on the ACSLS server * and 64 MB on the NMP host
<p>* 32 MB is the minimum memory requirement, appropriate only for installations that do <i>not</i> install the CDE, ACSLS Manager 1.1, or any other cohosted applications. StorageTek strongly recommends 64 MB for most installations.</p> <p>For 32 MB or for 64 MB of memory, you need 256 MB of swap space for Solaris platforms and 192 MB paging space for AIX platforms.</p> <p>64 MB is recommended in larger library configurations where usage regularly exceeds approximately 100 mounts per hour.</p> <p>64 MB is also recommended in installations where ACSLS cohosts with other memory-intensive applications on a common platform.</p>		

## Microcode Requirements

The following are the microcode requirements for ACSLS 5.3:

- LCU microcode for 97xx LSMs must be 1.8.00 or higher.
- LMU microcode for 4430 LMUs must be 3.9 or higher.
- LMU microcode for 9315 and 9330 LMUs must be 1.5.16 or higher for compatibility 11 code. Microcode level 1.6.xx supports host/LMU compatibility level 12 (required for 9840 drive and media).

### See Also

- Solaris Requirements
- Database Conversion Requirements
- Upgrading from SunOS

## Database Conversion Requirements

All releases of ACSLS are designed to upgrade only from the previous major release. This means that you can upgrade as follows:

- From ACSLS 4.0 to 5.1 or above
- From ACSLS 5.0 or above to a higher release



**Note:** If you want to upgrade from ACSLS 3.x (or lower) to 5.3, install ACSLS 5.3 as a new installation, then do a full library audit so that ACSLS 5.3 can “learn” the location of all volumes in the library.



**Caution:** Auditing the library deletes any database information about scratch pools, virtual volumes, volume types (data, scratch, clean), and access control.

### See Also

- Solaris Requirements
- Microcode Requirements
- Upgrading from SunOS

## Upgrading from SunOS

Upgrading to ACSLS 5.3 on a system previously using the SunOS operating system can be accomplished by following the upgrade installation procedure in *ACSL5 Installation and Configuration Guide* for your platform.

### See Also

- Solaris Requirements
- Microcode Requirements
- Database Conversion Requirements

# ACSL Manager 1.1 Requirements

## What is ACSLS Manager?

ACSL Manager is a graphical user interface (GUI) for sending commands to the ACSLS server, to be available for the Solaris and AIX platforms. The ACSLS Manager main window presents a graphical representation of your ACS configuration and provides mouse-based operations to simplify library management.

From the main window, you can manage some `cmd_proc` functions for each ACS attached to a particular ACSLS server, such as mounting or dismounting tapes, entering or ejecting tapes, and varying devices online or offline.

## ACSL Manager 1.1 Requirements



**Note:** ACSLS Manager 1.1 should be installed *after* you install the operating system and the ACSLS 5.3 software.

Table 6. describes the hardware, software, and network requirements for ACSLS Manager 1.1.

**Table 6. ACSLS Manager 1.1 Requirements**

Requirements	Solaris	AIX
ACSL server software	ACSL 5.3	ACSL 5.3
Hardware	The following hardware is required: <ul style="list-style-type: none"><li>• Sun SPARCStation system</li><li>• Memory Requirements, see page 17</li></ul>	The following hardware is required: <ul style="list-style-type: none"><li>• IBM RS6000 system</li></ul> Note: Workstations of greater performance may be substituted. <ul style="list-style-type: none"><li>• Memory Requirements, see page 17</li></ul>

**Table 6. ACSLS Manager 1.1 Requirements**

<b>Requirements</b>	<b>Solaris</b>	<b>AIX</b>
<b>Operating system version</b>	Solaris, Version 2.5.1 or Version 2.6	AIX, Version 4.2.1 only.
<b>System interfaces</b>	ACSL Manager is executable in the following environments: <ul style="list-style-type: none"><li>• Common Desktop Environment (CDE), Version 1.0.1</li><li>• OpenWindows, Version 3.5</li></ul>	ACSL Manager is executable in the following environments: <ul style="list-style-type: none"><li>• Common Desktop Environment (CDE), Version 1.0.1</li></ul>
<b>Network</b>	TCP/IP protocol provided by the operating system.	TCP/IP protocol provided by the operating system.
<b>Internet Browser</b>	Netscape Navigator Version 3.0 or higher	Netscape Navigator Version 3.0 or higher
<b>Network Management Platform (NMP)</b>	ACSL Manager may be integrated with HP OpenView, Version 4.11, with the runtime module Network Node Manager (NNM).	ACSL Manager may be integrated with IBM NetView Version 4.1, with the runtime module Network Node Manager (NNM).

## Glossary

---

**ACS**—*See* Automated Cartridge System.

**ACSEL**—*See* ACS Event Logger.

**ACS Event Logger (ACSEL)**—The software component that receives messages from other ACSLS components and writes them to an Event Log.

**ACS ID**—A unique identifier for an ACS.

**ACSLH**—*See* ACS Library Handler.

**ACS library**—A library is composed of one or more ACSs, attached tape drives, and cartridges residing in the ACSs.

**ACS Library Handler (ACSLH)**—The part of the ACSLM that communicates directly with the LMU.

**ACSLM**—*See* ACS Library Manager.

**ACS Library Manager (ACSLM)**—The software component that validates and routes library requests and responses.

**ACSLS**—*See* ACS Library Software.

**ACSLS database**—ACSLS database containing information about the location and status of the tape cartridges. The information includes cell location, scratch status, etc.)

**ACSLS platform**—The server hardware and software that provide the proper environment for ACSLS.

**ACS Library Software (ACSLS)**—Manages ACS library contents and controls ACS library hardware to mount and dismount cartridges on ACS cartridge drives.

**ACSLS database**—A database used by ACSLS to track the library configuration and the locations and IDs of all tape cartridges in the library.

**ACSSA**— *See* ACS System Administrator.

**ACS System Administrator (ACSSA)**—The interface between the Command Processor and the rest of the system.

**ADI**—Application Data Interchange.

**audit**—A physical inventory of the contents of all or part of a library.

**Automated Cartridge System (ACS)**—The library subsystem consisting of one LMU, and one to 24 LSMs connected to that LMU.

**automated library**—*See* library.

**beginning of tape (BOT)**—The location on a tape where written data begins.

**BOT**— *See* Beginning of Tape.

**CAP**—*See* Cartridge Access Port.

**CAP ID**—A unique identifier for the location of a CAP. A CAP ID consists of the ACS ID, the LSM number, and the CAP number.

**cartridge**—A plastic housing containing a length of data recording tape. The tape is threaded automatically when loaded in a transport. A plastic leader block is attached to the tape for automatic threading. The spine of the cartridge can contain an OCR/Bar Code label listing the volume ID.

**Cartridge Access Port (CAP)**—A bidirectional port built into the door panel of an LSM, which provides for the manual entry or automatic ejection of tape cartridges.

**cartridge drive (CD)**—A device containing two or four cartridge transports and their associated power and pneumatic supplies.

**cartridge tape I/O driver**—Operating system software which issues commands (e.g., read, write, and rewind) to cartridge subsystems.

**cartridge transport**—An electromechanical device that moves tape from a cartridge over a head that writes and reads data from the tape. A transport is distinct from the power and pneumatic sources that supply the electricity and air it needs to function. *See* cartridge drive.

**CCI**—*See* client computing system.

**CD**—*See* cartridge drive.

**cell**—A receptacle in the LSM in which a cartridge is stored.

**channel**—A device that connects the host and main storage with the input and output control units.

**client applications**—Software applications that manage tape cartridge contents. They access tape cartridges by interacting with ACSLS. Any number of client applications can be resident on a client system.

**client computing system**—A computer and an executable image of the operating system.

**client software**— This software manages tape cartridge contents, generates requests for cartridges, and transfers data to and from cartridges. The client software is *not* part of ACSLS.

**Client System Component**—Software which provides an interface between the client computing system's operating system and ACSLS.

**Client System Interface (CSI)**— The software component that translates and routes messages between the ACS Library Manager and the Client System Component.

**command area**—The bottom area of the cmd\_proc interface where you enter requests and receive response.

**command processor (cmd\_proc)**— The screen interface of the ACSSA. cmd\_proc lets you enter the commands described in Chapter 7.

**control path adapter**—A hardware device which converts from a Client Computing System's control protocol to the control protocol of the StorageTek Library Control System.

**control unit (CU)**—A microprocessor-based unit logically situated between a channel and up to sixteen cartridge transports. The CU translates channel commands into transport commands and sends transport status to the channel.

**CSE**—Customer Services Engineer.

**CSC**—Client System Component.

**CSI**—*See* Client System Interface.

**CSI variables**—Used to define various options to fine-tune communications between a CSC and the CSI. You change these variables in the `acsss_config` program.

**CU**—*See* control unit.

**cycle error messages**—Messages that indicate a library or ACSLS failure.

**database**—A collection of interrelated data records. *See also* ACSLS Database.

**data path**—The network path that allows client applications read/write access to tape cartridges.

**data path adapter**—A hardware device which translates from a Client Computing System's data protocol to the data protocol of the StorageTek Control Unit.

**display area**—The top area of the `cmd_proc` interface that collects messages regarding the status of the library.

**end of tape (EOT)**—The location on a tape where written data ends.

**EOT**—*See* end of tape.

**EPO**—Emergency Power Off.

**EPROM**—*See* erasable programmable read only memory.

**erasable programmable read-only memory (EPROM)**—A special memory chip that can be erased and reprogrammed.

**Event Log**—A file, maintained by the ACSEL, that contains messages describing library and ACSLS events.

**Event Logger**—*See* ACS Event Logger.

**external label identifiers**— A six-character alphanumeric label on the outside edge of a cartridge used to identify a physical tape volume. It may consist of uppercase letters A through Z, numerals 0 through 9, and blanks.

**full installation**—A complete software installation required for new customer sites or for existing sites where a new library has been installed.

**home location**—The cell associated with a given cartridge.

**ID**—Identifier or identification.

**Initial Program Load (IPL)**—A process that activates a machine reset, initiates wake up diagnostics (from EPROMs) and loads functional code.

**inline diagnostics**—Routines that test components of a subsystem while operating on a time-sharing basis with the functional microcode in the subsystem component.

**in-transit cartridges**—Cartridges between their source and destination locations. Cartridges are considered in-transit if they are in the pass-thru ports, robot hands, or playground.

**I/O**—Input/Output.

**IPC**—Interprocess Communication.

**IPL**—*See* Initial Program Load.

**journal**—A sequential log of changes made to the database since the last checkpoint.

**LAD**—Lock Access Door.

**LAN**—*See* local area network.

**large CAP (LCAP)**—A 40-cartridge CAP with the storage cells arranged in four removable magazines of ten cells each. The magazines appear as a single column of 40 cells to the host software.

**LCAP**—*See* large CAP.

**LCU**—*See* Library Control Unit.

**LED**—*See* Light Emitting Diode.

**library**—A library is composed of one or more ACSs, attached tape drives, volumes in the ACSs, and the ACSLS software that controls and manages the ACSs.

**library configuration options**—Allows the customer to specify the number of ACSs in the library and the connections between each ACS and the server system.

**library control component**—Software which controls the mounting and dismounting of cartridges in the ACS.

**library control processor**—Properly configured computer hardware that, with the addition of appropriate software, supports the operation of the Library Control Software.

**library control system**—The library control platform loaded with library control software (ACSLs).

**library control software**—The software components of ACSLS including the library control component, the Client System Interface and Library Utilities.

**Library Control Unit**—The portion of the LSM that controls the picking, mounting, dismounting, and replacing of tape cartridges.

**library drive**—A cartridge transport attached to an LSM that is connected to, and controlled by, a client system. Library drives interact with the LCU during automated tape cartridge mount and dismount operations. Library drives interact with a client application during tape data transfer operations. Library drives are individually addressable by the ACSLM and are individually accessible by client applications. *See* Cartridge Transport.

**library errors**—Errors that occur because the library is offline, has suffered hardware failure, is unavailable, etc.

**Library Management Unit (LMU)**—The portion of an ACS that manages LSM's, allocates their resources, and communicates with ACSLS.

**Library Storage Module (LSM)**—An ACS structure that provides the storage area for cartridges, cartridge drives, CAPs, and the robot necessary for moving them.

**light emitting diode (LED)**—A light emitting device that uses little energy and is used mainly to indicate on/off conditions.

**LMU**—*See* Library Management Unit.

**local area network (LAN)**—A computer network in which any component in the network can access any other component. This is the type of interface between an LMU and attached LSM's.

**LSM**—*See* Library Storage Module.

**LSM ID**—A unique identifier for an LSM. The LSM ID consists of the ACS ID and the LSM number.

**network adapter**—Equipment that provides an electrical and logical interface between a network and specific attached equipment.

**Network Interface (NI)**—An interface between the server system and the client systems that maintains network connections and controls the exchange of messages. The NI is resident on the server system and each client system.

**NI**—*See* Network Interface.

**OCR**—Optical character recognition.

**ONC**—Open network computing.

**Open Systems Interconnection (OSI)**—A software architecture model of the International Organization for Standardization. The OSI model provides standards for the interconnection of data processing systems.

**Oracle**—A relational database used by ACSLS.

**OSI**—*See* Open Systems Interconnection.

**OSLAN**—Open Systems Local Area Network.

**Pass-Thru Port (PTP)**—Mechanism that allows a cartridge to be passed from one LSM to another in a multiple LSM ACS.

**PCAP**—*See* priority CAP.

**playground**—A reserved area of special cells (within an LSM) used for storing diagnostic cartridges and cartridges found in-transit upon power-on and before initialization of the LSM is completed.

**pool**—A collection of tape cartridges having one or more similar features or attributes, such as a pool of scratch tapes.

**POST**—Power-on self-test.

**priority CAP (PCAP)**—A single-cartridge CAP used for priority entry and ejection of cartridges.

**processing errors**—Errors that result from processing or network communication failures.

**PROM**—Programmable read-only memory.

**PTP**—*See* Pass-Thru Port.

**RDBMS**—Relational database management system.

**redo log files**—Backup files used to restore the ACSLS database.

**relational database**—A database that is organized and accessed according to relationships between the data items; relationships are represented by tables.

**ROM**—Read-only memory.

**RPC**—Remote Procedure Call.

**SCAP**—*See* standard CAP.

**scratch**—An attribute of a tape cartridge, indicating that it is blank or contains no useful data.

**SCSI**—Small computer serial interface.

**second disk journaling**—Allows for the database's journal records to be written to a second disk device, instead of writing records to the primary disk. This improves the chances of recovery from a disk failure.

**server system**—The part of the library that is the residence for ACSLS, now referred to as the Library Control System. The Library Control System acts as an interface between a library and client systems.

**server system user**—A person who invokes ACSLS commands, utilities, or procedures on the server system. Server system users are generally site and maintenance personnel (for example, library operators, tape librarians, system administrators, CSE's, and systems personnel).

**servo**—A system that uses feedback to control a process.

**silo**—A commonly used term for an LSM. *See* Library Storage Module.

**SIMM**—Single inline memory module.

**SQL**—*See* structured query language.

**SRN**. *See* service request number.

**SSI**—*See* Storage Server Interface.

**SSR**—Software Support Representative.

**Standard CAP (SCAP)**—A 21-cartridge CAP with the storage cells arranged in three rows of seven fixed cells.

**Storage Server Interface (SSI)**—A software component, resident on a client system, that translates and routes messages between client applications and the CSI.

**structured query language (SQL)**—A language used to define, access, and update data in a database.

**system resource variable**—Used to control the amount of system resources used by ACSLS.

**system unit**—The Library Control Platform.

**tape library management system (TLMS)**— A type of client application.

**TCP**—Transmission Control Protocol.

**TLMS**—*See* tape library management system.

**TOD**—Time of day.

**UDP**—User Datagram Protocol.

**UNIX**—An operating system originally developed by Bell Laboratories (now UNIX Systems Laboratories, Inc.) and used by a variety of computer systems.

**unsolicited messages**—Messages that indicate an error or notify you when a particular routine action can be taken.

**UOC**—Usable on codes.

**upgrade installation**—Performed when installing a new version of ACSLS at an existing customer site.

**user-selectable features and options**

**variables**—Used to define various user-selectable features and options.

**validation errors**—Errors that result from format and syntax validation performed by `cmd_proc`.

**virtual label**—A logical label that can be assigned to a cartridge when its physical label is missing or unreadable.

**volser**—Volume Serial Number.

**volume**—A tape cartridge.

**volume access control**—Limits access to volumes, usually by the client.

**volume identifier**—A six-character string that uniquely identifies a tape cartridge to the database.

**volume serial number (volser)**—A synonym for external label identifier.

**WTM**—write tape mark.

**XDR**— External data representation.

# Reader's Comment Form

If you prefer, you can e-mail your comments to Software Information Development directly. Our Internet address is: **sid@stortek.com**

Manual Name: ACSLs Product Information Version 5.3

Your Name: \_\_\_\_\_

Full Company Name: \_\_\_\_\_ Department: \_\_\_\_\_

Street Address: \_\_\_\_\_

\_\_\_\_\_

Telephone: \_\_\_\_\_ Email Address: \_\_\_\_\_

What is your job function? \_\_\_\_\_

Did you find the material easy to read and understand?     Yes     No (explain below)

Did you find the material organized for convenient use?     Yes     No (explain below)

Specific criticisms (explain below):

Clarifications on pages \_\_\_\_\_

Additions on pages \_\_\_\_\_

Deletions of pages \_\_\_\_\_

Errors on pages \_\_\_\_\_

Explanations and other comments:

**Note:** *Staples can cause problems with automated mail sorting equipment. Please use pressure sensitive or other gummed tape to seal this form. If you would like a reply, please supply your name and address on the reverse side of this form.*

Thank you for your cooperation. No postage stamp is necessary if mailed in the U.S.A.

TO COMPLY WITH POSTAL REGULATIONS, FOLD EXACTLY ON DOTTED LINES AND TAPE (DO NOT STAPLE)

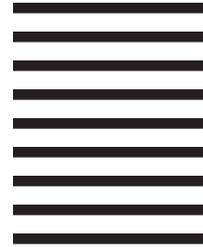
CUT ALONG THIS LINE



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**  
FIRST CLASS MAIL    PERMIT NO. 2    LOUISVILLE, CO

POSTAGE WILL BE PAID BY ADDRESSEE



STORAGE TECHNOLOGY CORPORATION  
SOFTWARE INFORMATION DEVELOPMENT  
MS 5209  
2270 SOUTH 88TH STREET  
LOUISVILLE CO 80027-9984



FOLD HERE AND TAPE

DO NOT STAPLE

FOLD HERE AND TAPE

CUT ALONG THIS LINE