Scalar® Distributed Library Controller

Reference Manual

Document Number: 6-00658-01
Version 2.4

ADIC USA
Tel.: +1-303-705-3900
Fax: +1-303-792-2465
ATAC: 1-800-827-3822
www.adic.com

ADIC Europe
ZAC des Basses Auges
1, rue Alfred de Vigny
78112 Fourqueux, France
Tel.: +33.1.3087.5300
Fax: +33.1.3087.5301

ADIC Germany Beteiligungs GmbH, KG
Eschenstrasse 3
D-89558 Boehmenkirch, Germany
Tel:+00.800.9999.3822

Published: April 11, 2003 Printed in the USA

Advanced Digital Information Corporation Software Licenses Agreement

This Software License is entered into and effective as of this _____, day of _____ 2002 ("Effective Date"), by and between:

and

Advanced Digital Information Corporation PO Box 97057 Redmond, WA 98073-9757 (Referred to as "ADIC")	Company: _____ Located at: _____ _____ _____ (Referred to as "Licensee")

This License sets forth the terms and conditions under which ADIC agrees to grant and Licensee agrees to accept a license to use certain of ADIC's proprietary software and related documentation. Any software programs or related materials provided to Licensee by ADIC will be subject to the terms and conditions of this License.

1. Definitions

"Designated Computer(s)" means that computer equipment, identified to ADIC in Exhibit A by serial number, upon which the Software is installed.

"*Documentation*" means ADIC provided materials related to the Software, including, but not limited to operator and user manuals, training materials, guides, listings, specifications, or other written documentation.

"*Release*" means a modification to the Software that does not change ADIC's base version number, but may add functionality. New Releases are provided to the Licensee at no charge when Licensee maintains a current Software Maintenance Agreement with ADIC.

"*Software*" means only the current version of those software products specified in Exhibit A hereto, in object code form only, and the Documentation provided by ADIC in connection therewith or any portions thereof, and any subsequent Releases.

"*Upgrade*" means a modification to the Software that adds significant features and/or functionality and causes a change in ADIC's base version number. Upgrades may have a new initial License fee or upgrade charge associated with it.

2. Software License.

a *License*. In consideration of Licensee's full payment of the License fees and subject to the terms and conditions of this License, ADIC hereby grants to Licensee a personal, non-exclusive, non-transferable license to use and copy the Software. A separate license is required for use of each Software program on each Designated Computer.

b *Use*. Licensee is authorized hereby to use the Software on the Designated Computer(s) only, or on backup equipment if the Designated Computer is inoperative until such time as the Designated Computer is restored to operation and processing on the back-up equipment is completed. This grant is specifically limited to use by the Licensee for normal, customary internal data processing, and specifically excludes Licensee's time-sharing or the rental of the Software or use of the Software in the development or marketing of a competitive or compatible product. No right to use, print, copy or display the Software or Documentation, in whole or in part, is granted hereby except as expressly provided in this License.

c *Copying*. Licensee may make one (1) copy of the Software in a non-printed, machine-readable form for archival and back-up purposes only. In order to protect ADIC's trade secret and copyrights in the Software, Licensee agrees to reproduce and incorporate Licensee's trade secret or copyright notice in any copy or partial copy, and will maintain appropriate records of the location of such copy.

d *Transfer Rights*. The Software will be installed initially on Licensee's Designated Computer(s) set forth in Exhibit A. Licensee may thereafter transfer the Software to another one of its computers of the same machine architecture, provided that the Software is installed on one (1) Designated Computer at a time, b) is covered under a current maintenance support plan with ADIC, and c) provides ADIC with written notice thirty (30) days prior to the transfer. If Licensee transfers the Software to a machine of a different architecture, Licensee may be subject to a transfer fee.

e *US Government Rights*. If the Licensee is the United States government, Licensee understands and agrees that ADIC Software and documentation are provided as "Commercial Items" as defined at 48 CFR 2.101 and are being licensed to U.S. Government end users consistent with 48 CFR 12.212.

3. Price and Payment. Licensee will make payment to ADIC for the Software license pursuant to those fees set forth in agreement of the parties. The Licensee must pay any such fees within thirty (30) days of the date of ADIC's invoice.

4. Software Ownership and Protection

a *ADIC's Warranty*. ADIC warrants that it is the owner of the Software and all portions thereof, except for any embedded third party software for which ADIC holds a license that is not inconsistent with the license granted under this agreement, and that it has the right to modify the Software and to grant this License for its use.

b *Title to Software*. The Software and all copies thereof (except for any embedded third party software) are proprietary to ADIC and title thereto remains in ADIC. All applicable rights to patents, copyrights, trademarks, trade secrets or other proprietary rights in the Software and any modifications made at Licensee's request are and will remain in ADIC.

c *Restrictions*. Licensee will not itself or permit others to:

i. sell, sublicense, transfer, publish, disclose, display, provide access via a network or otherwise make or allow available the Software or any copy thereof, in any form whatsoever, to others;

ii. remove, obscure, or alter any copyright, trade secret, trademark, patent or other proprietary rights notice affixed to or displayed on the Software or Documentation or affixed to or printed on any of its factory packaging;

iii. modify, merge with other programs or translate any portion of the Software into any other assembly or foreign language; and

iv. reverse-assemble, reverse-compile or attempt to derive a source code equivalent of the Software.

d *Protections*. Licensee agrees to secure and protect the Software, the Documentation and copies thereof in a manner consistent with ADIC's rights therein and to take appropriate action to satisfy its obligations in this Article by instruction or agreement with its employees, agents, subcontractors or others who are permitted access to the Software. All programs or copies developed by or for the Licensee in violation of this License, including translations, compilations, partial copies with modifications and up-dated works, are the property of ADIC.

e *Responsibility*. Licensee has sole responsibility for use of the program and any information entered, used, or stored thereon. This responsibility includes protection of data from modification, destruction, or disclosure, and for the accuracy and integrity of the results from improper use. ADIC assumes no responsibility for Licensee's negligence or failure to protect data from modification, destruction, or disclosure.

5. **Installation.** Licensee will, at its own expense, ensure that the installation site conforms to the requirements of the Software and, at its own expense, prepare and maintain the environmental conditions at the installation site in accordance with the requirements of the relevant hardware manufacturer. ADIC will be responsible for reasonable support during the initial installation process.

6. **Use and Training.** Licensee will limit the use of the Software to those individuals who have been appropriately trained. ADIC will make training for the Software available to Licensee pursuant to its standard training procedures. Unless otherwise mutually agreed, any additional training will be provided at ADIC's Englewood, Colorado facility at ADIC's then current rates.

7. **Warranty and Warranty Servicing.**

   a *Warranty*. ADIC warrants that for a period of ninety (90) days from installation the Software will conform to all substantial operational features in ADIC's current published specifications and will be free of defects which substantially affect performance of the Software. ADIC does not warrant that the Software will meet the Licensee's requirements or that the operation of the Software will be uninterrupted or error free.

   b *Compatibility*. It is the intent of ADIC to provide Software which is compatible with the current releases of common computer operating systems, however, ADIC does not warrant that the Software is compatible with the current releases of all operating systems, nor that the Software, including any future Releases, will be made compatible with new releases of the operating system within a specified amount of time, or at all. At Licensee's request, ADIC will notify Licensee of the version level of the operating system with which the current version of the Software is intended to be compatible, and the version level of operating systems for which a subsequent release of the Software is intended to be compatible.

   c *Warranty Servicing*. The Licensee must notify ADIC in writing, within ninety (90) days after installation of the Software of Licensee's claim of any defect. If the Software is found defective by ADIC, ADIC's sole obligation under this warranty is for ADIC, at its option, either to correct, in a manner consistent with ADIC's regular support practices, any defect in the Software or to accept the return of the Software. Where Software is returned for claims made during the warranty period, Licensee will be provided a full refund for the Software and related products sold under the same Purchase Agreement.

   d *Warranty Exclusions*. This warranty is made void if the Licensee or any other third party makes any modifications to the Software. Licensee will pay ADIC for corrections necessitated by difficulties or defects traceable to Licensee's errors or system changes in accordance with ADIC's then current standard time and material charges.

e *Warranty Disclaimer*. EXCEPT FOR THE EXPRESS LIMITED WARRANTY STATED ABOVE, ADIC MAKES NO WARRANTIES, EXPRESS OR IMPLIED, FOR THE SOFTWARE, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

f *Third Party Warranties*. No reseller or distributor of the Software who may have participated in offering, demonstrating, promoting or delivering the Software subject to this License makes any warranty whatsoever. All limitations and exclusions of warranty, disclaimers of warranty, limitations of damages and remedies are as set forth hereinabove and the terms of all portions of this License apply to such reseller or distributor to the full extent applicable to ADIC.

8. Maintenance. Maintenance, enhancements and Updates for the Software are not covered under this License. If desired by the Licensee, such services must be provided for under separate agreement.

9. Infringement Indemnification

a ADIC will defend, indemnify, save, and hold Licensee harmless against claims, demands, liability, damages, and judgments which are finally adjudicated, including attorney's fees and court costs arising or resulting directly from any claim, suit or litigation brought against Licensee based on infringement of any U. S. patent or copyright by the Software (except that indemnification does not apply to any third party software which may be embedded therein), provided, however, that such indemnity is conditioned upon receipt by ADIC of prompt notification in writing of such claim and that Licensee provides continuing information and reasonable assistance for the defense and settlement of any claim. ADIC will retain attorneys, as deemed necessary, and conduct the defense and settlement of such claim. ADIC may, at its own expense and at its option, either (1) procure for Licensee the right to continue using the Software, or (2) replace the same with non-infringing software, or (3) modify the Software so that it becomes non-infringing provided such modified intellectual property will reasonably meet Licensee's needs.

b Upon failure of (1), (2) or (3) above, despite the reasonable efforts of ADIC, Licensee may terminate this License only with respect to the Software adversely affected by such action or claim. Upon such termination ADIC will promptly refund to Licensee any License Fees paid and other payments made for the adversely affected Software. ADIC may deduct from the refund a fair market value for usage, which will be a pro rata share of the License charge for the time period used, assuming a three (3) year straight line depreciation with no salvage value.

c Notwithstanding the foregoing ADIC has no liability if any such claim or suit is based upon or arises out of: 1) alterations of the Software by Licensee or any third

party; 2) Licensee's failure to install updated Software provided by ADIC for avoiding such infringement; 3) use of the Software in combination with apparatus or software not furnished by ADIC; 4) use of the Software in a manner for which it was neither designed nor contemplated; 5) third party software embedded in the Software; 6) Software modified by ADIC for Licensee in accordance with Licensee's specifications or requests; or 7) a patent, trademark or copyright in which Licensee or any of its affiliates or subsidiaries has a direct or indirect interest by license or otherwise.

10. Term and Termination.

a *Term*. The term of this License is perpetual, unless terminated by ADIC as provided herein.

b *Termination*. This License commences on the Effective Date and will continue in perpetuity unless Licensee fails to comply with any of the material conditions of this License. ADIC may, after allowing Licensee a reasonable time to cure its default, terminate this License upon written notice to the Licensee. Within thirty (30) days after termination of this License, Licensee will certify, in writing, to ADIC, that Licensee has discontinued the use of all Software; and either destroyed or, at ADIC's election, returned to ADIC the original and all copies of the Software and Documentation in any form maintained by Licensee.

c *Termination for Cause*. A violation of any provision of Paragraph 3. above will be deemed a material breach and the basis for immediate termination of this License.

d *Termination upon Insolvency*. This License may be terminated by ADIC if the Licensee (i) terminates or indefinitely suspends its business; (ii) becomes subject to any bankruptcy or insolvency proceeding under governmental statute; or (iii) becomes insolvent or becomes subject to direct control by a trustee, receiver or similar authority.

e *Remedies upon Termination*. If this License is terminated by ADIC, ADIC will have the right to take immediate possession of the Software, Documentation, and all copies wherever located, without demand or notice. Termination of this License is in addition to and not in lieu of any equitable or legal remedies available to ADIC.

11. Notices and Correspondence. All notices and correspondence sent by one party to the other in all matters will be sent to the addresses listed in the initial paragraph hereof, except as otherwise requested in writing.

12. DISCLAIMER AND LIMITATION OF LIABILITY. THE LICENSEE HAS THE SOLE RESPONSIBILITY FOR THE ADEQUATE PROTECTION AND BACK-UP OF ITS DATA USED IN CONNECTION WITH THE SOFTWARE. IN NO EVENT

WILL ADIC BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR ANY DAMAGES WHATSOEVER RESULTING FROM THE LOSS OF USE, DATA OR PROFITS, RERUN TIME, INACCURATE INPUT OR WORK DELAYS, OR ANY PERSONAL OR PROPERTY DAMAGE ARISING OUT OF OR IN CONNECTION WITH THIS LICENSE OR THE USE, PERFORMANCE OR NON-PERFORMANCE OF THE SOFTWARE, WHETHER IN ACTION, IN CONTRACT, OR TORT INCLUDING NEGLIGENCE, EVEN IF ADIC KNEW, SHOULD HAVE KNOWN OR HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. ADIC's LIABILITY FOR DAMAGES HEREUNDER WILL IN NO EVENT EXCEED THE AMOUNT OF FEES PAID BY LICENSEE UNDER THIS LICENSE.

13. General.

a *No Assignment*. This License is not assignable. None of the Software or Documentation may be sublicensed, assigned, or transferred to any other party without ADIC's prior written consent. Any effort contradictory with this is null and void.

b *Modification*. This License or any Exhibit hereto can only be modified by a written agreement executed by Licensee and ADIC.

c *Governing Law*. The laws of the state of Washington will govern this license. All litigation between the parties, including all applications for injunctive relief, must be conducted before a court of competent jurisdiction within King County, Washington, USA and both parties consent to personal jurisdiction of such court. If any of the provisions of this License are held to be invalid under any applicable statute or law, they are, to that extent, deemed omitted.

d *Enforcement Costs*. The party prevailing in any litigation or legal proceeding, including arbitration, arising out of any dispute under this Agreement will be entitled to recover reasonable attorneys' fees and costs from the other party.

e *Limitations on Actions*. Any action, regardless of form, arising out of the transactions under this License, may not be brought by either party more than one (1) year after the cause of action has accrued, except that an action for nonpayment may be brought within four (4) years after the last payment date.

14. Entirety. Licensee acknowledges that it has read this Software License, understands it, and agrees to be bound by its terms and conditions. Further, Licensee agrees that this is the complete and exclusive statement of the agreement between the parties and supersedes all proposals or prior agreements, oral or written and all other communications between the parties relating to the subject matter of this License. Any variance from the terms and conditions of this License or any supplement in any Licensee purchase order or other written notification or agreement will be of no effect.

Contents

Introduction

Description

Configuration

Operations

Library Tab

Configuration Tab

Events Tab

Service Tab

Troubleshooting

Utilities and Applicaiton Notes

DAS Guide

SCSI Guide

ROBAR Guide

Index

Tables

Introduction

This manual contains reference information and instructions for operating the Scalar Distributed Library Controller[1] (Scalar DLC) software.

Intended Audience

This guide is intended for clients and administrators who use the Scalar DLC software.

Organization

The section topics in this manual include:

Introduction - Describes the overview, intended audience, organization, associated documents, explanation of symbols and notations, and how to obtain additional assistance.

Description - Describes general information about the Scalar DLC software.

Configuration - Describes the configuration order of the Scalar DLC software components.

Operations - Describes the common menu bar and general user tab information.

Library Tab - Describes the main working area and the logical library functionality.

Configuration Tab - Provides information about configuring the Scalar DLC internal features. Includes Logical, Physical, Users, Clients, and SCSI Target tabs.

Events Tab - Provides information for configuring returned status messages and notification rules. Includes Queue, Monitoring, Acknowledge, History, and Rules tabs.

Service Tab - Describes the methods for performing service procedures and provides the information for service calls. Includes Firmware, Logs, Diagnostic, ATAC Calls, Operator Panel, and Cluster tabs.

Troubleshooting - Describes some known bugs and methods to avoid causing a Scalar DLC software error.

Utilities and Application Notes - Provides information for using Scalar DLC software utilities and interfacing Scalar DLC software with third party applications.

DAS Guide - Provides information for using Scalar DLC DAS-Client software and includes some basic DAS Administration instructions.

SCSI Guide - Provides information for using SCSI Client software and includes some basic SCSI Administration instructions.

ROBAR Guide - Provides basic information for using ROBAR Client software.

Index

1. Scalar Distributed Library Controller is a trademark of ADIC. Throughout the remainder of this document, we refer to Scalar Distributed Library Controller as Scalar DLC software.

Explanation of symbols and Conventions

The following symbols and highlighted passages note important information:

Symbol	Damage to...	Signal Word	Definition	Consequence
	Person	WARNING:	Imminent hazardous electrical situation	Death or serious injury
	Material	CAUTION:	Potential damaging situation	Possible damage to the product, data, or environment
		NOTE:	Indicates important information that helps make better use of the system	No hazardous or damaging consequences

The following is a list of formatting conventions used throughout this document:

Italics	• Headline, for example, Chapter 2, *Description* • File name, for example, *ERRORS.TXT*
Bold	• Special Term, for example, **Utilities** • Operating element/key on the Operator Panel • Terms appearing on the Operator Panel
`Courier`	• State of the equipment, for example, `ONLINE` • Switch position, for example, `ON, OFF`

Associated Documents

This manual contains the reference on following documents:

- Scalar DLC Install and Upgrade Manual
- Scalar DLC AML/J Reference Guide
- Scalar DLC AML/2 Reference Guide
- Scalar DLC AML/E Reference Guide
- DAS Administration Guide
- Scalar 10K Operator Guide
- Scalar 1000 Operator Guide

Customer Assistance

Advanced Digital Information Corporation (ADIC) provides the following types of customer assistance for the Scalar DLC software.

Technical Assistance

Telephone and e-mail support, as well as training for the Scalar DLC software, is available through ADIC.

Contacting Support

Depending on how you purchased technical support, telephone support is provided either through your reseller or directly through ADIC.

The ADIC Technical Assistance Center (ATAC) in Denver, Colorado, provides world-wide service and support.

In the USA	800.827.3822
Outside the USA (toll free)	00.800.9999.3822
Outside the USA	001.303.874.0188
Send email to	support@adic.com

Description

This section provides an overview of the Scalar DLC software that supports the Scalar 1000, Scalar 10K (single- and dual-aisle), AML/J, AML/2, and AML/E tape libraries.

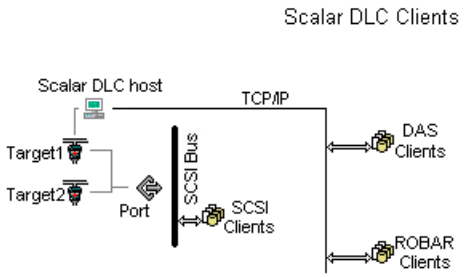
System Description

The Scalar DLC software runs as a service under Windows 2000. It serves as a centralized library management tool that simplifies and automates the tracking and management of all system resources for optimal performance and maximum availability. The Scalar DLC software provides network and Systems Administrators with a Java-based interface that allows library monitoring from anywhere on the Web [1]. It also allows administrators to select parameters that define which library events provide notifications to customers and ADIC Technical Assistance Center (ATAC) via email and Simple Network Management Protocol (SNMP) alerts.

The main working tool of the Scalar DLC software is the Management GUI. Refer to *Graphical User Interface on page 28*. This tool executes all the actions of management and configuration.

The Scalar DLC provides the connectivity between the library and the client. The connection type depends on client configuration. See Figure 2-1.

Figure 2-1 Clients Connection

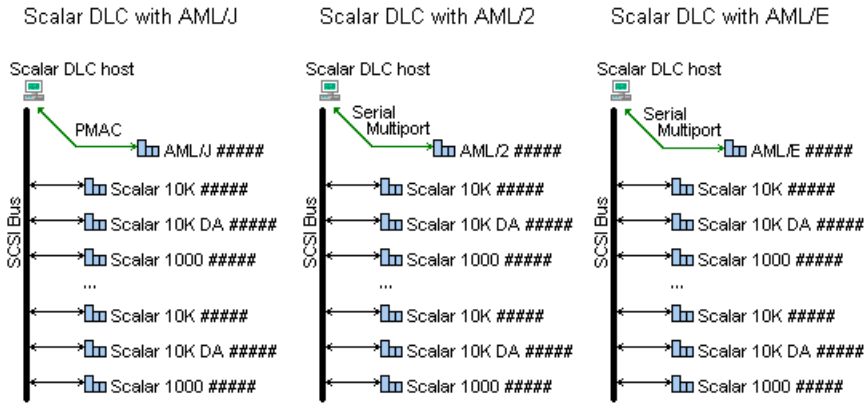


The Scalar tape libraries are connected to the Scalar DLC software host via the SCSI bus. The AML tape library is connected via the PMAC or Serial Multiport interface. See Figure 2-2 on page 22. For each tape library found during **Scan SCSI Bus** operation, the Scalar DLC software creates an object called *physical library*. This object represents all aspects of the real tape device.

NOTE: Only one AML tape library (AML/J, AML/2, or AML/E) can be connected to a single Scalar DLC host. The number of connected Scalar tape libraries is limited only by SCSI bus properties.

1. If a firewall is being used, outside access by Web browsers might be denied.

Figure 2-2 Physical Libraries connected to the Scalar DLC



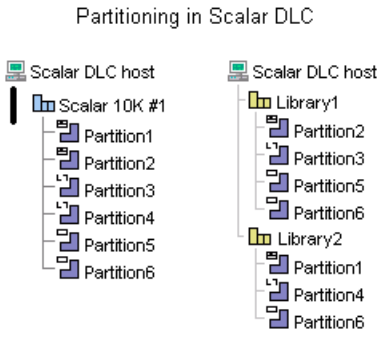
Logical Library Concepts

In order for clients to have a flexible way to share common resources (*physical library*), the Scalar DLC uses the virtual objects called *logical libraries* to represent the real device for the client. The Management GUI creates and configures these logical libraries. The connection between the logical library and the device is implemented with the help of the partitioning features, unique for the Scalar DLC software. The partitioning operation creates for the physical library a number of element ranges called *partitions*. These ranges then are assigned to the logical libraries (see **Figure 2-3 on page 23**) so that the client who uses a certain logical library could access the correct part of the physical library. This feature is very useful when clients should use a single physical library, and this client should have access to only a certain resource. The logical library represents these resources, and the assigned partitions provide a connection between the logical library and its physical equivalent.

This logical library concept is based on a partition that is the continuous range of elements of a single type (for example, storage) and media domain (for example, DLT). The partitions cannot overlap; however, a single partition can be assigned to two or more logical libraries. In that case, two logical libraries will have a shared area, and the clients of the first library can access this area as well as the clients of the second library.

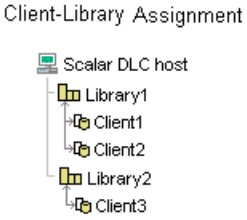
NOTE: The partition cannot contain both storage tower and storage shelf elements, even if they consist of the identical storage slots (for example, Generic DLT). This means for the single-media library with a storage tower (for example, Scalar 10K), no less than two storage partitions should be created in order to cover its storage area completely; the first partition will cover the tower, and the second will cover the linear storage (storage shelves).

Figure 2-3 Partitions and Logical Libraries



Two or more clients either of the same type (for example, DAS-based) or of different types (for example, DAS-based and ROBAR-based) may use a single logical library. This means that they have rights to use common resources that are part of this library (cartridges, drives, and so forth). See Figure 2-4.

Figure 2-4 Clients and Logical Libraries



PC System Requirements

The minimum PC system hardware requirements are based on Microsoft PC 2000 System Design Guide Specifications. The following list summarizes the Scalar DLC system requirements:

Required:

- 800 MHZ or faster Inter Pentium ™ or equivalent CPU (minimum 4 free PC slots in chassis)
- 256K L2 Cache
- 256 MB RAM
- Dual matched Hard Drives (10GB or more)
- CD ROM
- 3.5" Diskette Drive
- 15" or greater SVGA Display
- NT/2000 compliant SCSI card
- Standard keyboard & mouse
- Windows 2000 pre-installed (Service Pack 3 is strongly recommended)

Optional:

- SCSI target HBA ASC LDI/UW/H
- SCSI target HBA ASC LDI/U2W

- SCSI target HBA LSI 20860
- SCSI target HBA LSI 8751D
- SCSI target HBA LSI 8951U
- Fibre Channel target HBA QLogic 2200F-33
- Fibre Channel target HBA QLogic 2300F
- NT/2000 compliant SCSI card

Refer to Table 2-1 for a description of SCSI and Fibre Channel adapters that can be used in the system.

Table 2-1 SCSI and Fibre Channel Adapters

Adapter	Type	Connection (external)	Max targets	Max SCSI ID	Max cable length, m
LSI 20860	SCSI	50-pin high density SE	7	7	5
LSI 8751D	SCSI	68-pin high density HVD	15	15	25
LSI 8951U	SCSI	68-pin very high density LVD/SE	15	15	12(LVD) 5(SE)
QLA 2200	Fibre Channel	SC duplex multi-mode	31	127	-
QLA 2300	Fibre Channel	Small form factor multi-mode optic LC	31	127	-

Cluster Solution Requirements

The Scalar DLC Cluster solution is provided for the clients using Microsoft Cluster service. This solution allows the user to have a shared disk with the Scalar DLC database and two hosts contain the installed components of Scalar DLC software; for the redundancy reasons, one host is online and the other is offline. If an error occurs and the online Scalar DLC host turns offline, the other host should go online immediately, so the user may not notice there has been a problem with the host. The customer engineer can work on the problem host without stopping the work of Scalar DLC software.

The Scalar DLC Cluster solution is based on Microsoft Cluster service. However, this software has special requirements summarized in the following list:

- Two PCs, both requiring the standards described in *The minimum PC system hardware requirements are based on Microsoft PC 2000 System Design Guide Specifications. The following list summarizes the Scalar DLC system requirements:*.
- Microsoft Windows 2000 operating system (Advanced Server or Data Server) installed on both PCs.
- Microsoft Cluster Service installed on both PCs.
- For each PC, there should be a minimum two disk controllers, not necessary the same type (e.g. using on-board IDE and SCSI is acceptable).
- At least one external (shared) disk based on RAID or SCSI bus, or Fibre channel. The disk partition should be NTFS-formatted.

- SCSI, RAID, or Fibre channel adapter (on both PCs) to access a shared disk.

NOTE: The type of connections between the shared disk and both PCs must be the same.

WARNING: Scalar DLC 2.4 in a redundant configuration requires the Windows 2000 Advanced Server operating system. By default, this system is configured without password protection for network access. Because of this, ADIC strongly urges companies using this product to use all normal and customary procedures to protect Scalar DLC servers from external threats.

For the details about Scalar DLC Cluster solution, refer to *Scalar DLC Install and Upgrade Manual*.

Tape Library Requirements

Operating mode

CAUTION: The Scalar DLC software may not work properly if the tape library operates in the unsupported mode.

For the Scalar 1000 library, the following operating modes are supported:

- Native
- EXABYTE compatibility
- Storage Technology compatibility
- EMASS compatibility

For the Scalar 10K library only *native* mode is supported.

For the Scalar 10K DA (dual-aisle) library:

- Both medium changers (aisles) must run in *native* mode.
- Both medium changers (aisles) must operate in non-compressed mode.
- At the time of the first configuration, both medium changers (aisles) must be in *online* state. *Ready* state is not required.

Additionally, for the libraries with towers (AML/2, AML/E, Scalar 10K, and Scalar 10K DA):

- At the time of the first configuration all towers (if any) must be in *library* (*online*) state.

Firmware Version

Refer to Table 2-2 and be sure that the firmware version of each tape library used meets the Scalar DLC requirements.

Table 2-2 Required Firmware Version

Tape Library	Required Firmware	Comment
Scalar 1000	3.0 or newer	If the current version is 2.3 or older, contact ATAC. A Customer Engineer will upgrade the library with the appropriate firmware version.
Scalar 10K	130A or newer	
Scalar 10K DA	200A or newer (for both robots)	
AML/J	PMAC Microcode 4.11or newer	Can be downloaded and installed via the Scalar DLC AML/J Tool. Refer to *Scalar DLC AML/J Guide*.
AML/2	V0230H0000 or newer	If the current version is older, contact ATAC. A Customer Engineer will upgrade the library with the appropriate firmware version.
AML/E	V0230H0000 or newer	If the current version is older, contact ATAC. A Customer Engineer will upgrade the library with the appropriate firmware version.

If the Scalar-library firmware version is older then required, a higher version firmware can be downloaded by the user. Perform the following steps:

Step 1 Install Scalar DLC software.

Step 2 Use the automatic configuration procedure to configure the library.

Step 3 Do not inventory the library at this time.

Step 4 Use the Firmware tab to download the firmware from the disk.

Step 5 If Autoteach is enabled, skip the next step.

Step 6 Teach the library. Refer to the *Scalar 1000 Operator Guide* and *Scalar 10K Operator Guide*.

Element Addressing

The slots in the tape libraries are mapped to the elements of physical library by the Scalar DLC physical library object. In the single-aisle libraries, the mapping is identical to the original picture. Refer to Table 2-3 on page 26 and see Figure 2-5 on page 27.

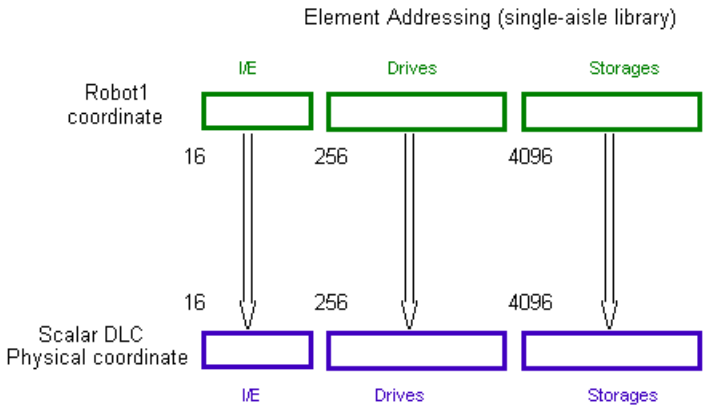
Table 2-3 Element Mapping (Single-aisle libraries)

Section	Robot1 Start Coordinate	Robot2 Start Coordinate	Scalar DLC Start Physical Coordinate
I/E	16	None	16

Table 2-3 Element Mapping (Single-aisle libraries)

Section	Robot1 Start Coordinate	Robot2 Start Coordinate	Scalar DLC Start Physical Coordinate
Drive	256	None	256
Storage	4096	None	4096

Figure 2-5 Element Addressing (single-aisle library)

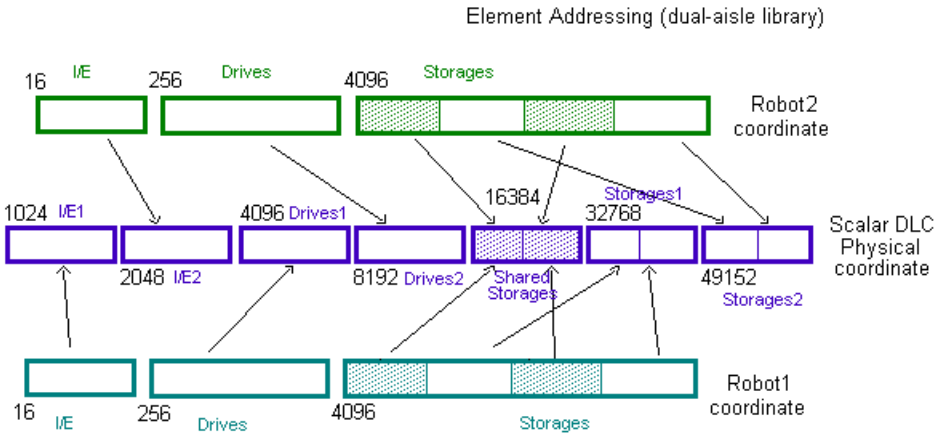


In the dual-aisle libraries there is much more complicated picture. Refer to Table 2-4 and see Figure 2-6 on page 28.

Table 2-4 Element Mapping (Dual-aisle libraries)

Section	Robot1 Start Coordinate	Robot2 Start Coordinate	Scalar DLC Start Physical Coordinate
I/E	16	None	1024 (Robot1 I/E)
	None	16	2048 (Robot2 I/E)
Drive	256	None	4096 (Robot1 drives)
	None	256	8192 (Robot2 drives)
Storage	4096	None	32768 (Robot1 storage)
		4096	16384 (shared storage)
	None		49152 (Robot2 storage)

Figure 2-6 Element Addressing (dual-aisle library)



Remote Browser Requirements

The Scalar DLC Management GUI takes advantage of very advanced Java2 features that are not supported by all browsers. The browser updates can be initiated from the Scalar DLC software splash page by selecting the Tools and Utilities tab. Refer to the *Install and Upgrade Manual.*

Graphical User Interface

The Scalar DLC software Graphical User Interface (GUI) is based on web browser technology that guarantees a consistent user interface appearance across all UNIX and Windows platforms. The GUI is available to users, System Administrators, and Customer Engineers. The GUI consists of the following components:

- Main menu bar
- Library tab
- Configuration tab
- Events tab
- Service tab
- GUI Log

Each component is covered in detail in the following chapters.

Command Line Interface

The command line interface is supported by the DAS version 3.11 application. The DAS application supports numerous third party software applications. Although the Scalar DLC software is designed to support all of the current DAS functionality, the following commands are not supported and are rejected by the Scalar DLC:

- KillAMU

- Scap
- Scop
- Scop2
- Shutdown
- Switch

An error code is generated to inform the user that a command has been rejected. Additional information about DAS is contained on this CD-ROM in the *DAS V3.11 Administration Guide* document.

Service and Maintenance Alerts

The Scalar DLC software monitors all system resources and automatically notifies the ADIC Technical Assistance Center (ATAC) whenever a service call is required. The information supplied to ATAC includes:

- Error detection
- Event logging and tracing
- Error recovery

Notification is generated via applications in the following list:

- GUI Messenger
- Email Home
- Call Home
- SNMP

Each component is covered in detail in the following chapters.

Configuration

NOTE: Local administrator rights are required to install the Scalar DLC software and all required components.

Autostart Installation

To launch the autostart program, load the CD-ROM in the CD-ROM drive. If the autostart program does not launch, use the *Run* option from the **Start** button osn the task bar to execute the *autorun.exe* program.

NOTE: If autostart does not run, locate *autorun.exe* on the CD-ROM and execute the program.

See Figure 3-1 for the autostart screen.

Figure 3-1 Autostart Screen

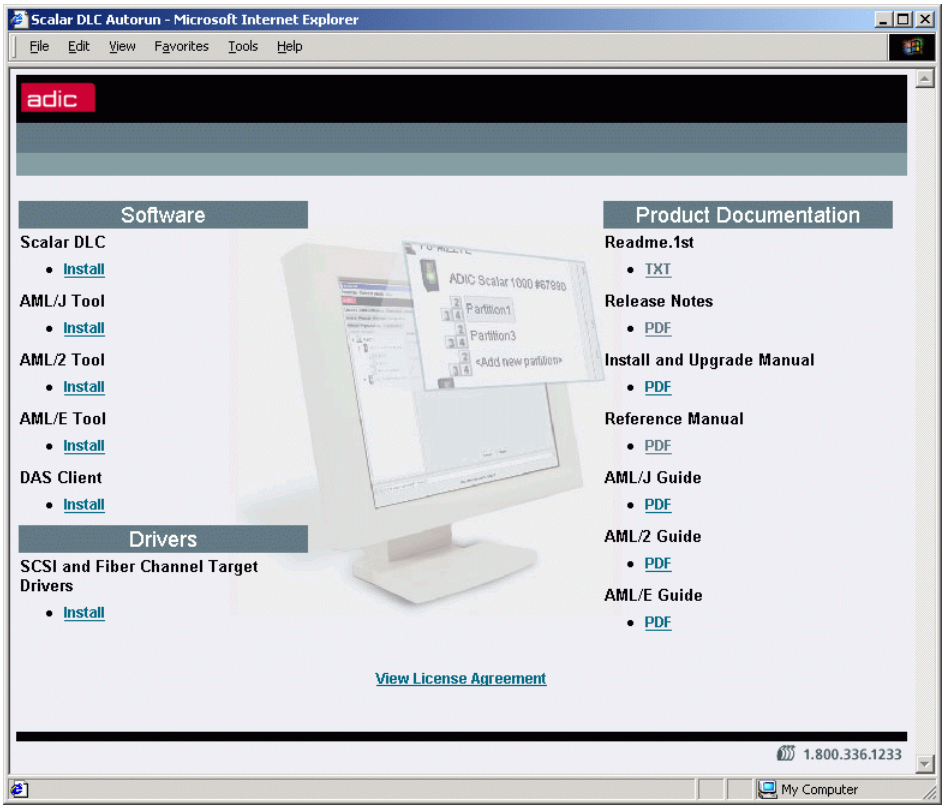


Table 3-1 on page 32 describes the options available from the *Autostart Screen.*

Table 3-1 Autorun Selections

Link	Action	Explanation
Install software packages	Supplied	Launch the installation of appropriate software package.
Scalar DLC	Click-to-install	Start Scalar DLC Typical Installation. Refer to *Install and Upgrade Manual*.
AML/J Tool	Click-to-install	Start installation of Scalar DLC AML/J software.
AML/2 Tool	Click-to-install	Start installation of Scalar DLC AML/2 software.
AML/E Tool	Click-to-install	Start installation of Scalar DLC AML/E software.
DAS Client	Click-to-install	Start installation of DAS Client (dasadmin) software.
Install Drivers	Supplied	Launch the installation of appropriate drivers.
SCSI and Fiber Channel Target drivers	Click-to-install	Start installation of Target drivers for SCSI and Fiber Channel adapters. Refer to *Install and Upgrade Manual*.
Product documentation	Supplied	Opens the product documentation.
Readme.1st	Click-to-open (txt)	The last-minute-information about current release of Scalar DLC software.
Release Notes	Click-to-open (PDF)	The notes on current Scalar DLC release. Refer to *Release Notes*.
Install and Upgrade Manual	Click-to-open (PDF)	The manual on install and upgrade the Scalar DLC. Refer to *Install and Upgrade Manual.*
Reference Manual	Click-to-open (PDF)	The main Scalar DLC document.
AML/J Guide	Click-to-open (PDF)	The manual on AML/J Tools. Refer to *Scalar DLC AML/J Guide*.
AML/2 Guide	Click-to-open (PDF)	The manual on AML/2 Tools. Refer to *Scalar DLC AML/2 Guide*.
AML/E Guide	Click-to-open (PDF)	The manual on AML/E Tools. Refer to *Scalar DLC AML/E Guide*.
License agreement	Click-to-open (html)	The ADIC- Scalar DLC license agreement.

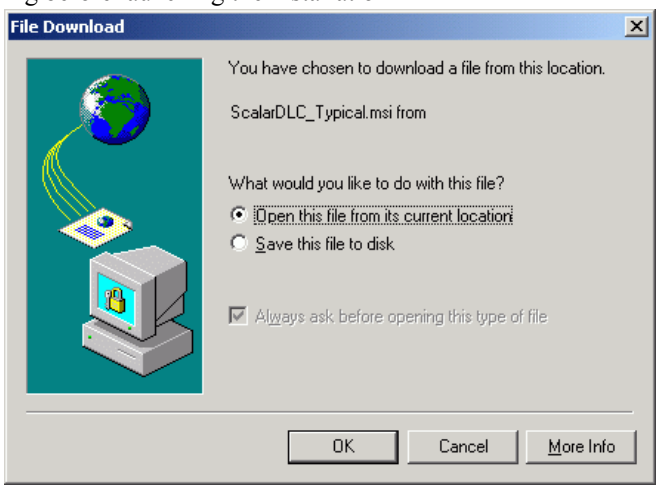
NOTE: AML/J Tools, AML/2 Tools, or AML/E Tools installation can be launched only after the Scalar DLC software is installed properly.

CAUTION: **Only one AML tools (AML/J, AML/2, or AML/E, but not two or three of them) can be installed on a single PC. The Scalar DLC software will not work with two AML tape devices.**

The Adobe Acrobat Reader ver. 4.0 or higher is required to view the documentation in PDF-form. The user can download the most recent version of the required software from the Adobe web site at http://www.adobe.com.

Because of the browser security restrictions the documents should open immediately, but the installation packages will be launched only after the warning screen associated with the file download displays (see Figure 3-2).

Figure 3-2 Warning before launching the installation



Select “Open this file from its current location” and click **OK** to proceed. The installation package will be launched.

For the description of the installation process, refer to *Install and Upgrade Manual*.

Scalar DLC Management GUI

The Scalar DLC Management GUI is started by either the browser launched applet or the supervisory desktop application. Before using the browser applet, determine that the Scalar DLC service is running. To check the service state, examine either the **Control Panel > Services** or the task bar. The Scalar DLC task bar icons are illustrated and described in Table 3-2 on page 34.

NOTE: Before starting the Management GUI, verify that the display resolution setting is 800 x 600 pixels or higher and the display color setting is more than 256 colors.

Table 3-2 Scalar DLC Task Bar Icons

Task Icon	Description
	The Scalar DLC supervisor service is *stopped* (*Offline* for the Scalar DLC Cluster solution). Double click the icon to display Figure 3-3.
	The Scalar DLC supervisor service is *started* (*Online* for the Scalar DLC Cluster solution). Double click the icon to display Figure 3-3.
	The Scalar DLC supervisor service is either *starting* or *stopping* (*turning online/offline* for the Scalar DLC Cluster solution).

Figure 3-3 About Scalar DLC State

Browser Pre-Installation

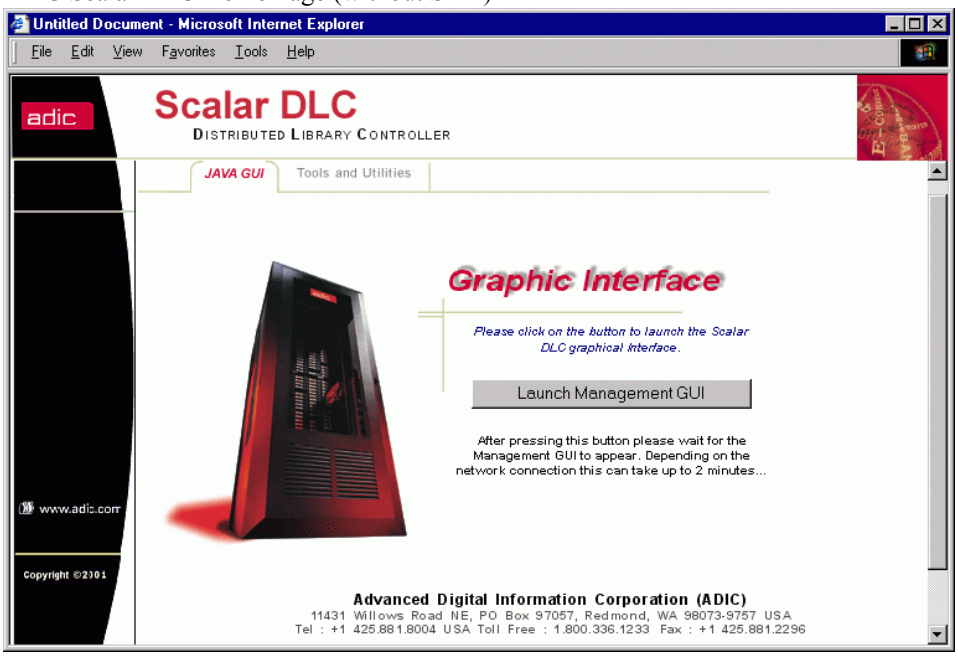
Both Netscape Navigator ™ and Internet Explorer ™ browsers must be updated to take full advantage of the Scalar DLC Management GUI. For a remote browser, the update is required before the browser can launch the Scalar DLC software. For a local browser, the update could be executed manually; but it is recommended that the browser(s) be installed before launching the Scalar DLC software installation. The update steps should be executed by either a System Administrator or an expert PC user.

NOTE: The Internet Explorer browser is a required component for the Scalar DLC software installation. If Internet Explorer is not present, the Scalar DLC CD autorun program installs the Internet Explorer as a part of the Scalar DLC Typical Installation process. No pre-installation is required in the case of complete installation.

Start the update procedure by entering the Hostname location of the Scalar DLC software server on the browser address line (for example, **http://computer**). This establishes a connection with the Scalar DLC software home page.

Depending on the Web Server configuration used on the Scalar DLC host, the page appearance may vary. See Figure 3-4 and Figure 3-5 on page 36 for the basic pages, and refer to *Scalar DLC with SAK* on page 36 for the advanced (IIS + SAK-based) pages.

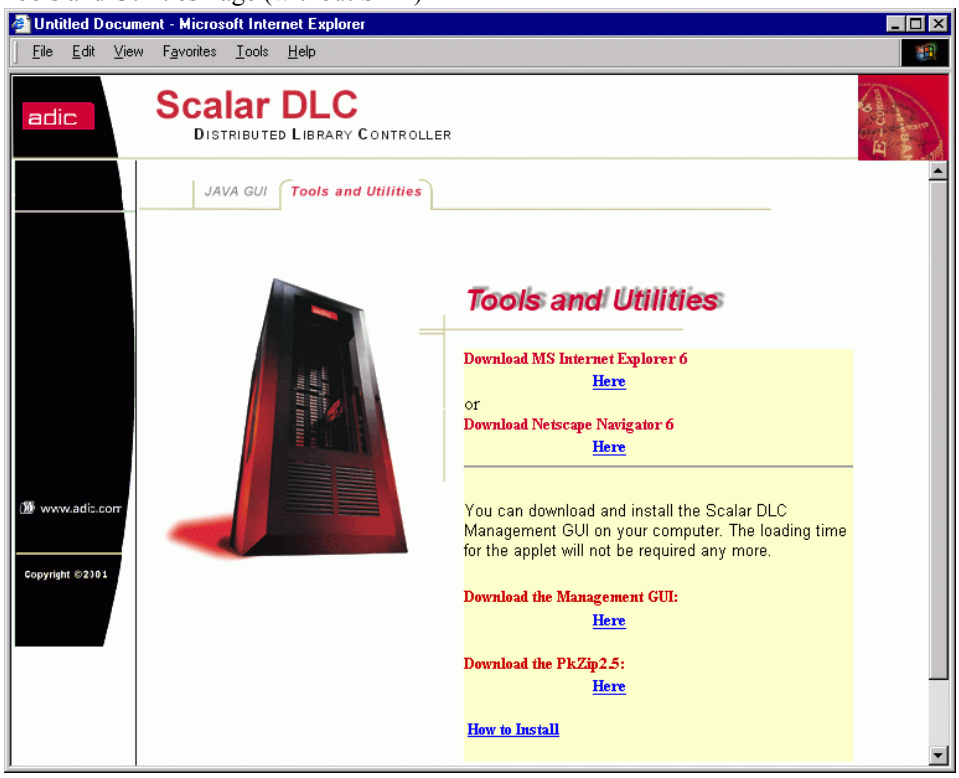
Figure 3-4 ADIC Scalar DLC Home Page (without SAK)



The only required component for the browser update is a Java Plug-in. Click **Launch Management GUI** when it appears. Refer to *Java Plug-In* on page 36 for the description of update process.

Selecting the *Tools and Utilities* tab displays the Tools and Utilities pane. See Figure 3-5 on page 36.

Figure 3-5 Tools and Utilities Page (without SAK)



The new versions of both Netscape Navigator ™ and Internet Explorer ™ browsers can be downloaded from this page. The Scalar DLC Management GUI that is designed to launch the Scalar DLC software application from a remote host can be downloaded also. The installation steps of the Scalar DLC Management GUI are also described on this page.

Java Plug-In

When running versions of Netscape Navigator prior to version 4.7, the Scalar DLC GUI requires the Java 2 Plug-in 1.3.1_02 Release. Installing the Plug-in enables direct Java2 applets to run while using Sun's JRE. Therefore, the *j2re-1_3_1-02-win-i.exe* file must be executed so that files are added to a specific directory. Begin the procedure by selecting the hyperlink associated with the Java Plug-in. Save the file to a temporary directory; and then launch it.

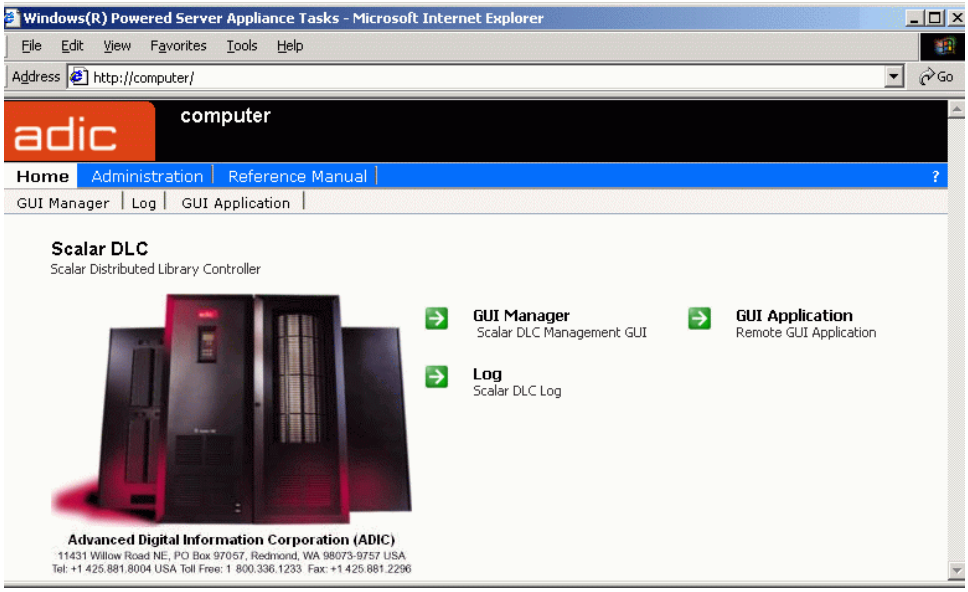
The same update procedure should be executed when the Scalar DLC Management GUI is used with the remote Scalar DLC host.

NOTE: This patch is also required for the Microsoft Internet Explorer browser. However, the MS IE browser installs this patch automatically when the user tries to launch the Scalar DLC software for the first time. The Netscape Navigator browser needs to be updated manually.

Scalar DLC with SAK

The Scalar DLC home page based on Internet Information Service and Microsoft Server Appliance Kit looks completely different and offers much more functionality. See Figure 3-6 on page 37.

Figure 3-6 ADIC Scalar DLC Home Page (with SAK)

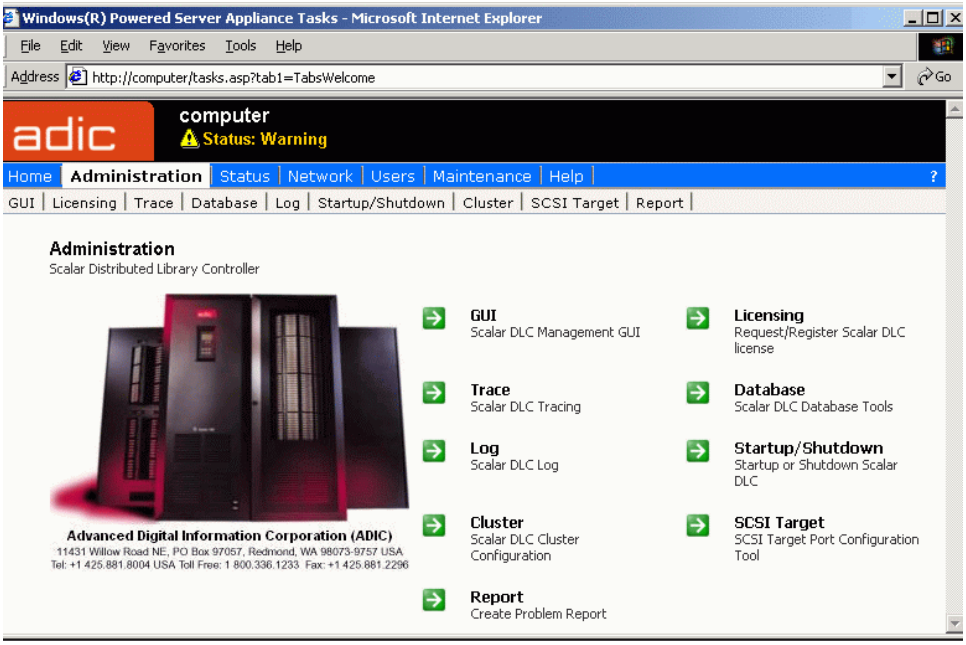


SAK has been designed for the remote administration, and the Administration section on this home page (see Figure 3-7 on page 38) opens the way to the Scalar DLC tools, license, and so forth, as well as for internal SAK functions. The detailed description can be found in the built-in help system accessible by clicking on the **?** button.

NOTE: The Administration section is accessible only for users with administrative rights on the Scalar DLC host computer (**computer**, on Figure 3-7 on page 38).

The **GUI Manager** button starts the Scalar DLC Management GUI applet. **GUI Application** opens the page to download the archive files for remote Scalar DLC Management GUI Application. **Log** opens the Scalar DLC Log Viewer (refer to *View Log* on page 425).

Figure 3-7 ADIC Scalar DLC Administration Page (with SAK)



For the details of Administration page, see build-in help (either *Help* tab or "?" button).

Launch the Management GUI from a Browser

Enter the Hostname location of the Scalar DLC server on the browser. This procedure establishes a connection with the Scalar DLC home page. See **Figure 3-4 on page 35**.

NOTE: Disk write operations (upload) are not allowed from the browser-launched Scalar DLC Management GUI due to security restrictions.

When the Scalar DLC home page appears, press the **Launch Management GUI** button. The Scalar DLC Logon dialog window appears. See **Figure 3-8 on page 39**.

Two user types are predefined, Admin and ATAC.

An Administrator (Admin) user, password, and access level are established when Scalar DLC software is installed. The Admin user can be logged into Scalar DLC from this location. At any given time, only one user with Administrator rights can log into Scalar DLC. The Customer Engineer (CE), password, and access level also are pre-defined.

Two default logins established during installation are: user "admin", password "password" for the default Admin; user "atac", password "guardian" for the default CE.

Figure 3-8 Scalar DLC GUI Logon Dialog

Firewall and Proxy Issues

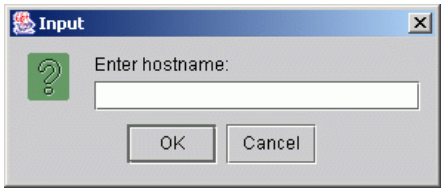
If the Scalar DLC Management GUI launches but does not connect to the Scalar DLC server, a firewall or proxy server could be present between the browser and the Scalar DLC server. The remote methods invocation transport layer normally attempts to open a direct socket connection to the host on the Internet. Many intranets, however, have firewalls or proxies that do not allow this procedure.

The Management GUI cannot communicate with the Scalar DLC software server through a firewall if the port 1099 is not open. Connections also are easier to make if the browser is not configured to use a proxy. If necessary, contact the System Administrator to resolve any connectivity issues.

Launch the Management GUI as an Application

From the Windows desktop, launch the Scalar DLC Manager shortcut (**Start > Programs > ADIC Distributed Library Controller > Scalar DLC Manager**, or double-click on the Scalar DLC Manager desktop icon) to enable the host connection window. See Figure 3-9. The operation can be executed either from local host where the Scalar DLC software is installed or from a remote host after the user installs the Management GUI.

Figure 3-9 Host Connection Window



Enter the Scalar DLC hostname in the dialog window. Then the Scalar DLC log on dialog appears. See Figure 3-8 on page 39.

NOTE: Disk write operations (upload, download) are not allowed from the application-based Scalar DLC Management GUI.

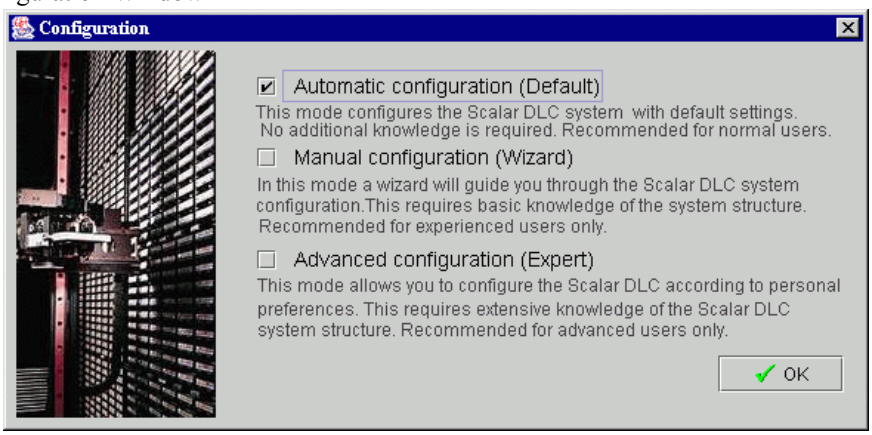
Resizing Windows and Panes

Both the browser-based and application-based Management GUI allow users to modify the size of the main Scalar DLC window screen as well as resize some internal Scalar DLC panes. ADIC does not recommend that the user reduce the Scalar DLC screen below its original size.

Configuration

When a user is logged into the Management GUI and no previously configured physical library is present, a configuration selection window appears. This allows the user to choose the Scalar DLC configuration method. See Figure 3-10.

Figure 3-10 Configuration Window



Accept the default configuration or select the desired configuration method.

Automatic Configuration

ADIC recommends the automatic configuration for typical or first time users. Using the automatic configuration, create a default Scalar DLC configuration for each detected physical library.

The automatic configuration creates the configuration by executing the following procedures:

Step 1 Scans the SCSI bus for physical libraries.

Step 2 Creates partitions for all the physical library elements.

Step 3 Creates a logical library.

Step 4 Assigns the partitions to the logical libraries.

Step 5 For each logical library, creates two identical mailboxes (I01 and E01) covering all the mailbox slots.

Step 6 For each logical library, creates a client and assigns it to the logical library.

NOTE: By default, if the DAS Client support is installed, the created client is DAS Client; if not, no client is created because the SCSI and ROBAR interface need certain pre-configuration.

Manual Configuration

For advanced users, the wizard-based configuration automatically scans for libraries and creates physical library objects by executing the following step-by-step procedures:

Step 1 Scans the SCSI bus for physical libraries.

Step 2 Creates partitions for all the physical library elements.

Step 3 Creates a logical library.

Step 4 Assigns the partitions to the logical library.

Step 5 Creates two identical mailboxes covering all the mailbox slots.

Step 6 Creates a client and assigns it to the logical library.

With the wizard based configuration, the advanced user can specify exact names for the components and select the type of the client.

NOTE: By default, if the DAS Client support is installed, the created client is DAS Client; if not, no client is created because the SCSI and ROBAR interface need certain pre-configuration.

Advanced Configuration

ADIC recommends this mode for expert or administrator users. In this mode, only the icon associated with the Scalar DLC software system appears. Refer to Table 3-3.

Table 3-3 Scalar DLC Software System Name

Icon	Purpose
	This icon is named after the PC where the Scalar DLC software is installed (**computer**, on the example pictures).

To enable all of the GUI functions, create a working configuration by performing the procedures in the following sections:

Rescan a SCSI Bus

Create the device objects associated with a physical library by using the **Rescan SCSI Bus** button on **Configuration > Physical > Controller** pane. Refer to *Physical Tab* on page 622.

Create Partitions

Create the partition objects representing desired parts of the Physical Library. That can be done on **Configuration > Physical > Library** pane. Refer to *Create Partition* on page 637.

NOTE: There should be at least three partitions created for each physical library. Refer to *Partition* on page 635 for the details.

The partition properties also can be modified later, even after the partition is assigned to a logical library, via the **Configuration > Physical > Library** pane. Refer to *Partition* on page 635.

Create a Logical Library

Create a logical library. That can be done on **Configuration > Logical** pane. Refer to *Create Library* on page 617.

Right after creation, the logical library is shown as *Invalid*. That is correct: *Invalid* state indicates that the library does not contain a proper set of partitions.

Assign Partitions to a Library

Assign the partitions created before to the new logical library. That can be done through the **Configuration > Logical > Library** pane (or *Assign Partitions* wizard in ***Main Menu > Wizards*** section). Refer to *Assign Partition* on page 619 or *Assign Partitions* on page 46.

NOTE: There should be at least three partitions assigned to each logical library. The partition can be shared between two or more logical libraries. Refer to *Partition* on page 64 for the details.

The partitions also can be assigned or unassigned later.

Create Mailbox

Create one or more mailboxes for a logical library. They will represent its insert/eject areas. That can be done through the **Configuration > Logical** pane. Refer to *Create Mailbox* on page 621.

NOTE: Although Management GUI does not have name restrictions for the mailbox name, some backup applications do. ADIC recommends the name **Exx** for mailboxes to be used for Export (Eject) operations, and **Ixx** for mailboxes to be used for Import (Insert) operations.

The mailbox name and assigned range of insert/eject slots also can be changed later through the **Configuration > Logical > Mailbox** pane. Refer to *Mailbox* on page 610.

Create Client

Create the client object(s) that will represent the client(s) that will work with the library. Depending on the interface used, the clients are DAS Clients, SCSI Clients, or ROBAR Clients. Some clients may share a single logical library.

The DAS Client can be created via the **Configuration > Clients > DAS** pane. Refer to *Create DAS Client* on page 652.

The SCSI Client can be created via the **Configuration > Clients > SCSI** pane. Refer to *Create SCSI Client* on page 660. Note that the SCSI Target object must be created before (**Configuration > SCSI Target > Port** pane). Refer to *Create Target* on page 670.

The ROBAR Client can be created via the **Configuration > Clients > ROBAR** pane. Refer to *Create ROBAR Client* on page 664. Note that the ROBAR Port must be configured before the clients can send commands (refer to *ROBAR* on page 661).

Initialize the Logical Library

The library must be initialized for its internal elements and cartridges to be created. It can be done by using the **Inventory** button. The same command can be done via the client interface.

Once the initialization process is completed, the library functions are available to the user.

Create Pool

Create the required number of cartridge pools for a logical library. The Scratch pools should contain the data cartridges ready for writing; the Clean pools should contain the cleaning cartridges ready to perform drive clean operations. That can be done through the **Configuration > Logical** pane. Refer to *Create Pool* on page 620.

NOTE: Although Management GUI does not have name restrictions for the pool name, some backup applications do. ADIC recommends the name **Pxx** for scratch pools, and **CLx** for the clean pools.

The pool name and assigned cartridges can be also changed later through the **Configuration > Logical > Pool** pane. Refer to *Pool* on page 65. Some DAS and ROBAR clients also may assign cartridges to the existing pool and remove them as well.

Configure Clean Manager

After the cleaning pools are created and configured, they can be assigned to the appropriate drives for the Drive Cleaning operation that can be executed either automatically or by the client request. This can be done via the **Configuration > Logical > Drive** pane. Refer to *Drive* on page 615. Specify also the correct cleaning time, it depends on the drive type and model.

Assign Drives to Cartridges

After the cartridges are created, they may be assigned to the appropriate drives in order to **Generic mount** operation will use the assigned drive as the first position in the list of possible mount destinations. A cartridge can be assigned to one drive, but the drive can be the assign position for a multiple cartridges.

The assignment is executing (and can be changed later) through the **Configuration > Logical > Cartridge** pane. Refer to *Cartridge* on page 68.

NOTE: This optional feature is not required for SCSI or ROBAR clients, but some DAS clients do use it.

Configure Additional Libraries

Follow the sequence of the previous procedures to configure additional logical libraries.

NOTE: A re-initialization of the library is necessary if the library properties are changed. A re-initialization also is recommended after stop/start the Scalar DLC software.

Operations

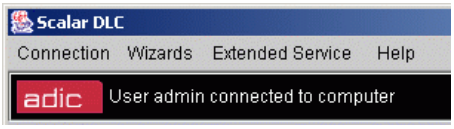
This sections describes the parts of the Scalar DLC Management GUI. The GUI screen is divided into three areas. The upper portion of the screen contains the Main Menu bar, as shown in Figure 4-1, and the Refresh icon, as shown in Table 4-1. The center portion of the screen contains the library related menus, configuration and service tabs, and so forth. Refer to *GUI Tabs* on page 429. The lower portion of the screen holds the GUI Log. Refer to *GUI Log* on page 437.

Main Menu Bar

The Main Menu Bar contains five sections. See Figure 4-1. The sections are:

- Screen Refresh Icon
- Connection
- Wizards
- Extended Service
- Help

Figure 4-1 Main Menu Bar



Screen Refresh Icon

The broad black bar containing the red ADIC logo and the user-to-host connection status is a screen refresh icon. It forces the Management GUI screen to refresh. Refer to Table 4-1 for an explanation of the options.

Table 4-1 Screen Refresh Icon

Icon	Description
adic	Refresh the Management GUI screen. The bar itself is the refresh button, too.

NOTE: Depending on the PC performance and the current Scalar DLC configuration, the refresh may take up to several minutes.

Connection

The *Connection* section contains the following options:

- Log Off
- Exit

Refer to Table 4-2 for an explanation of the options.

Table 4-2 Connections

Name	Description
Log Off	Log off the Management GUI. A new log on dialog appears.
Exit	Close and exit the current applet or application and log off the user.

Wizards

The *Wizards* section contains the wizard-based engines to create some Scalar DLC internal elements. It contains the following options:

- Create Configuration
- Assign Partitions
- Create Ticket
- Create Rule

Refer to Table 4-3 for an explanation of button options.

Table 4-3 Select Physical Library Areas

Name	Icon	Operation	Description
First		Click	Return to the first dialog (disabled at the first wizard dialog).
Previous		Click	Return to the previous dialog (disabled at the first wizard dialog).
Next		Click	Go to the next wizard dialog.
Create/Finish		Click	Create (only at the last dialog).
Cancel/Exit		Click	Cancel creation or exit wizard after successful creation.

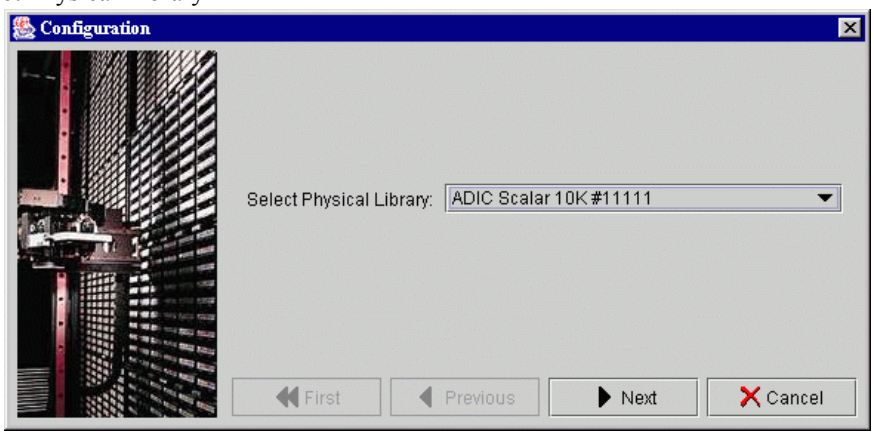
Create Configuration

NOTE: This section is accessible only for users with administrative privileges.

The Configuration wizard creates a logical library that covers all the parts of the selected physical library, creates two identical mailboxes (I01 and E01) that cover all insert/eject area, and assigns a client to the created library. The wizard automatically creates the required partitions in the ranges of a physical library and assigns them to the logical library.

Selecting the *Create Configuration* option activates the Configuration wizard. The first dialog is Physical Library selection. See Figure 4-2 on page 43.

Figure 4-2 Select Physical Library



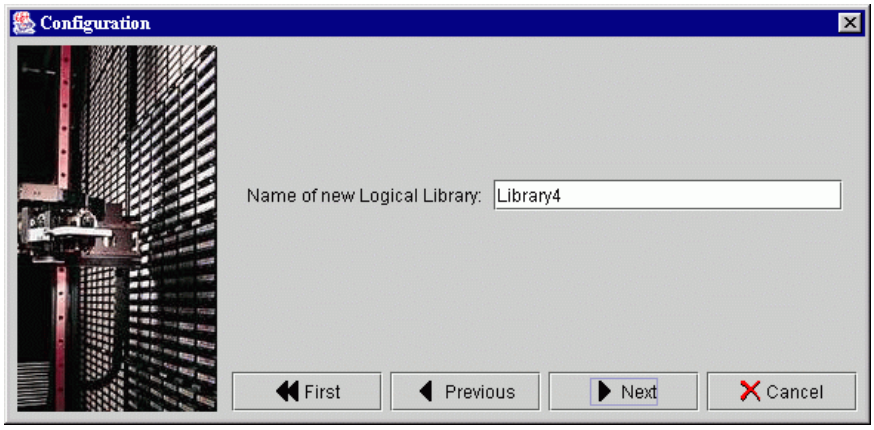
The Select Physical Library dialog begins the configuration process. Refer to Table 4-4 for an explanation of the selections.

Table 4-4 Select Physical Library Areas

Name	Operation	Description
Select Physical Library	Select	Select the physical library from the combo box. The created library will be based on the selected device.

The next dialog is Logical Library Selection. See Figure 4-3.

Figure 4-3 Select Logical Library



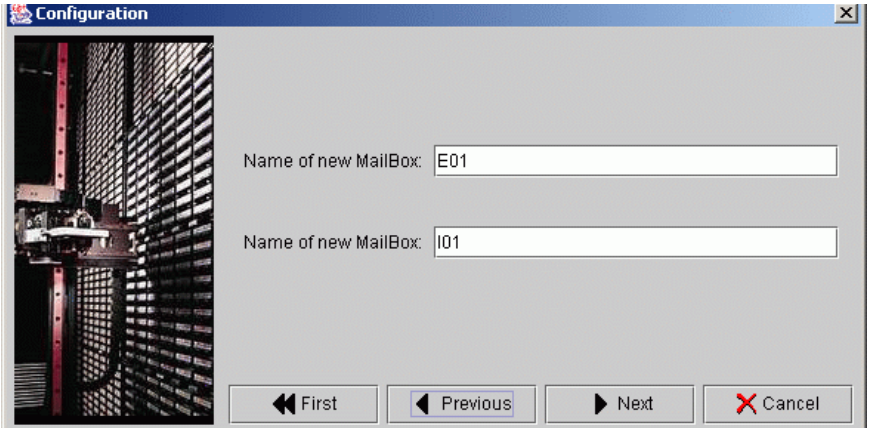
Accept the default name or enter the desired name. ADIC recommends accepting the default name while being sure not to duplicate the name of already existing libraries. Refer to Table 4-5 for an explanation of the selections.

Table 4-5 Select Logical Library Areas

Name	Operation	Description
Name of new Logical Library	Enter	Enter the new logical library name.

The next dialog is Mailbox selection. See Figure 4-4 on page 44.

Figure 4-4 Select Mailbox



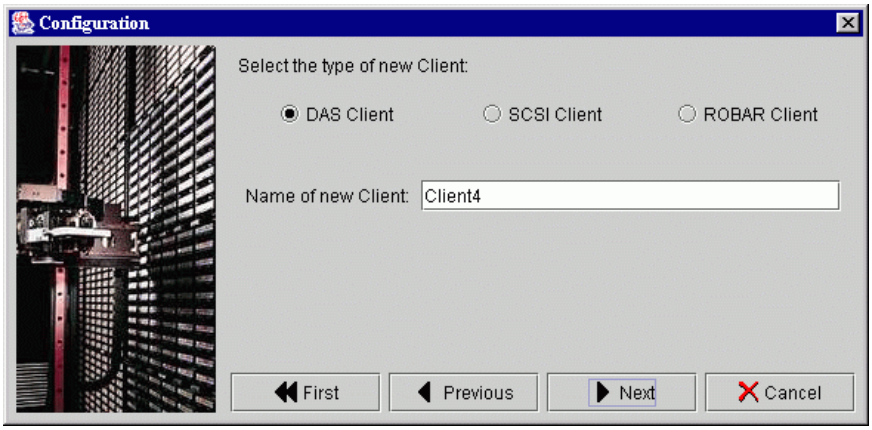
Accept the default names or enter the desired names. ADIC recommends accepting the default names. Refer to Table 4-6 for an explanation of the selections.

Table 4-6 Select Mailbox Areas

Name	Operation	Description
Name of new Maibox	Enter	Enter the name of the new mailbox (E01 for export).
Name of new Maibox	Enter	Enter the name of the new mailbox (I01 for import).

The next dialog is Client selection. See Figure 4-5.

Figure 4-5 Select Client



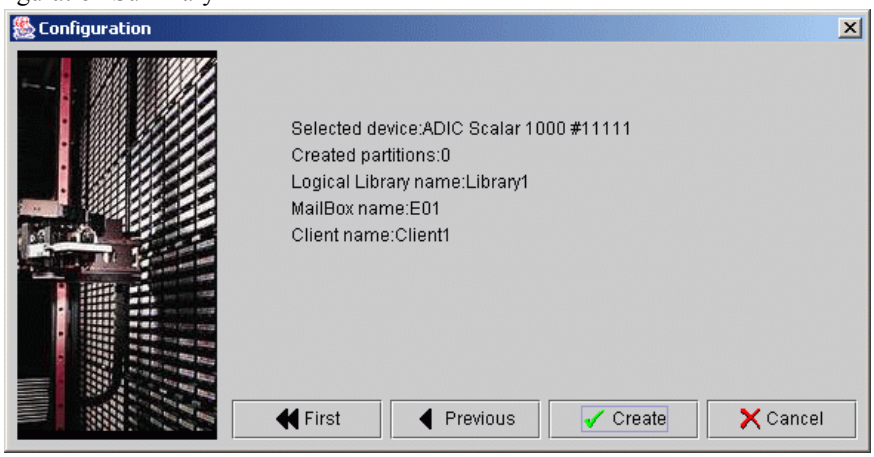
Accept the default name or enter the desired. ADIC recommends accepting the default name while being sure not to duplicate an existing client name. Refer to Table 4-7 on page 45 for an explanation of the selections.

Table 4-7 Select Client Areas

Name	Operation	Description
Select the type of new Client	Select	*DAS Client* selects the DAS client. Always available if the DAS Client support is installed.
		SCSI Client selects the SCSI Client. Available only after the SCSI is configured (the target is created). Refer to *Create Target* on page 670.
		ROBAR Client selects the ROBAR Client. Available only after the ROBAR interface is configured. Refer to *ROBAR* on page 661.
Name of new Client	Enter	Enter the name of the new client.

The next dialog is Configuration Summary. See Figure 4-6.

Figure 4-6 Configuration Summary



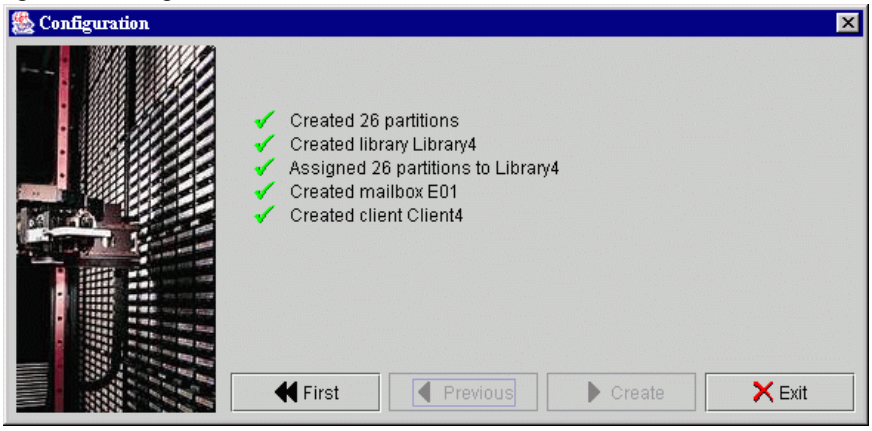
Review the configuration summary before creating the library configuration. Refer to Table 4-8 for an explanation of the selections.

Table 4-8 Configuration Summary Areas

Name	Operation	Description
Summary	Supplied	Be sure that the data entered from the previous dialogs is correct.

Then the final configuration dialog appears. See Figure 4-7 on page 46.

Figure 4-7 Configuration Complete



Refer to Table 4-9 for an explanation of the selections.

Table 4-9 Configuration Complete Areas

Name	Operation	Description
Operation list	Supplied	The list of operations executed by configuration wizard.

Assign Partitions

NOTE: This section is accessible only for users with administrative privileges.

The Partition Assignment wizard assigns the partition(s) to the logical library or executes the backward operation. The logical library and the partitions to assign must be created before launching the wizard.

Selecting the *Assign Partitions* option activates the Partition Assignment wizard.

There are two kinds of the Partition Assignment wizard first screen. Figure 4-8 appears when the selected logical library contains at least one partition.

Figure 4-8 Partitions Contained

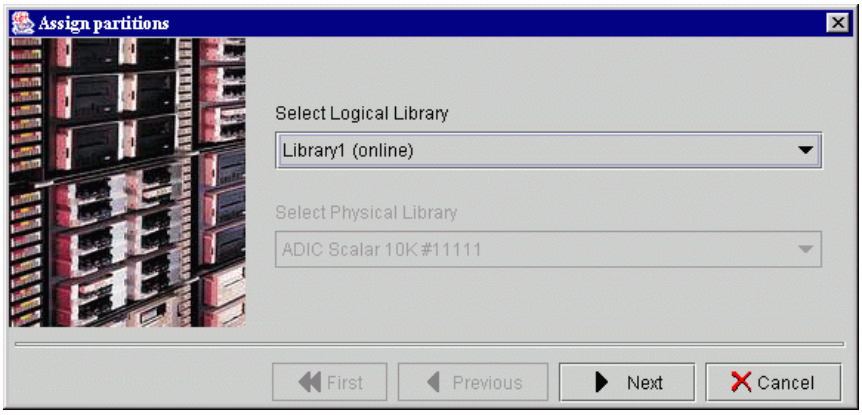
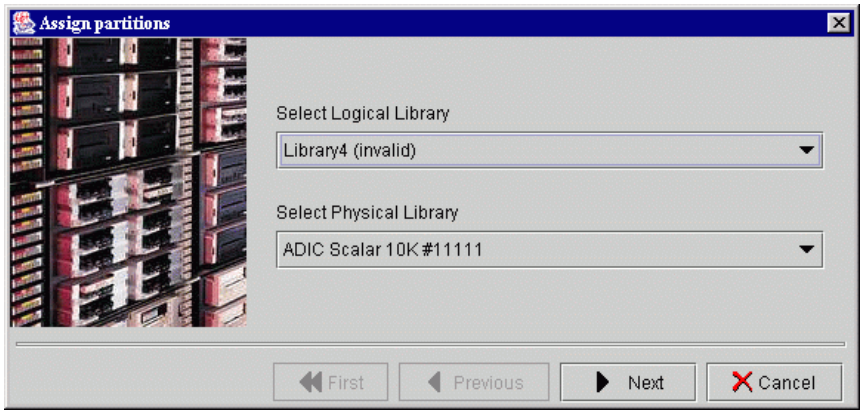


Figure 4-9 on page 47 appears when the selected logical library does not contain any partition.

Figure 4-9 Partitions Not Contained



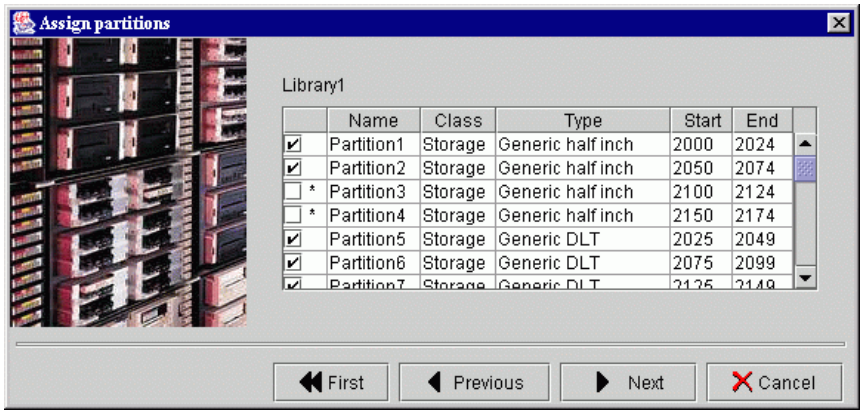
Refer to Table 4-10 for an explanation of the selections.

Table 4-10 Partitions Areas

Name	Operation	Description
Select Logical Library	Select	The logical library to assign/unassign partition(s).
Select Physical Library	Supplied	The physical library whose partition(s) are already assigned to the selected logical library.
	Select	The physical library whose partition(s) should be assigned to the selected logical library.

The next wizard screen shows the assign/unassign dialog. See Figure 4-10.

Figure 4-10 Partition List



Refer to Table 4-11 for an explanation of the selections.

Table 4-11 Partition List Areas

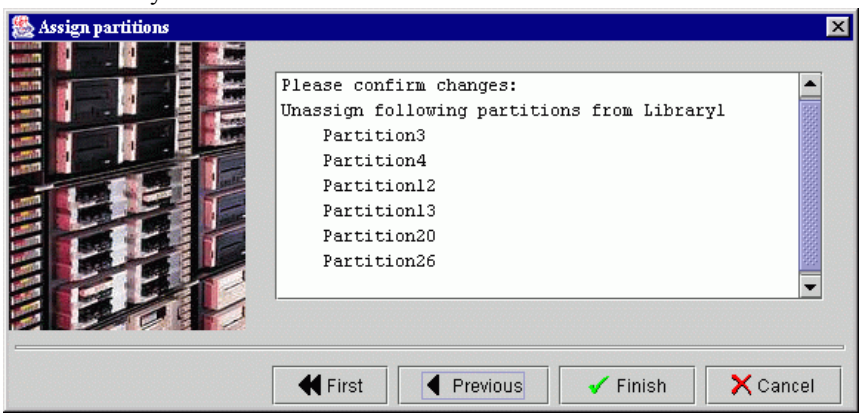
Name	Operation	Description
Library name	Supplied	The logical library to assign/unassign partition(s).

Table 4-11 Partition List Areas

Name	Operation	Description
Partition(s)	Check	The checked partitions are, or should be, assigned to the logical library. The unchecked partitions currently are not assigned to the library or should be unassigned from it. The changes done by user are marked with asterisks. The partition properties (name, class, type, and so forth) are indicated, too.

The next screen shows the summary dialog. See Figure 4-11.

Figure 4-11 Partitions Summary



Refer to Table 4-12 for an explanation of the selections.

Table 4-12 Partitions Summary Areas

Name	Operation	Description
Summary	Supplied	Shows the summary for the assign/unassign partition(s)

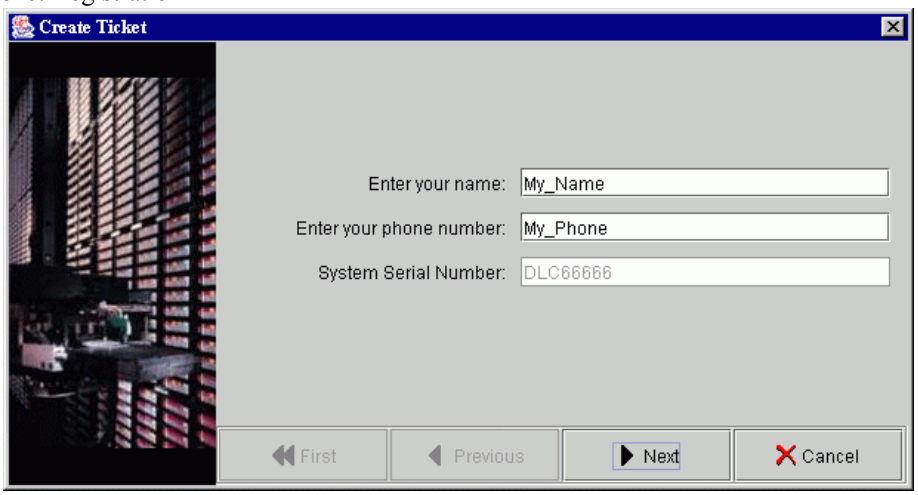
Create Ticket

NOTE: This section is accessible for all users.

Ticket is a brief report of the problem encountered by the user, the problem that should be solved by ADIC Technical Assistance Center (ATAC). After the ticket that describes the problem is created, the email notification is sent to ATAC. The informed CE (customer engineer) then can start to work on solving the problem. Information supplied to the ticket becomes a part of the ATAC Calls pane. Refer to *ATAC Calls Tab* on page 436.

Selecting the *Create Ticket* option activates the Ticket wizard. The Ticket Registration dialog is shown in Figure 4-12 on page 49.

Figure 4-12 Ticket Registration



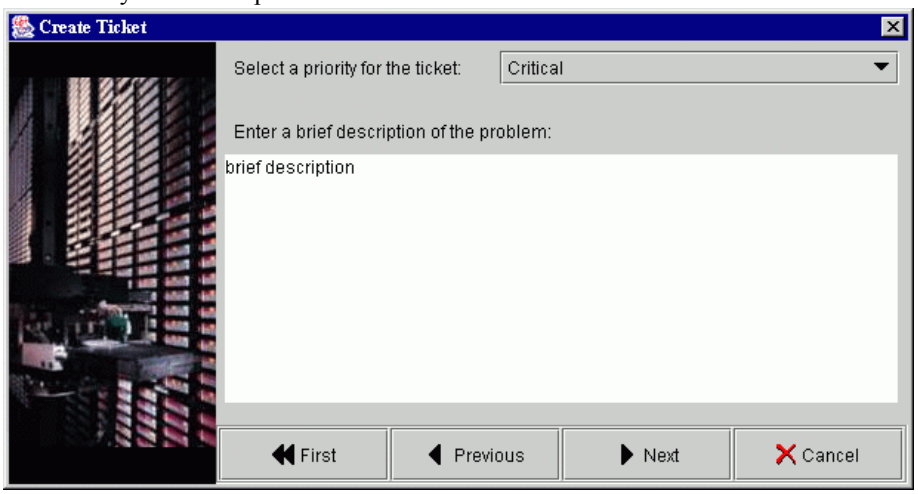
The Ticket Registration dialog begins the technical support process. Refer to Table 4-13 for an explanation of the selections.

Table 4-13 Ticket Registration Areas

Name	Operation	Description
Enter your name	Enter	The user name.
Enter your phone number	Enter	The user's telephone number.
System Serial Number	Supplied	The system serial number (taken directly from the Scalar DLC Database).

The Ticket Priority and Description dialog is the next step in the wizard process. A priority is selected, and a description of the problem is entered. The Ticket Priority and Description dialog is shown in Figure 4-13.

Figure 4-13 Ticket Priority and Description



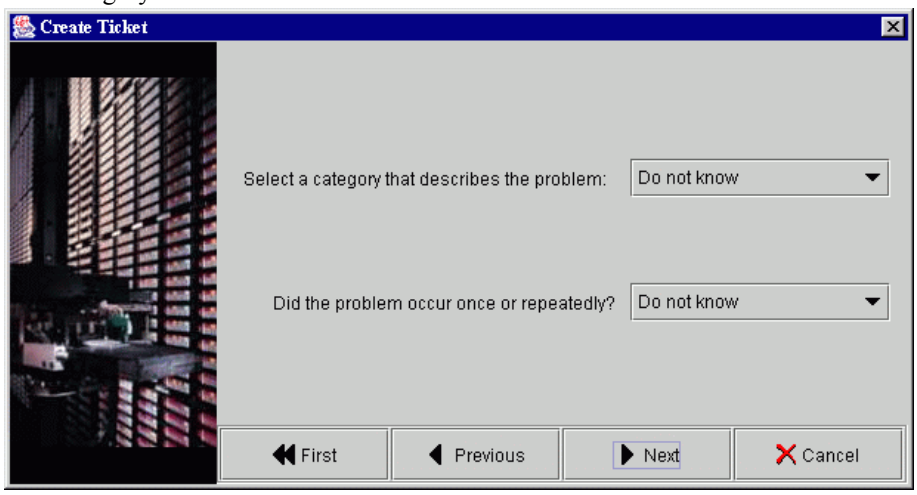
The Ticket Priority and Description dialog continues the technical support process. Refer to Table 4-14 on page 410 for an explanation of the selections.

Table 4-14 Ticket Priority and Description Areas

Name	Operation	Description
Select a priority for the ticket	Select	*Critical* means the problem must be solved immediately. Highest priority.
		Urgent means that solving the problem is very important but not critical. High priority.
		Major means that the problem should be solved. Medium priority.
		Minor means that the problem should be solved. Low priority.
		Enhancement means that the problem should be solved. Lowest priority
Enter a brief description of the problem	Enter	A description of the problem.

The Ticket Category dialog is used to select a category for the problem. The frequency of the problem is established. The Ticket Category dialog is shown in Figure 4-14.

Figure 4-14 Ticket Category



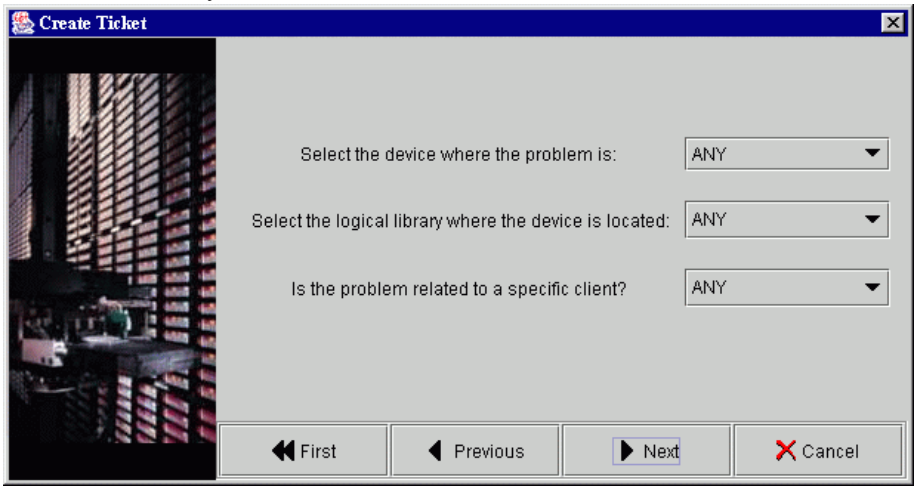
The Ticket Category dialog continues the process. Refer to Table 4-15 on page 411 for an explanation of the selections.

Table 4-15 Ticket Category Areas

Name	Operation	Description
Select a problem category that describes the problem	Select	*Do not know* means the problem category is unknown.
		Operator means the problem source is an operator error.
		Hardware means the problem source is a hardware error.
		Firmware means the problem source is a software error.
		Service call means the user asks for service help.
		Configuration means the problem source is an incorrect system configuration.
		Statistical means the problem source is statistical data.
Did the problem occur once or repeatedly?	Select	*Do not know* means the problem frequency is unknown.
		Temporary means the problem occurred once and was not reproduced.
		Permanent means the problem appeared several times.

The Ticket Device, Library, and Client dialog selects the problematic device, details the location of the logical library that contains the device, and identifies the associated client. The Ticket Device, Library, and Client dialog is shown in Figure 4-15.

Figure 4-15 Ticket Device, Library, and Client



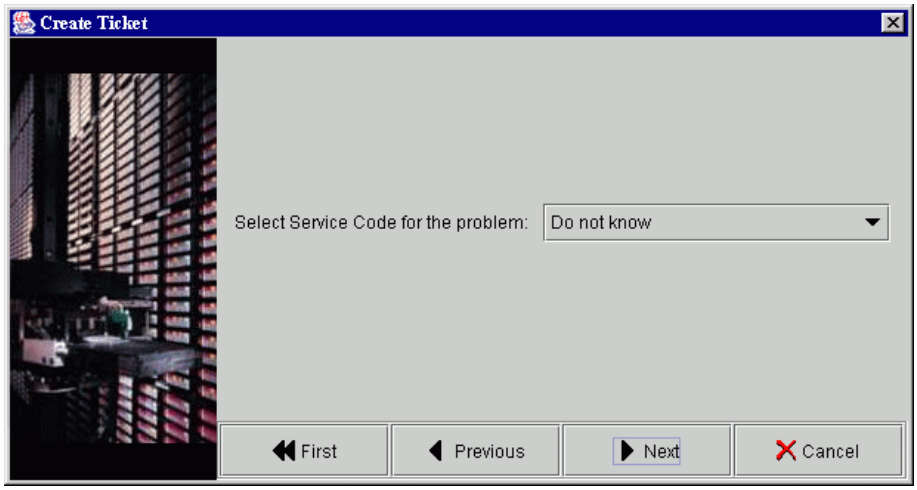
The Ticket Device, Library, and Client dialog continues the technical support process. Refer to Table 4-16 on page 412 for an explanation of the selections.

Table 4-16 Ticket Device, Library, and Client Areas

Name	Operation	Description
Select the device where the problem is	Select	Select the device from the combo box if the problem is somewhere in the device.
Select the logical library where the device is located	Select	Select the logical library from the combo box if the problem is with the logical library.
Is the problem related to a specific client	Select	Select the client from the combo box if the problem related with a client.

The Ticket Service Code dialog establishes the service code associated with the problem. The Ticket Service Code dialog is shown in Figure 4-16.

Figure 4-16 Ticket Service Code



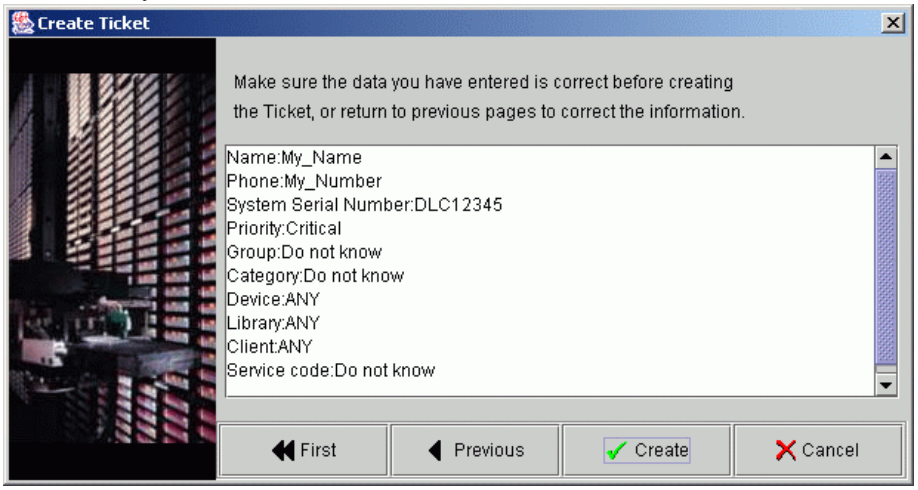
Refer to Table 4-17 on page 413 for an explanation of the selections.

Table 4-17 Ticket Service Code Areas

Name	Operation	Description
Select the Service Code for the problem	Select	*Do not know* means the cone is unknown.
		Unscheduled Repair means an unexpected repair is required.
		Scheduled Repair means a pre-arranged time has been allocated for the repair.
		Information Call means information is sent to ATAC.
		Customer Resp. means the problem is caused or belongs to the customer.
		Preventive Maint. means routine preventive maintenance is scheduled.
		Installation means the ticket is generated to notify ATAC about the installation of the system.
		De-Installation means the ticket is generated to notify ATAC about a system de-installation.
		EC/Field Bill means a service call is the result of an EC/Field build installation.
		Feature Code Change means a new feature or function is added to the system.

The Ticket Summary dialog contains selected information from the previous dialogs. The wizard assembles the data and requires a verification. See Figure 4-17 for the Ticket Summary dialog.

Figure 4-17 Ticket Summary



The Ticket Summary dialog completes the technical support process. Refer to Table 4-18 for an explanation of the selections.

Table 4-18 Ticket Summary Areas

Name	Operation	Description
Summary	Supplied	Be sure that the data entered from the previous dialogs is correct.

NOTE: The **Create** button is disabled while the ticket is in the creation process. During this period, the data is being integrated into the ATAC Calls pane.

Create Rule

NOTE: This section is accessible only for users with administrative privileges.

The Scalar DLC software contains so-called rules for monitoring system events with the possibility of send notification via Email or directly to the GUI. In addition to system rules that are generated by the Scalar DLC software itself, there exists a possibility for the user to create his own rules that will operate the same way. Refer to the Table 4-19 for the detailed description of the events and matching rules configuration.

NOTE: (Any) means selection “Any”; (None) means selection “None”, (#) means exact selection (for example, “Library1”).

Table 4-19 Event Specification

Event	Event Group	Specific Event	Error code	Physical Library	Logical Library	Client
Start supervisor	Statistical	SDLC supervisor has been started	0	None	None	None
Stop supervisor	Statistical	SDLC supervisor has been stopped	0	None	None	None
License expiration warning	Statistical	License is to expire in a few days	0	None	None	None
Physical library is created	Statistical	New physical library is created	0	None	None	None
Physical library is deleted	Statistical	Physical library has been deleted	0	None	None	None
Physical library state changed	Statistical	The library state has changed	0	Any #	None	Any
Logical library state changed	Statistical	The library state has changed	0	None	#	None
Library Tape Alert	Statistical	Message about Drive Tape Alert Flag	0	Any #	None	Any

Table 4-19 Event Specification

Event	Event Group	Specific Event	Error code	Physical Library	Logical Library	Client
Drive Tape Alert	Statistical	Message about Drive Tape Alert Flag	0	#	None	Any
Front door closed	Statistical	Library door closed. Context are defined below.	0	#	None	Any
Inventory (GUI)	Statistical	Library elements have been inventoried	0	None	#	None
Inventory (auto)	Statistical	Library elements have been inventoried	0	#	None	Any
Inventory (common)	Statistical	Library elements have been inventoried	0	#	#	Any
Move cartridge (common)	Statistical	A cartridge has been successfully moved	0	None	#	#
Move cartridge (client)	Statistical	A cartridge has been successfully moved	0	None	#	Any # (merged)
Move cartridge (GUI)	Statistical	A cartridge has been successfully moved	0	None	#	Any
Physical element state changed	Statistical	Library elements changed its state	0	#	#	Any
Logical element state changed	Statistical	Library elements changed its state	0	None	#	None
New firmware loaded	Statistical	New firmware has been loaded to physical library	0	#	None	Any
New firmware loaded	Statistical	New firmware has been loaded to physical library	0	None	#	Any
Drive cleaning	Statistical	Message from Clean Manager about drive cleaning	0	None	#	#
Clean pool requires service	Statistical	A clean's pool condition has become critical	0	None	#	None
Element(s) allocated by client	Statistical	Logical library element has changed its allocation state	0	None	#	#

Table 4-19 Event Specification

Event	Event Group	Specific Event	Error code	Physical Library	Logical Library	Client
Cluster node changed	Statistical	Cluster node has been changed	0	None	None	Any
Hardware error: generic, and so forth	Hardware	An erroneous situation has been encountered	217	Any #	Any	Any
Hardware error: accessor cannot pick a cartridge	Hardware	An erroneous situation has been encountered	216	Any #	Any	Any
Hardware error: accessor cannot put a cartridge	Hardware	An erroneous situation has been encountered	215	Any #	Any	Any
Hardware error: destination full	Hardware	An erroneous situation has been encountered	223	Any #	Any	Any
Hardware error: source empty	Hardware	An erroneous situation has been encountered	222	Any #	Any	Any
Hardware error: accessor cannot move	Hardware	An erroneous situation has been encountered	360	Any #	Any	Any
Hardware error: common	Hardware	An erroneous situation has been encountered	220	Any #	Any	Any
General failure: common	General	An erroneous situation has been encountered	217	Any	Any #	Any #
Not ready: common	General	An erroneous situation has been encountered	205	Any #	Any	Any
Not ready: device is becoming ready	General	An erroneous situation has been encountered	248	Any #	Any	Any
Illegal request: destination full	General	An erroneous situation has been encountered	223	Any	Any #	Any #
Illegal request: source empty	General	An erroneous situation has been encountered	222	Any	Any #	Any #
Illegal request: destination is accessor	General	An erroneous situation has been encountered	358	Any	Any #	Any #

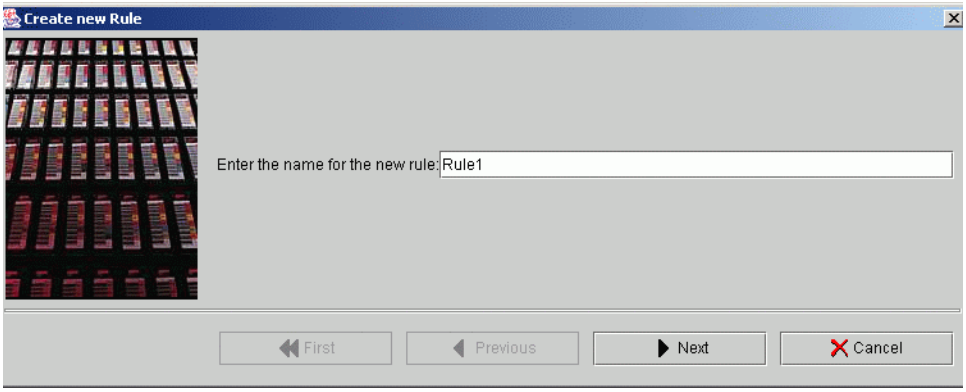
Table 4-19 Event Specification

Event	Event Group	Specific Event	Error code	Physical Library	Logical Library	Client
Illegal request: invalid CDB field	General	An erroneous situation has been encountered	363	Any	Any	Any
					#	#
Illegal request: I/E station door open	General	An erroneous situation has been encountered	368	Any	Any	Any
					#	#
Abort: command aborted	General	An erroneous situation has been encountered	376	Any	Any	Any
						#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	247	Any	Any	Any
						#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	212	Any	Any	Any
					#	#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	354	Any	Any	Any
					#	#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	221	Any	Any	Any
					#	#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	355	Any	Any	Any
					#	#
General failure (Scalar 1000)	General	An erroneous situation has been encountered	226	Any	Any	Any
					#	#
Internal error	Internal	An erroneous situation has been encountered	0	Any	Any	Any
License expired	Configuration	License has been expired	0	None	None	#
Configuration changed	Configuration	Configuration changed	0	None	None	#
Manually created ticket	Ticket	Open ticket (manually)	0	None	None	Any
Automatic created ticket	Ticket	Open ticket (auto)	0	None	None	Any
Ticket in work	Ticket	Continue ticket	0	None	None	Any
Close ticket	Ticket	Close ticket	0	None	None	Any

NOTE: The incorrect rule cannot be created. Only the selections matching the selected event group, event, and so forth, are enabled in the Rule wizard.

Selecting the *Create Rule* option opens the Rule Name dialog. Specify the Rule name here. See Figure 4-18.

Figure 4-18 Rule Name



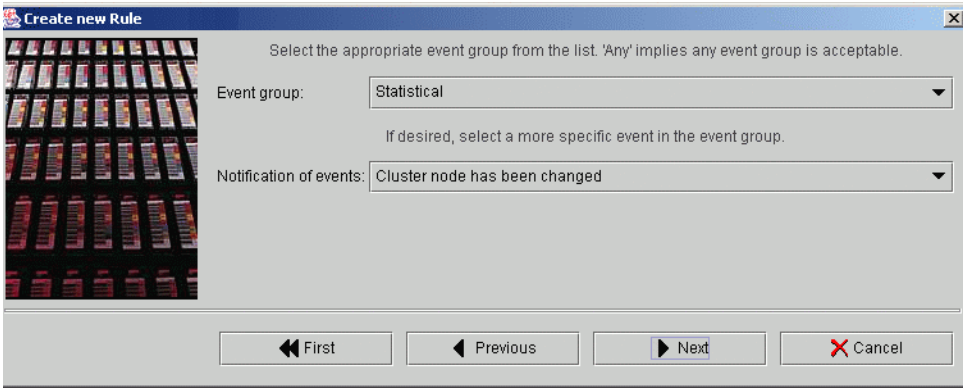
Refer to Table 4-20 for the definitions.

Table 4-20 Rule Name Areas

Entry	Operation	Description
Enter the name for the new rule	Enter	The rule name. ADIC recommends using names describing the meaning of the rule.

The Rule Event dialog continues the wizard process. The event group and specific event must be specified here. See Figure 4-19.

Figure 4-19 Rule Event



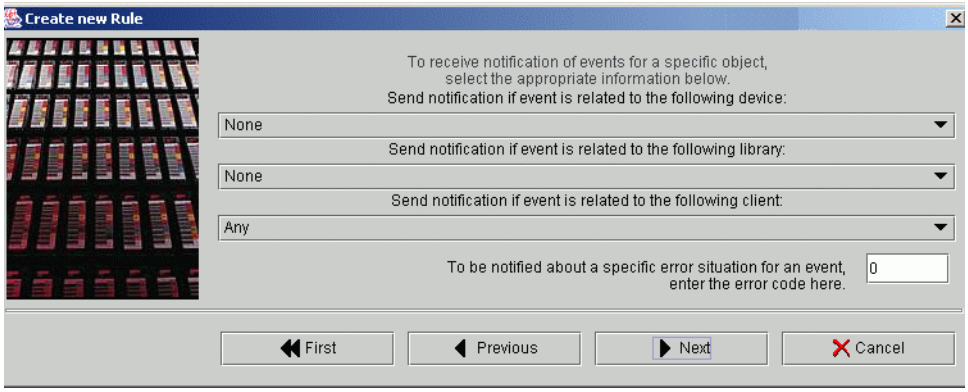
Refer to Table 4-21 on page 419 for the definitions.

Table 4-21 Rule Event Areas

Entry	Operation	Description
Event group	Select	Event group selection. Refer to Table 4-19 on page 414.
Notification of events	Select	Event selection. Refer to Table 4-19 on page 414

The Rule Event dialog continues the wizard process The device, library, and client must be specified here. See Figure 4-20.

Figure 4-20 Rule Event Location



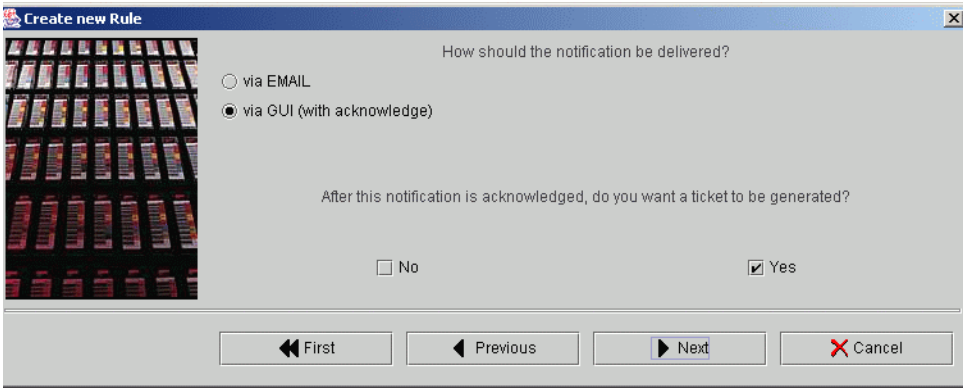
Refer to Table 4-22 for the definitions.

Table 4-22 Rule Event Location Areas

Entry	Operation	Description
Send notification if event is related to the following device	Select	Device (Physical library) selection. Refer to Table 4-19 on page 414.
Send notification if event is related to the following device	Select	Logical library selection. Refer to Table 4-19 on page 414.
Send notification if event is related to the following device	Select	Client selection. Refer to Table 4-19 on page 414.
To be notified about a specific error situation for an event	Enter	An error code listing. Refer to *Error Codes* on page 95 and Table 4-19 on page 414.

The Rule Notification Sent dialog continues the wizard process. The way to sent notification should be specified here. See Figure 4-21 on page 420.

Figure 4-21 Rule Notification Sent Dialog



Refer to Table 4-23 for the definitions.

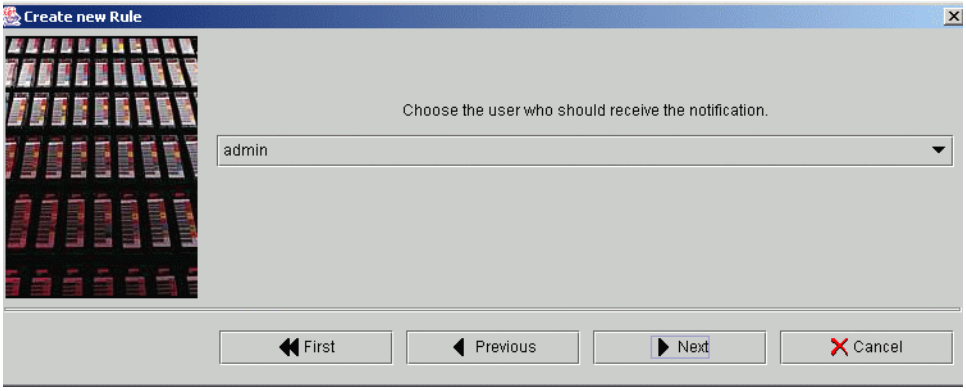
Table 4-23 Rule Notification Sent Areas

Entry	Operation	Description
How should the notification be delivered	Select	*EMAIL* sends notification via email.
		GUI sends a notification to the Management GUI.
After this notification is acknowledged, do you want a ticket to be generated	Check	Enable/disable a service ticket generation request (enable only when *GUI* selected).
Next	Click	If EMAIL has been selected, the *Rule Email Destination* dialog appears. See Figure 4-23 on page 421.
		If GUI has been selected, the *Rule Notification Receiver* dialog appear. See Figure 4-22.

NOTE: Although there exist some predefined rules that send notification via SNMP, the user-created rules other than predefined cannot deliver SNMP notification because of interface properties.

The Notification Receiver dialog pane identifies the user who receives the notification.

Figure 4-22 Rule Notification Receiver



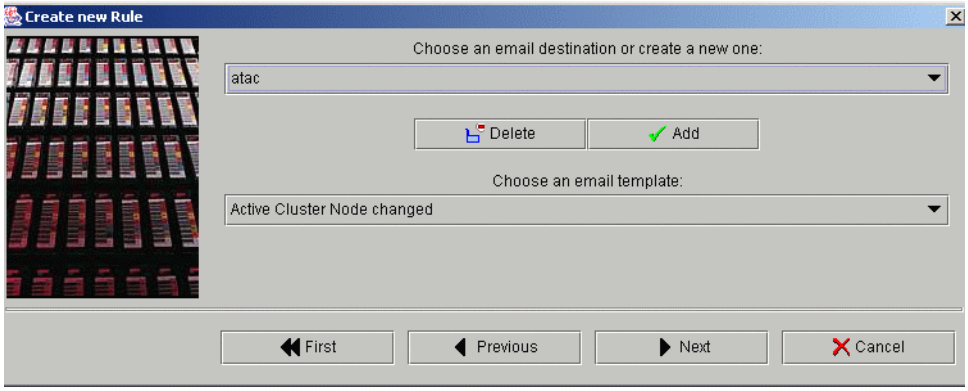
Refer to Table 4-24 for the definitions.

Table 4-24 Rule Notification Receiver Areas

Entry	Operation	Description
Choose the user who should receive this notification	Select	A selection from the user list.
Next	Click	Go to the next wizard dialog (Summary).

The Rule Email Destination dialog identifies the user who receives the notification via email. See Figure 4-23.

Figure 4-23 Rule Email Destination



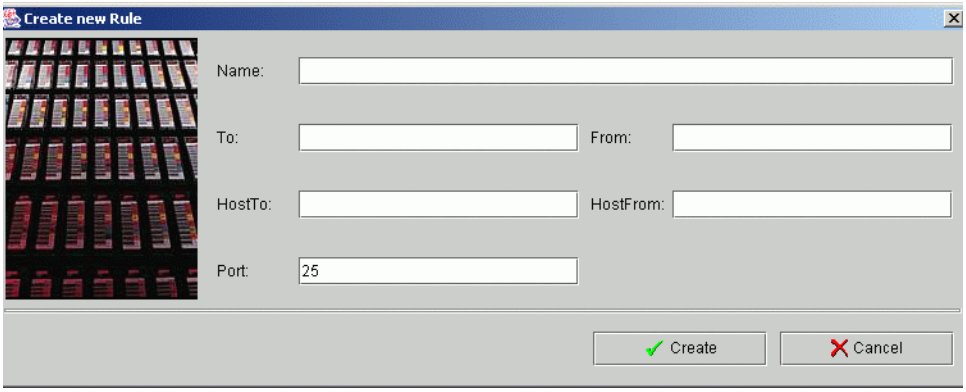
Refer to Table 4-25 for the definitions.

Table 4-25 Rule Email Destination Areas

Entry	Operation	Description
Choose an email destination or create a new one	Select	A selection from the current list of email destinations.
Delete	Click	Delete the entry from the list. The service engineer destination cannot be deleted.
Add	Click	Add an entry to the list. The service engineer destination has been added already. See Figure 4-24 on page 422.
Choose an email template	Select	Choose a selection from the combo box. Only valid template (matched the rule) could be selected.
Next	Click	Go to the next wizard dialog (Summary).

The Rule Email dialog identifies the user who should receive the notification. See Figure 4-24 on page 422.

Figure 4-24 Rule Email



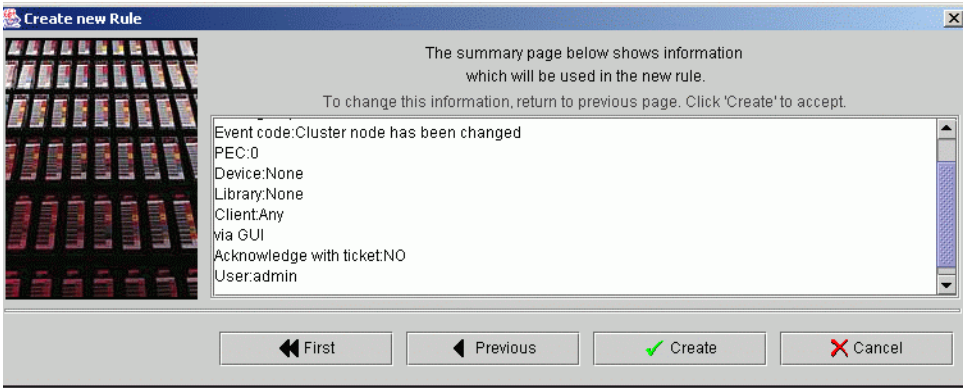
Refer to Table 4-26 for the definitions.

Table 4-26 Rule Email Areas

Entry	Operation	Description
Name	Enter	Email sender name.
To	Enter	Email recipient address.
From	Enter	Email sender address.
Host To	Enter	Recipient email server.
Host From	Enter	Sender email server.
Port	Enter	Sender email port (the default is shown).

The last Rule wizard dialog displays the Rule Summary. See Figure 4-25.

Figure 4-25 Rule Summary



Refer to Table 4-27 for the definitions.

Table 4-27 Rule Summary

Entry	Operation	Description
Summary	Supplied	Be sure that the data entered from the previous dialogs is correct.

Extended Service

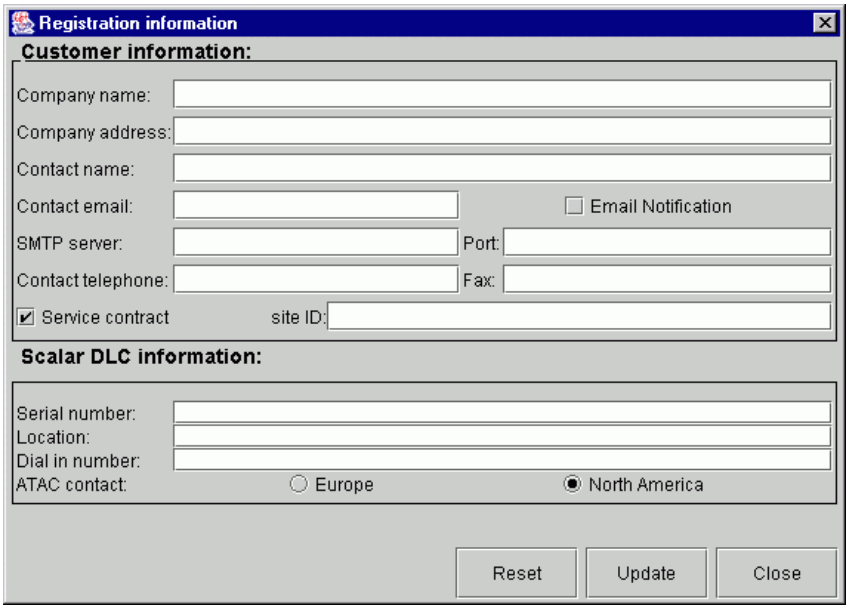
The *Extended Service* section contains the following options:

- Registration Information
- Connect to RMU
- View Log

Registration Information

Selecting the *Registration Information* opens the Registration Information pane. See Figure 4-26. It shows the customer's personal information that has been entered during installation of the Scalar DLC software.

Figure 4-26 Registration Information



Review the registration information and change it if desired. Table 4-28 shows additional information.

Table 4-28 Registration Info

Name	Operation	Description
Company name	Enter	The company name.
Company address	Enter	The company mailing address.
Contact name	Enter	The contact person name.
Contact email	Enter	The contact email address.
Email Notification	Check	Check this box for receiving notifications via email.
SMTP Server	Enter	The SMTP server name.

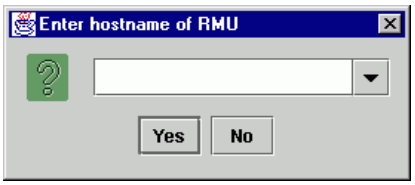
Table 4-28 Registration Info

Name	Operation	Description
Port	Enter	The SMTP server port number.
Contact telephone	Enter	The contact phone number.
Fax	Enter	The contact fax number.
Service contract	Check	Marks the service contract feature as ‘signed’.
Site ID	Enter	The site ID (for the signed service contract).
SDLC serial number	Supplied	The Scalar DLC serial number.
SDLC location	Enter	The Scalar DLC location.
SDLC dial-in number	Enter	The Scalar DLC dial-in number.
ATAC contact	Select	The Scalar DLC ATAC contact region (North America or Europe).
Reset	Click	Clear all the fields and restore the registration information from the Scalar DLC database
Update	Click	Update the Scalar DLC database with the registration information entered in this pane.
Cancel	Click	Close the pane without saving changes.

Connect to RMU

Selecting the *Connect to RMU* opens the RMU connection pane. See Figure 4-27. It allows the user to connect to the remote management unit.

Figure 4-27 Connect to RMU



The factory installed Remote Management Unit (RMU) in each system uses a standard web browser for remote library access. The supported browsers are:

- Microsoft Internet Explorer version 4.0 and above
- Netscape Navigator version 4.01 and above.

With an RMU, one can do the following:

- Update RMU firmware
- Access the library status
- Make configuration changes
- Access the library Operator Panel
- Update the library controller firmware
- Retrieve library command and error logs

- Use the ADIC website to access Scalar documentation

The RMU supports Simple Network Management Protocol (SNMP) version 2.0 and acts as an SNMP server. The RMU acquires Tape Alert 3.0 compatibility information from the library over the serial interface port and sends that information to a SNMP server. The RMU also detects a power loss and generates a SNMP trap for notification.

View Log

Selecting the View Log opens the online log viewer window. See Figure 4-28.

Figure 4-28 View Log: standard mode

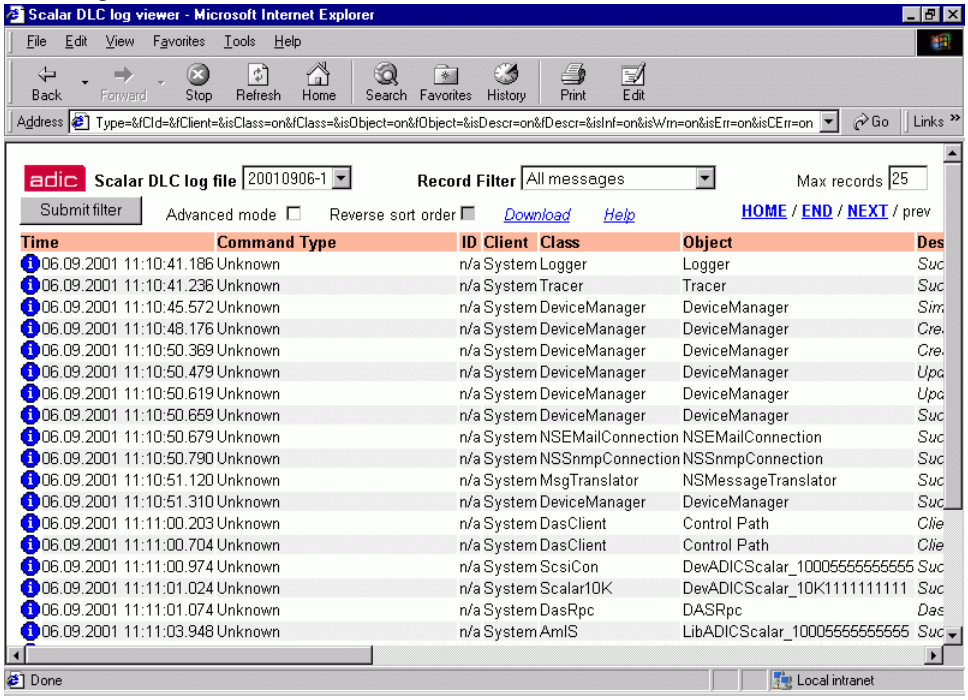


Table 4-29 describes the details. Double-clicking on the record message opens the log message detail window. See Figure 4-29 on page 426.

Table 4-29 View Log: standard mode

Name	Operation	Description
Scalar DLC log file	Select	The log file to view can be selected. The log file for current session is the default.
Record Filter	Select	The filter of records can be specified.
Max records	Enter	The maximum number of records to show can be specified.
Advanced mode	Check	Pressing the **Submit filter** button shows the View Log advanced mode window. See Figure 4-29 on page 426.
Reversed sort order	Check	Not supported in current version.
Download	Click	Downloads the current log file.

Table 4-29 View Log: standard mode

Name	Operation	Description
Help	Click	Opens Log help screen.
Home	Click	Go to the first record page.
End	Click	Go to the last record page.
Next	Click	Go to the next record page.
Prev	Click	Go to the previous record page.
Submit filter	Click	Refreshes the current screen to apply changes according to the filter specified.
Record messages	Double-click	Opens the log message detail window. See Figure 4-30 on page 427.

Figure 4-29 View Log: advanced mode

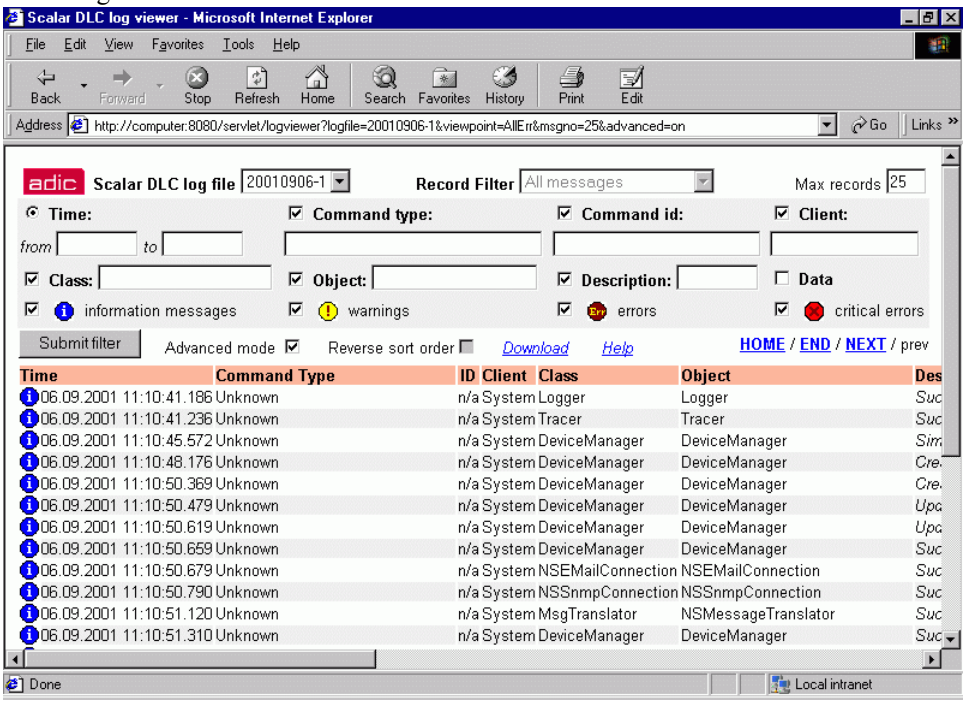


Table 4-30 describes the details of advanced mode. Double-clicking on the record message opens the log message detail window. See Figure 4-30 on page 427.

Table 4-30 View Log: advanced mode

Name	Operation	Description
Time	Check/ Enter	Specify the time range of the record to show using the **From** and **To** fields. Empty fields specify all records.
Command Type	Check/ Enter	Specify the command type of the record to show.
Command Id	Check/ Enter	Specify the command ID of the record to show.

Table 4-30 View Log: advanced mode

Name	Operation	Description
Client	Check/ Enter	Specify the client of the record to show.
Class	Check/ Enter	Specify the class of the record to show.
Object	Click/Enter	Specify the object of the record to show.
Description	Check/ Enter	Specify the description of the record to show.
Data	Check	Specify the record data to show.
Information message	Check	Show information messages.
Warnings	Check	Show warning messages.
Errors	Check	Show error messages.
Critical errors	Check	Show critical error messages.

Figure 4-30 Log Message Detail

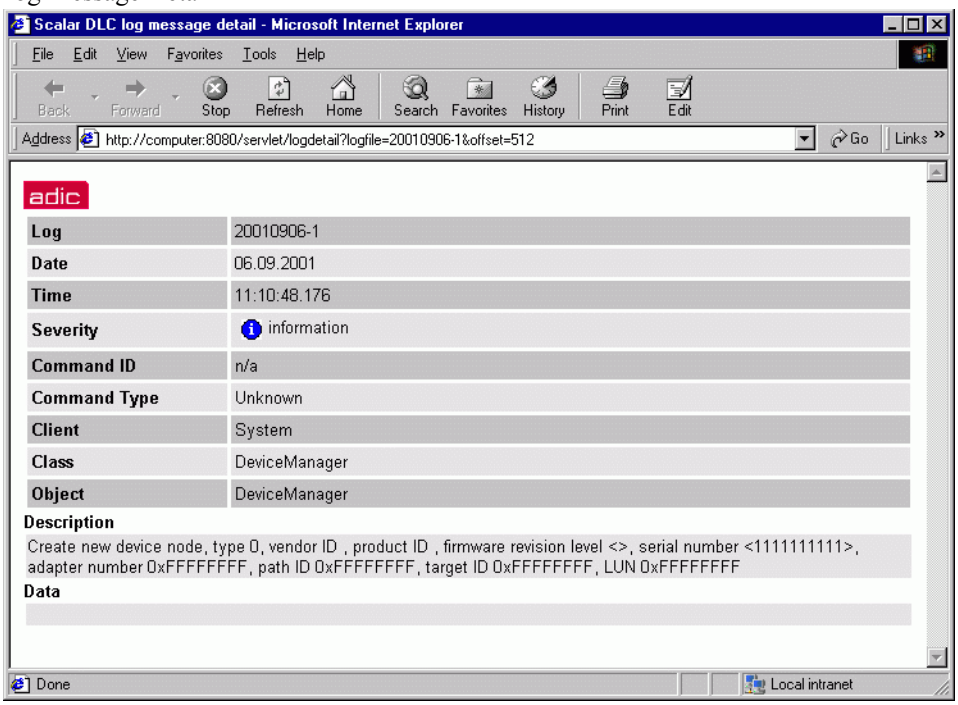


Table 4-31 describes the meaning of record fields.

Table 4-31 Log message detail

Name	Description
Log	Log file the record message is taken from.
Date	The record date.
Time	The record time.
Severity	The record severity.

Table 4-31 Log message detail

Name	Description
Command Id	The record command id.
Command type	The record command type.
Client	The record client.
Class	The record class.
Object	The record object.
Description	The record description
Data	The record additional data.

Refer also to the *Log Viewer Utility* on page A9.

Help

The *Help* section contains the following options:

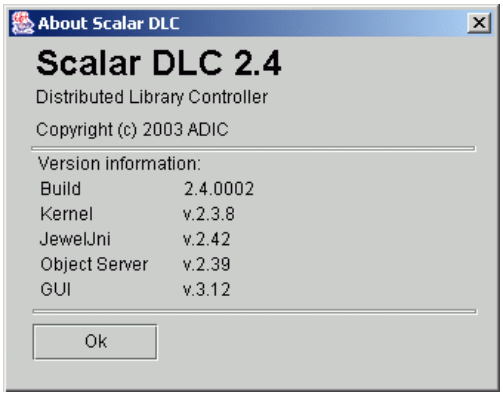
- Help Content
- License Agreement
- About

Refer to Table 4-32 for a description of the Help facilities.

Table 4-32 Help Contents

Name	Description
Help Content	Contains browser based HTML help files that cover installation, operation, and service. This information appears in a separate window. The contents, index, search engine, and bookmarks are accessed from this window.
License Agreement	A copy of the Scalar DLC software license agreement can be viewed from this pane. Refer to *Advanced Digital Information Corporation Software Licenses Agreement* on page -iii to read the license agreement.
About	The Scalar DLC software and component code versions can be viewed from this pane. See **Figure 4-31 on page 429**.

Figure 4-31 Scalar DLC Software Version Code



GUI Tabs

While using the GUI Tabs, clicking the expand/collapse button on the left of the branch in the *Select Components* area of the pane expands or collapses that branch of the tree. Selecting the actual branch displays the associated properties.

NOTE: Expanding the tree does not select branches from the tree.

The top of the tree always indicates the Scalar DLC controller. As each branch of the tree is expanded and selected, the properties for that branch of the tree appears. An explanation of the tree objects is shown in Table 4-33.

NOTE: Some elements are present throughout all the panes of the Scalar DLC Management GUI, some are not.

Table 4-33 Tree Icons

Object	Icon	Description
Controller		The name (Hostname) of the Scalar DLC controller. All the example pictures has the name “computer”.
Logical library		The name of the library. The color of the library indicates the state of the library. The state of the library also is indicated in parenthesis next to the name of the library. Table 4-34 on page 431 explains the definition of the states.
Physical library		The name of the physical device. The color of the library indicates the state of the library. The state of the library also is indicated in parenthesis next to the name of the library. Table 4-35 on page 431 explains the definition of the states.
Robot		The robotic accessor inside the physical device. Both devices contain only one robot (so-called single aisle libraries), however some devices contain two robots (so-called dual aisle libraries). Refer to Table 4-36 on page 431.

Table 4-33 Tree Icons

Object	Icon	Description
Partition		Partition is a segment of Physical library. It contains the continuous range of slots of single type and single media domain. The partition should be assigned to a Logical library. The Logical library should contain at least one storage partition, one mailbox partition, and one drive partition of the same media domain for the complete configuration. In the dual aisle libraries, the partition also must be in the range of one robot only. If the robot is offline, its partitions are offline, too. Refer to Table 4-37 on page 432.
Scratch pool		The name of the scratch cartridge pool. Contains the data cartridges available for writing. The pool content either may be the continuous range or the discrete set as well. Only the cartridges of single media type can be assigned to the pool.
Clean pool		The name of the clean cartridge pool. Contains the cleaning cartridges. The pool content either may be the continuous range or the discrete set as well. Only the cartridges of single media type can be assigned to the pool.
Cartridges		This list indicates the cartridges currently contained in the library.
Data cartridge		For a dark green colored cartridge text, the list indicates the data cartridges. Refer to Table 5-5 on page 57 for the details.
Cleaning cartridge		For a dark yellow colored cartridge text, the list indicates the cleaning cartridges. Refer to Table 5-5 on page 57 for the details.
Storage slots		This list indicates the storage area in the physical library.
Storage slot		For a blue colored storage slot name, a cartridge is present in the slot. Refer to Table 4-38 on page 432.
		For a black colored storage slot name, the slot is empty. Refer to Table 4-38 on page 432.
Mailbox		The name of the insert/eject area of the logical library. Contains a set of insert/eject slots that are also called mailboxes or mailbox slots. The mailbox content may be either the continuous slot range or the discrete set as well.
Mailboxes		This list indicates the mailbox (insert/eject) area in the physical library.
Mailbox slot		For a blue colored mailbox slot name, a cartridge is present in the slot. Refer to Table 4-39 on page 432.
		For a black colored mailbox slot name, the slot is empty. Refer to Table 4-39 on page 432.
Drives		This area contains the drive slots for executing the read/write operations

Table 4-33 Tree Icons

Object	Icon	Description
Drive slot		For a blue colored drive slot name, a cartridge is present in the slot. Refer to Table 4-40 on page 433.
		For a black colored drive slot name, the slot is empty. Refer to Table 4-40 on page 433.

Table 4-34 Logical Library States

State	Icon	Color	Description
Online		Green	The library is online and accepts all commands
Diagnostic / Service		Dark Yellow	Either the library diagnostic or the firmware update is being executed.
Disabled		Dark Yellow	The library is logically switched off (**Home** operation executed).
Invalid		Red	The library configuration is invalid (one or more required partition(s) missing).
Not ready		Red	The library is not available (either the connection is lost or the admin has changed the library state manually).

Table 4-35 Physical Library States

State	Icon	Color	Description
Online		Green	The library is online and accepts all commands
Diagnostic		Dark Yellow	The library diagnostic is being executed.
Service		Dark Yellow	The library is in service mode (firmware update process is being executed).
Not ready		Red	The library is not ready (service needed).
Offline		Red	The library is offline (connection lost).

Table 4-36 Robot States

State	Icon	Color	Description
Normal (Online)		Black	The robot is online and workable. All elements of the robot are accessible.
Offline		Gray	The robot is offline. All elements of the robot are temporary not accessible.

Table 4-37 Partition Class and State

Class	State	Icon	Description
Storage	Online		Contains the range of storage slots.
	Offline		
Import/ Export	Online		Contains the range of mailbox slots.
	Offline		
Drive	Online		Contains the range of drives.
	Offline		

Table 4-38 Storage Slots

State	Icon	Color	Description
Occupied, online		Blue	The slot contains cartridge. The robot is online.
Occupied, offline		Gray	The slot contains cartridge. The robot is offline.
Empty, online		Black	The slot is empty and free. The robot is online.
Empty, offline		Gray	The slot is empty and free. The robot is offline.
Home position, online		Black	The slot is empty but it remains a home position of a cartridge that is currently in drive or mailbox slot. The robot is online.
Home position, offline		Gray	The slot is empty but it remains a home position of a cartridge that is currently in drive or mailbox slot. The robot is offline.
Not available		Gray	The slot is currently not available (e.g. tower door is opened).

Table 4-39 Mailbox Slots

State	Icon	Color	Description
Occupied, online		Blue	The slot contains cartridge. The robot is online.
Occupied, offline		Gray	The slot contains cartridge. The robot is offline.
Empty, online		Black	The slot is empty and free. The robot is online.
Empty, offline		Gray	The slot is empty and free. The robot is offline.

Table 4-39 Mailbox Slots

State	Icon	Color	Description
Occupied, online		Blue	The slot contains cartridge. The robot is online.
Occupied, offline		Gray	The slot contains cartridge. The robot is offline.
Home position, online		Black	The slot is empty but it remains a home position of a cartridge that is currently in drive slot. The robot is online.
Home position, offline		Gray	The slot is empty but it remains a home position of a cartridge that is currently in drive slot. The robot is offline.
Not compatible		Gray	The slot is not compatible with the library.
Missing		Gray	The slot is physically missing.

Table 4-40 Drive Slots

State	Icon	Color	Description
Occupied, online		Blue	The slot contains cartridge. The robot is online
Occupied, offline		Blue	The slot contains cartridge. The robot is offline
Empty, online		Black	The slot is empty and free. The robot is online.
Empty, offline		Black	The slot is empty and free. The robot is offline.
Not available		Gray	The slot is not available.
Not installed		Gray	The slot is not installed.

Some Management GUI screens contain the panes of element properties. The element properties are marked with icons. Refer to Table 4-41.

Table 4-41 Properties Icons

Property	Icon	Operation	Description
Read-only		Supplied	The property is read-only and cannot be edited.
Editable		Enter Select Check	The property can be edited, checked, or selected, typical for text fields, check boxes, and combo boxes.
Disabled		Supplied	The property cannot be edited until another field is selected or checked. Then becomes editable.
Forbidden		Supplied	The user is not authorized to change the property.

Some Management GUI panes and pop-up windows also contain the typical operational buttons listed below (or only one of them). Refer to Table 4-42.

Table 4-42 Operational Buttons

Button	Icon	Operation	Description
OK/Create		Click	Create object (creation panes) or execute an operation.
Cancel		Click	Close pop-up pane without creation/executing an operation.
Update		Click	Save the element properties after edit.
Help		Click	Open online help for the current pane.

The Management GUI tabs contain no more than two levels. The first level contains the following tabs:

- Library Tab
- Configuration Tab
- Events Tab
- Service Tab

Library Tab

The Library Tab displays the information about logical libraries and allows the user to execute the basic operations. The Library tab contains no levels.

Configuration Tab

The Configuration Tab is used to configure the components of Scalar DLC system: logical and physical library components, users, clients, SCSI target. The Configuration Tab contains an additional level with the following tabs:

- Logical Tab
- Physical Tab
- Users Tab
- Clients Tab
- SCSI Target Tab

Logical Tab

The Logical Tab describes the attributes of the logical libraries and their parts and allows modification to the attributes.

Physical Tab

The Physical Tab describes the attributes of the physical libraries and their parts and allows modification to the attributes.

Users Tab

The Users Tab describes the general and email properties of a user. A user is executing either a browser applet or an application. Additional users can be added from this pane.

Clients Tab

The Clients Tab describes the basic and advanced properties of a client. A client can be either a user or an application executed by a Host attached to Scalar DLC software. Additional clients can be added from this pane.

SCSI Target Tab

The SCSI Target Tab is a part of the Scalar DLC client service software. Select this tab to configure the SCSI for Scalar DLC Clients work.

Events Tab

The Events Tab displays additional tabs for viewing notifications received by the Scalar DLC software. A notification appears when a specific rule (either predefined or user-defined) reacts on a specific event that has been occurred in the system. The Events Tab has an additional level with the following tabs:

- Queue Tab
- Monitoring Tab
- Acknowledge Tab
- History Tab
- Rules Tab

Queue Tab

The Queue Tab displays a queue of commands that should be executed. The queue manage is allowed for the administrator and users with a queue management privileges.

Monitoring Tab

The Monitoring Tab displays a list of events executed during current GUI session from startup.

Acknowledge Tab

The Acknowledge Tab displays a list of notifications that require a response. Acknowledging the notification deletes it from the list.

History Tab

The History Tab displays a running list of the last 200 events executed by the Scalar DLC software.

Rules Tab

The Rules Tab contains the list of rules along with their properties.

NOTE: This section is accessible only for the administrator and users with the rule management privileges.

Service Tab

The Service Tab is a very important part of the Scalar DLC software service. Through this tab, the user establishes conditions and requirements for automatically notifying ATAC. The Service Tab contains an additional level. The additional level holds the following tabs:

- Firmware Tab
- Logs Tab
- Diagnostic Tab
- ATAC Calls Tab (for the CE users only)
- Operator Panel Tab
- Cluster Tab (for the Cluster Solution only)

Firmware Tab

The Firmware Tab allows the user to display information or update the library firmware code.

NOTE: Update feature is not available for a browser-based software applet.

Logs Tab

The Logs Tab allows the user to view, email, and download the command log, error log, and firmware dump, and generate a new dump.

Diagnostic Tab

The Diagnostic Tab allows the user to execute a pre-defined sequence of diagnostics available on a specific library.

ATAC Calls Tab

The ATAC Calls Tab allows the customer engineer to assemble a complete history of the library problems and repairs.

NOTE: This tab is accessible only for ATAC and the users with the ticket management privilege.

Operator Panel Tab

The Operator Panel Tab reflects the operator panel located directly on tape device.

Cluster Tab

This tab is used to operate the specific Microsoft Cluster features.

NOTE: This tab is active only when the Scalar DLC is installed as the Cluster solution.

GUI Log

The GUI Log is located at the bottom portion of the screen. It shows the list of messages that reflects the operations executed in Management GUI during the current session.

If the list is large or the message is long, the user is allowed to scroll the pane. See Figure 4-32 on page 437.

NOTE: The GUI Log does not reflect the operations executed from a client side.

Figure 4-32 GUI Log

Refer to Table 4-43 for the explanation of the icons.

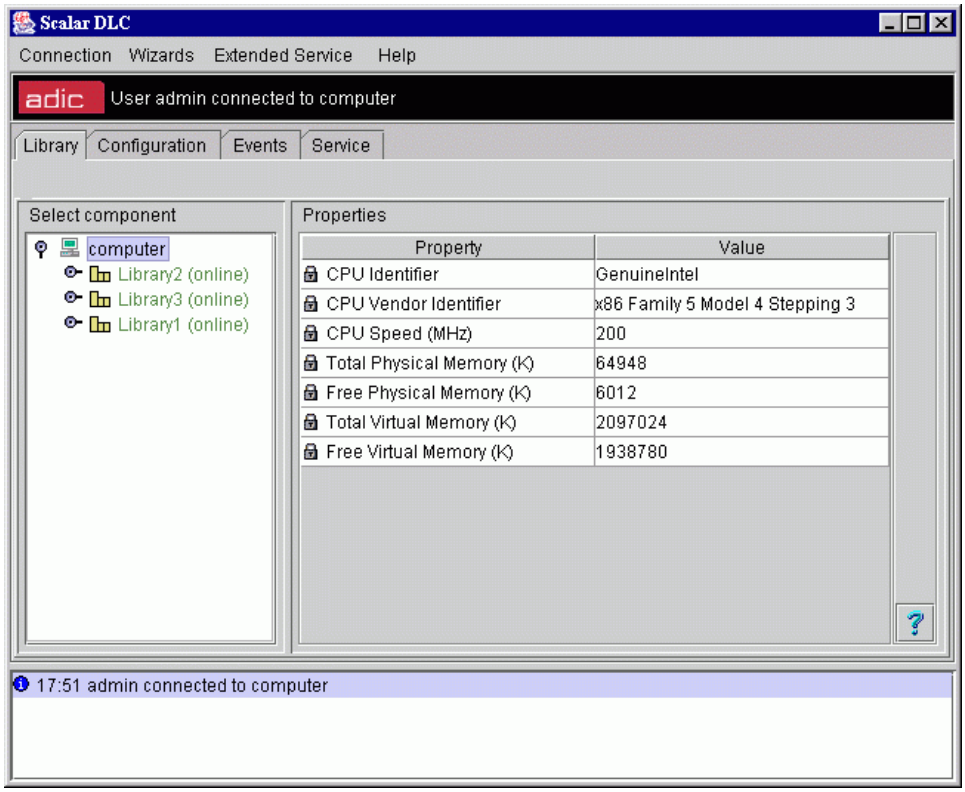
Table 4-43 Status Line

Icon	Description
	Indicates that the current message contains an information message.
	Indicates that the current message contains a warning message.
	Indicates that the current message contains an error message.

Library Tab

This section describes the Library Tab. The Library Tab allows the user to manage the data in the configured libraries. The Library Tab pane describes the logical libraries connected to the Scalar DLC controller. In the *Select Components* area of the pane, the Controller appsears. See Figure 5-1.

Figure 5-1 Library Controller



Selecting the Controller causes the Scalar DLC host hardware property list to appear. No edit or change is supported. Refer to Table 5-1.

Table 5-1 Controller Properties and Buttons

Property/Button	Icon	Operation	Description
CPU Identifier		Supplied	The CPU identifier.
CPU Vendor ID		Supplied	The CPU vendor identifier.
CPU Speed		Supplied	The CPU speed.
Total Physical Memory		Supplied	The total physical memory size.
Free Physical Memory		Supplied	The free physical memory size.
Total Virtual Memory		Supplied	The total virtual memory size.
Free Virtual Memory		Supplied	The free virtual memory size.

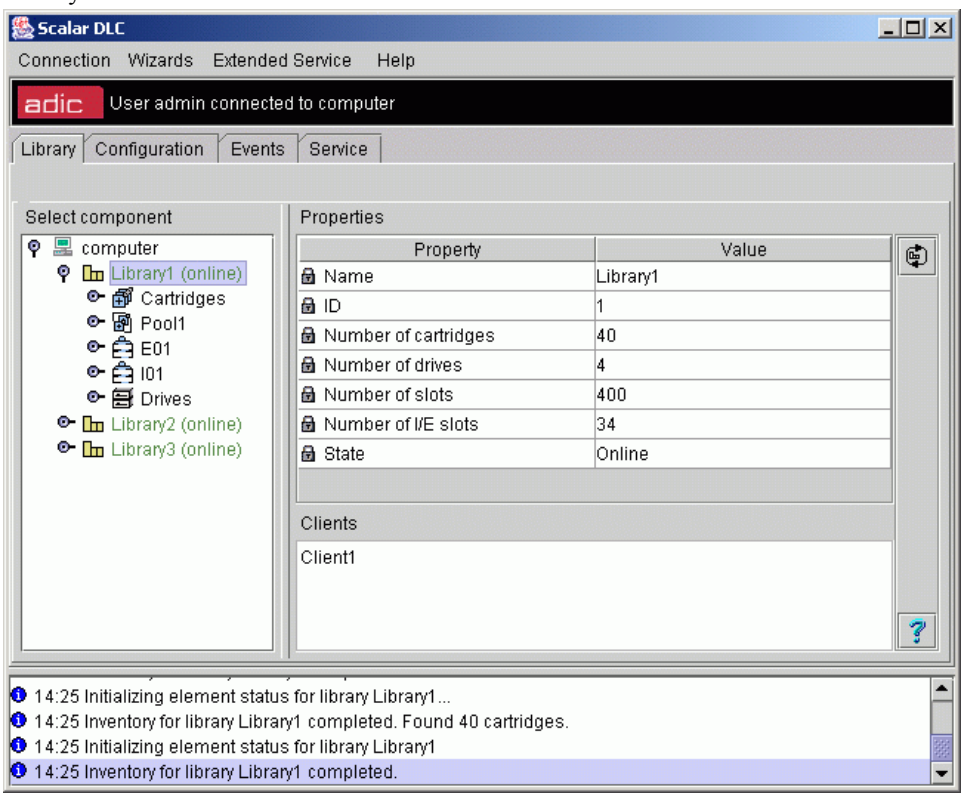
Table 5-1 Controller Properties and Buttons

Property/Button	Icon	Operation	Description
Help		Click	Open online help for the current pane.

Library

In the *Select Components* area of the pane, selectable Libraries appear. Clicking the expand button causes an element expansion. See Figure 5-2.

Figure 5-2 Library



Selecting the Library branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 5-2.

Table 5-2 Library Properties

Property	Icon	Operation	Description
Name		Supplied	Logical library name.
ID		Supplied	Logical library identification number.
Number of cartridges		Supplied	Number of available cartridges.
Number of drives		Supplied	Number of available drives.
Number of slots		Supplied	Number of available storage slots.

Table 5-2 Library Properties

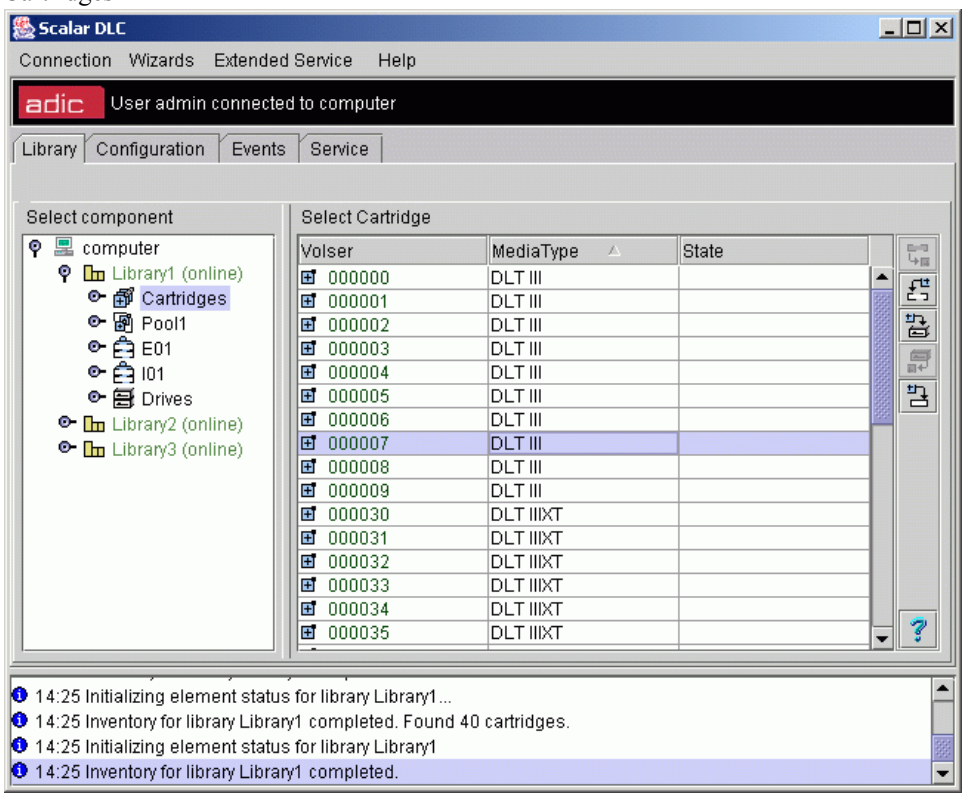
Property	Icon	Operation	Description
Number of I/E slots		Supplied	Number of available mailbox slots.
State		Supplied	Logical library state. Refer to Table 4-34 on page 431.
Clients		Supplied	The clients attached to the logical library.
Inventory		Click	Initialize all the library elements and assigns a home position to cartridges if necessary. See Figure 2-3 on page 23. The physical library is covered with a set of apparitions. These partitions are assigned to some logical libraries. A single partition can be assigned to two or more logical libraries. It is in the concepts of the Scalar DLC. Such apparitions are called “shared,” and the inventory operation affects all partitions assigned to the logical library.
Help		Click	Open online help for the current pane.

NOTE: If a new library has been created, an inventory must be executed to avoid problems with the cartridges home positions. It is strongly recommended to execute **Inventory** every time after the Scalar DLC starts.

Cartridges

In the *Select Components* area of the pane, selectable Cartridges appear. Clicking the expand/collapse button causes an element expansion. See Figure 5-3 on page 54.

Figure 5-3 Cartridges



Selecting Cartridges causes the list of properties to appear in the *Select Cartridge* area of the pane. Table 5-3 shows the details.

Table 5-3 Cartridge Properties and Buttons

Property/Button	Icon	Operation	Description
Volser		Select	The volume serial number, a cartridge name. Each cartridge has one volser. The optical disks are represented with two cartridges because each optical disk has two volsers.
Media Type		Select	A cartridge media type.
State		Select	A cartridge state, empty means *stored*. Refer to *Cartridge State* on page 57.
Import		Click	Transfer the cartridge from a mailbox slot to a storage area. The target slot is a cartridge home position. The button is enabled for a cartridge stored in a mailbox.

Table 5-3 Cartridge Properties and Buttons

Property/Button	Icon	Operation	Description
Export		Click	Transfer the cartridge to a mailbox. If more than one mailbox exists, an additional export selection appears. See Figure 5-4. The user selects the appropriate mailbox from the combo box. This operation saves the cartridge home position. The button is enabled for a cartridge not in a mailbox, when a mailbox exist.
Mount		Click	Insert a cartridge into the first available tape drive of the appropriate media type (so-called **Generic Mount**). The button is enabled for a stored cartridge.
Dismount		Click	Move a cartridge from a tape drive to the cartridge home position. This button is enabled for a mounted cartridge.
Move		Click	Open a pop-up Move window. Refer to *Move Cartridge to Element* on page 56. The move operation transfers a cartridge from its current position to a selected destination slot.
Help		Click	Open online help for the current pane.

By default, the cartridges are sorted by media type, in ascending order. The user may click on the column title and set the other sorting order.

To select cartridge for the operation, click on it. <Ctrl>+Click allows multiple cartridge selection, for the multiple **Export/Import** operations. The multiple **Mount/Dismount/Move** operations are not allowed in the Scalar DLC Management GUI.

Figure 5-4 Multiple Mailbox Selection

After a cartridge has been moved to the mailbox slot through the **Export** command and become *ejected*, it cannot be manipulated again until **Inventory** has been accomplished. After an **inventory** is completed, the cartridges are considered as *stored*.

The Management GUI also allows so-called drag and drop operations with the cartridges. Refer to *Drag and Drop Operations* on page 56.

Drag and Drop Operations

Drag and Drop operation generally serves the same function as the **Import**, **Export**, **Mount**, and **Dismount** buttons. Table 5-4 outlines the Drag and Drop operations.

Table 5-4 Drag and Drop Properties

Drag source	Status	Drop target	Operation
Cartridge	Stored	Library	Generic Mount
Cartridge	Stored	Cartridges	Generic Mount
Cartridge	Mounted	Cartridges	Dismount
Cartridge	Stored	Drives	Generic Mount
Cartridge	Stored	Drive	Mount to the specified drive
Cartridge	not in I/E slot	Mailbox	Export to the specified Mailbox
Cartridge	Any	No target	Dismount
Drive slot	Occupied	Mailbox	Export the cartridge to the specified Mailbox
Drive slot	Occupied	Cartridges	Dismount drive
Drive slot	Occupied	Library	Dismount drive
Drive slot	Occupied	No target	Dismount drive
Mailbox	-	Library	Import the entire contents of the Mailbox

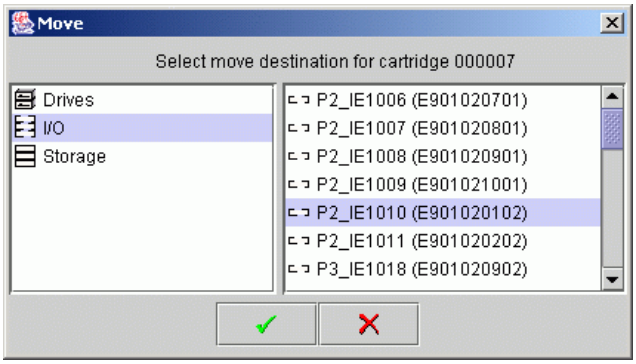
Move Cartridge to Element

NOTE: This operation is allowed only for the GUI administrators and users with appropriate priority.

The **Move** operation transfers a cartridge from its current position to a selected destination. If the move destination is a storage slot, it will become a new home position of a cartridge. The old home position is lost in that case. Refer to *Home Position* on page 59 for details.

After the user presses **Move**, a Move Cartridge to Destination pop-up window appears. See Figure 5-5 on page 57.

Figure 5-5 Move Cartridge to Destination



Select the destination area on the left. The list of slots for this area will be shown on the right (both partition-name and LSCI coordinates are indicated).

NOTE: Only available slots are shown, for example, if the cartridge is DLT IV, the list on the right will contain only DLT-compatible slots that are empty and not marked as a home position for another cartridge. The destination and target slot can be the same element.

Select the slot and press **OK** to complete the move operation. Press **Cancel** to exit without executing move.

Cartridge State

The cartridges contained in the library have a different state. The state indicates a cartridge availability to accept commands, and so forth. Refer to Table 5-5.

Table 5-5 Cartridge States

Cartridge state	Command status	Icon	Description
Stored (shown as empty)	Active	 	The cartridge is stored in mailbox or in storage slot. A cartridge in a storage slot is active for **Move**, **Mount** and **Export** operations, a cartridge in a mailbox slot is active for **Move**, **Mount** and **Import** operations.
Mounted	Active	 	The cartridge is moved to the drive slot and is ready for the read/write operations. The cartridge is active for **Move**, **Export** and **Dismount** operations.
Reverse mounted	Not active	 	The optical disk is moved to the drive, and its other side is ready for the read/write operations. The cartridge is not active until the **Dismount** is done.

Table 5-5 Cartridge States

Cartridge state	Command status	Icon	Description
Ejected	Not active		The cartridge is exported into a mailbox slot, and a home position has been saved. The cartridge is not active for any operations until the **Inventory** is finished.
Unloaded	Not active		The cartridge is exported into a mailbox slot, and a home position is lost. The cartridge is not active for any operations until the **Inventory** is finished.
In problem box	Not active		The cartridge is moved to a problem box. The cartridge is not active for any operations and remains not active after the **Inventory**. Operator can only physically remove this cartridge from the library.
Offline	Not active		The cartridge is removed from the library. The cartridge was not found after the **Inventory** has been executed.
Being ejected	Not active		The cartridge is moving into a mailbox slot. No commands are accepted. Temporary state.
Being inserted	Not active		The cartridge is moving from the mailbox slot. No commands are accepted. Temporary state.
Being mounted	Not active		The cartridge is moving to a drive slot. No commands are accepted. Temporary state.
Being reverse mounted	Not active		The optical disk is moving to a drive slot. After the operation is executed, the cartridge will be *reverse mounted*. No commands are accepted. Temporary state.
Being moved	Not active		The cartridge is moving to another slot (low-level command is being executed). No commands are accepted. Temporary state.
Being dismounted	Not active		The cartridge is moving from the drive slot. No commands are accepted. Temporary state.
Being reverse dismounted	Not active		The optical disk is moving from a drive slot. The cartridge was *reverse mounted*. No commands are accepted. Temporary state.

Table 5-5 Cartridge States

Cartridge state	Command status	Icon	Description
Being flipped	Not active	 	The optical disk in drive slot is being flipped. If the cartridge state was *mounted*, after the operation is executed it will be *reverse mounted*, and vice versa. No commands are accepted. Temporary state.
Being in problem box	Not active	 	The cartridge is moving to a problem box. No commands are accepted. Temporary state.

If the cartridge is not found in the library after the **Inventory** has been executed, its state changes to *offline*. After that, the cartridge is removed from the Cartridge list of Logical library and goes to so-called archive list, or the list of the offline cartridges. It is shown under the Physical tab of the Configuration area and contains the information about cartridges that were removed from the physical library. Refer to *Offline Cartridge* on page 629.

Home Position

The cartridge home position concept is a basis of Scalar DLC Management software concerning the cartridge move operations. Every cartridge appearing in the library immediately gets a home position in the first free storage slot of appropriate type (for example, Generic DLT slot for DLT IV or SDLT cartridges). Each cartridge has one home position. The slot can be a home position for one cartridge (the only exception is optical disk - the two sides of an optical disk are represented with two volsers and one home position is assigned to both sides).

After the home position is assigned to the cartridge, it becomes available for the move operations. The **Import** operation inserts the cartridge from a mailbox to the home position; the **Dismount** operation moves the cartridge from a drive to the home position. If the **Mount** operation has been executed and the cartridge is moved to a drive, the home position is saved and cannot be occupied with another cartridge. If the **Export** operation has been executed, the cartridge is ejected from the library and becomes unavailable. However, it saves the home position and if the **Inventory** operation finds the ejected cartridge, it becomes available again. Refer to Table 5-5 on page 57.

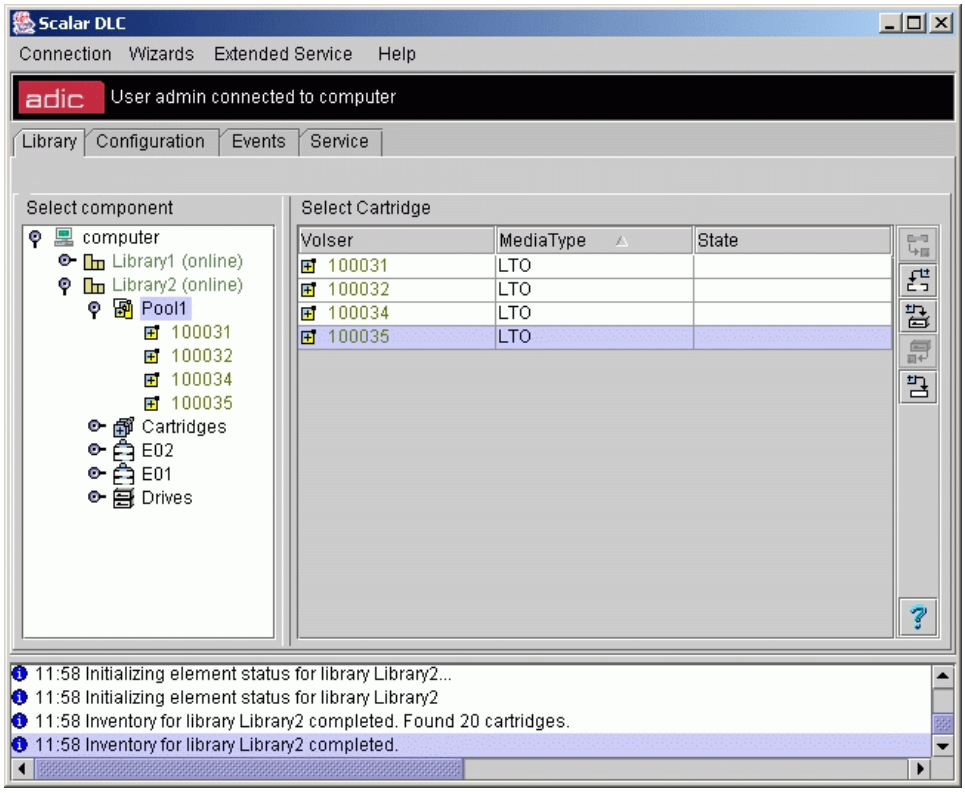
The cartridge loses the home position only after the ‘eject complete’ operation is executed from a client side. The cartridge state is ‘unloaded’. Refer to Table 5-5 on page 57.

The home position cannot be changed after it is assigned. Every operation returning the cartridge to a library storage area puts it into the home position. The only exception is the **Move** operation (can be executed from a client side, too); if the move destination is a storage slot, it will become a new home position of a cartridge. The old home position is lost in that case.

Pool

In the *Select Components* area of the pane, selectable Pools appear. Clicking the expand/collapse button causes an element expansion. See Figure 5-6 on page 510.

Figure 5-6 Pool



The pool contains a set of cartridges, so the Pool properties and buttons are the same as Cartridge's (refer to Table 5-3 on page 54).

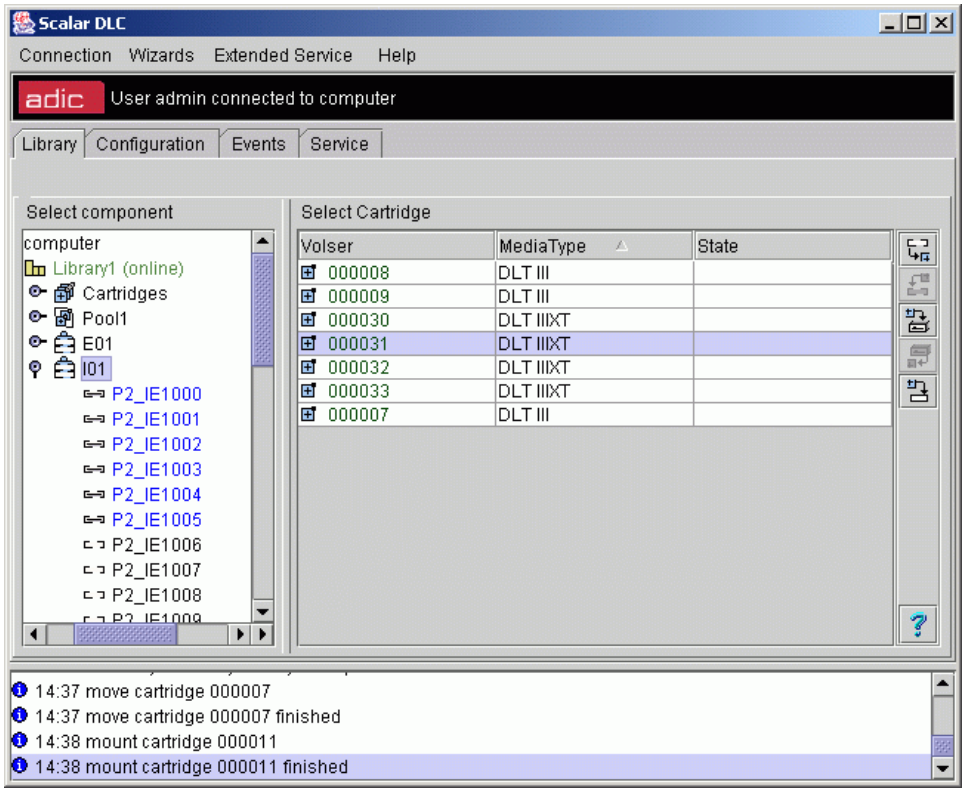
By default, the cartridges are sorted by volser, in ascending order. The user may click on the column title and set the other sorting order.

To select cartridge for the operation, click on it. `<Ctrl>`+Click allows multiple cartridge selection, for the multiple **Export/Import** operations. The multiple **Mount/Dismount/Move** operations are not allowed in the Scalar DLC Management GUI.

Mailbox

In the *Select Components* area of the pane, selectable Mailboxes appear. Clicking the expand/collapse button causes an element expansion. See Figure 5-7 on page 511.

Figure 5-7 Mailbox



Selecting the Mailbox causes the list of properties to appear in the *Select Cartridge* area of the pane. Table 5-6 shows the details.

Table 5-6 Mailbox Properties and Buttons

Property/Button	Icon	Operation	Description
Volser		Select	The volume serial number, a cartridge name. Each cartridge has one volser. The optical disks are represented with two cartridges because each optical disk has two volsers.
Media Type		Select	A cartridge media type.
State		Select	A cartridge state, empty means *stored*. Refer to *Cartridge State* on page 57 for the details.
Import		Click	Transfer the cartridge from mailbox slot to a storage area. The target slot is a cartridge home position. The button is enabled for a cartridge stored in a mailbox.
Export		Click	Disabled for a mailbox.

Table 5-6 Mailbox Properties and Buttons

Property/Button	Icon	Operation	Description
Mount		Click	Insert a cartridge into the first available tape drive of the appropriate media type (so-called **Generic Mount**). The button is enabled for a stored cartridge.
Dismount		Click	Disabled for a mailbox.
Move		Click	Open a pop-up Move window. Refer to *Move Cartridge to Element* on page 56. The move operation transfers a cartridge from its current position to a selected destination slot.
Help		Click	Open online help for the current pane.

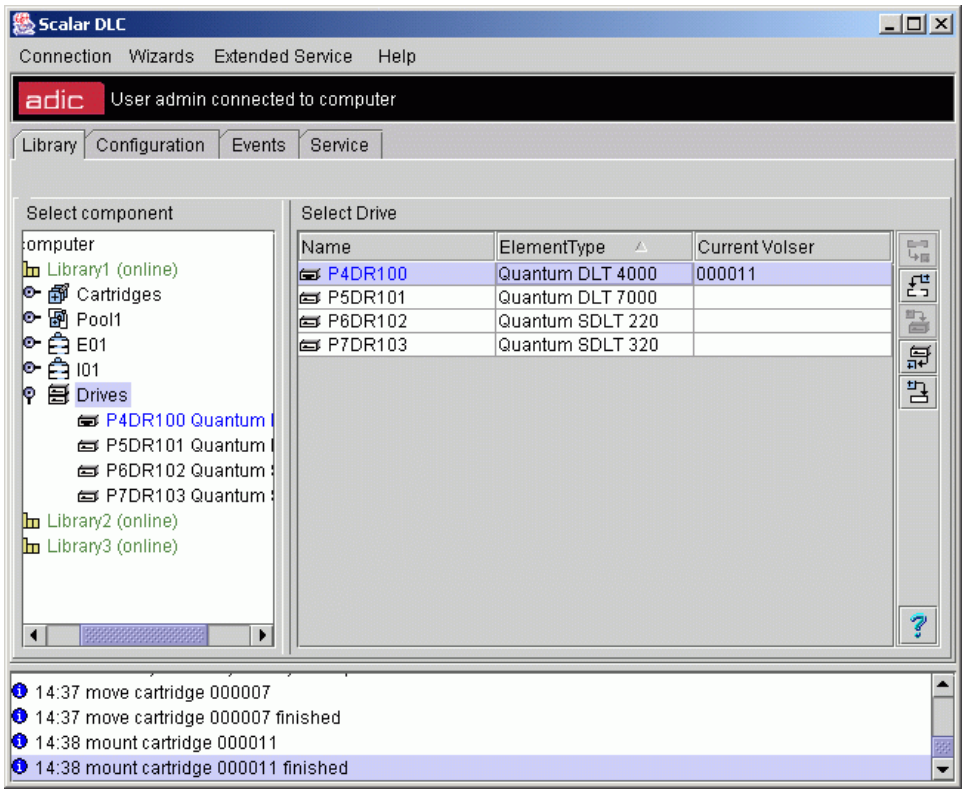
By default, the cartridges are sorted by media type, in ascending order. The user may click on the column title and set the other sorting order.

To select cartridge for the operation, click on it. <Ctrl>+Click allows multiple cartridge selection, for the multiple **Import** operations. The multiple **Mount/Move** operations are not allowed in the Scalar DLC Management GUI.

Drives

In the *Select Components* area of the pane, selectable Drives appear. Clicking the expand/collapse button causes an element expansion. See **Figure 5-8 on page 513**.

Figure 5-8 Drives



Selecting the Drives causes the list of properties to appear in the *Select Drive* area of the pane. Table 5-7 shows the details.

Table 5-7 Drives Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Select	The drive name. An icon also indicates the drive state. Refer to Table 4-40 on page 433.
Element Type		Select	A drive type.
Current volser		Select	If the drive is occupied, a contained cartridge is shown. For the optical disk two cartridges are shown, active side first.
Import		Click	Disabled for a drive.
Export		Click	Transfer the cartridge to a mailbox. If more than one mailbox exists, an additional export selection appears. See Figure 5-4 on page 55. The user selects the appropriate mailbox from the combo box. This operation saves the cartridge home position. The button is enabled when a mailbox exists.
Mount		Click	Disabled for a drive.

Table 5-7 Drives Properties and Buttons

Property/Button	Icon	Operation	Description
Dismount		Click	Move a cartridge from a tape drive to the cartridge home position. This button is enabled for a mounted cartridge.
Move		Click	Open a pop-up Move window. Refer to *Move Cartridge to Element* on page 56. The move operation transfers a cartridge from its current position to a selected destination slot.
Help		Click	Open online help for the current pane.

By default, the drives are sorted by element type, in ascending order. The user may click on the column title and set the other sorting order.

To select drive for the operation, click on it. `<Ctrl>`+Click allows multiple drive selection, for the multiple **Export** operations. The multiple **Dismount/Move** operations are not allowed in the Scalar DLC Management GUI.

Configuration Tab

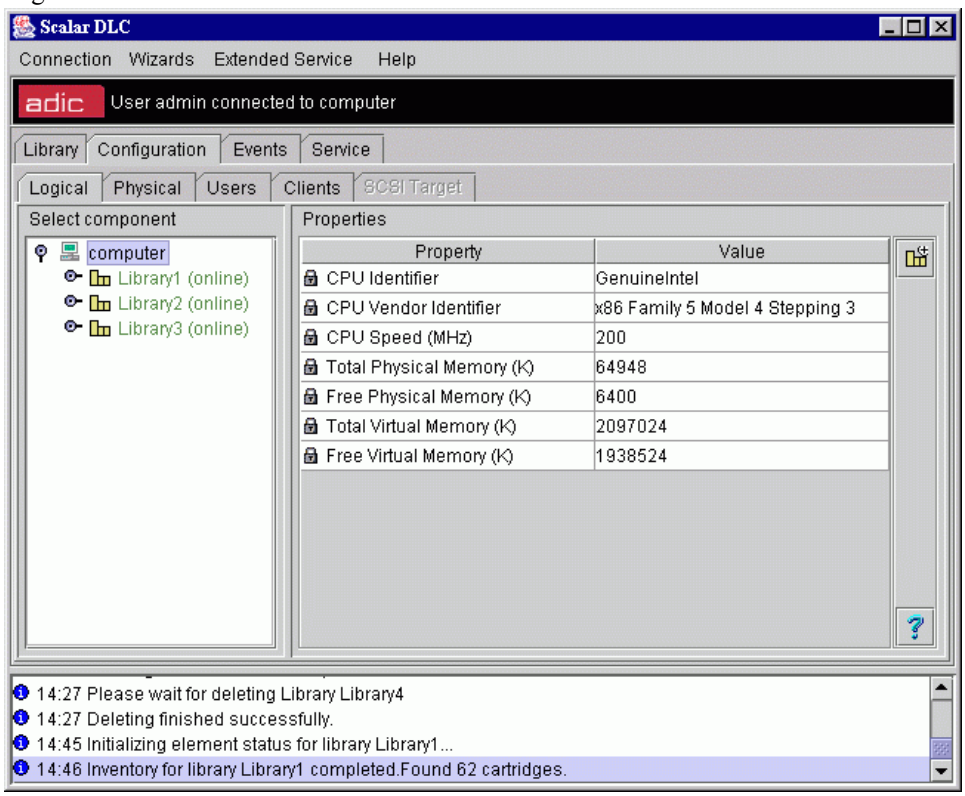
The Configuration Tab is designed for view and update the configuration of the various Scalar DLC system components. The Configuration Tab contains an additional level with the following tabs:

- Logical
- Physical
- Users
- Clients
- SCSI Target

Logical Tab

The Logical Tab pane describes the configuration of a logical library and shows the logical element properties. The starting Logical pane shows the properties of Scalar DLC hardware. See Figure 6-1.

Figure 6-1 Logical Controller



Selecting the Controller causes the Scalar DLC host hardware property list to appear. No edit or change is supported. Refer to Table 6-1.

Table 6-1 Logical Controller Properties and Buttons

Property/Button	Icon	Operation	Description
CPU Identifier		Supplied	The CPU identifier

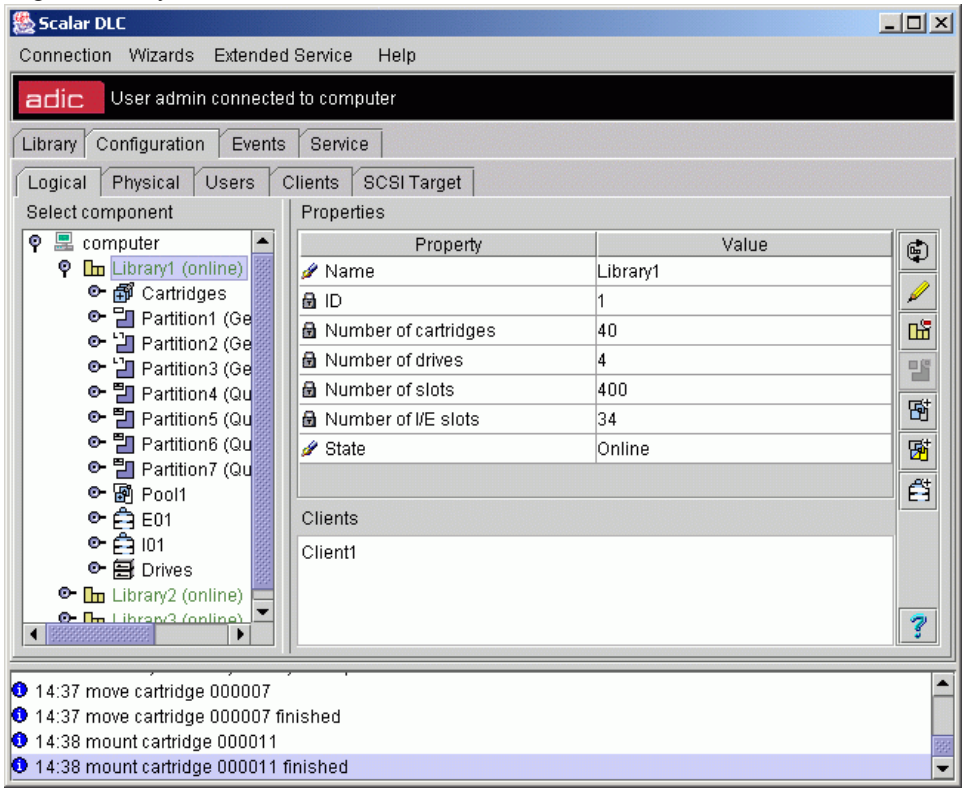
Table 6-1 Logical Controller Properties and Buttons

Property/Button	Icon	Operation	Description
CPU Vendor ID		Supplied	The CPU vendor identifier
CPU Speed		Supplied	The CPU speed
Total Physical Memory		Supplied	The total physical memory size
Free Physical Memory		Supplied	The free physical memory size
Total Virtual Memory		Supplied	The total virtual memory size
Free Virtual Memory		Supplied	The free virtual memory size
Add new Logical Library		Click	The pop-up window of logical library creation appears. Refer to *Create Library* on page 617.
Help		Click	Open online help for the current pane.

Library

In the *Select Components* area of the pane, selectable Logical Libraries appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-2.

Figure 6-2 Logical Library



Selecting the Library branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-2.

Table 6-2 Logical Library Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Logical library name (editable).
ID		Supplied	Logical library identification number.
Number of cartridges		Supplied	Number of available cartridges found during the last **inventory**.
Number of drives		Supplied	Number of available drives.
Number of slots		Supplied	Number of available storage slots.
Number of I/E slots		Supplied	Number of available mailbox slots.
State		Select	Logical library state. Refer to Table 4-34 on page 431. Can be changed manually (from *online* to *not ready* and vice versa) when it is required to make the library not available but do not affect the tape device and/or other logical libraries.
Clients		Supplied	The clients authorized to use the logical library.
Inventory		Click	Initialize all the library elements and assign a home position to cartridges. Affects all libraries included the shared partitions.
Update		Click	Save the logical library properties after edit.
Remove		Click	Remove the logical library with all its contents. The shared partitions are not affected.
Assign new Partition		Click	Assign new partition to the logical library. A pop-up assignment window opens. Refer to *Assign Partition* on page 619. This button is disabled if the physical library contains no partitions that are not assigned to the current logical library.
Add new Scratch pool		Click	Add new scratch pool to the logical library. A pop-up creation window opens. Refer to *Create Pool* on page 620.
Add new Clean pool		Click	Add new clean pool to the logical library. A pop-up creation window opens. Refer to *Create Pool* on page 620.
Add new Mailbox		Click	Add new mailbox to the logical library. A pop-up creation window opens. Refer to *Create Mailbox* on page 621.
Help		Click	Open online help for the current pane.

Partition

Table 4-37 on page 432 shows the different partition classes.

In the *Select Components* area of the pane, selectable Partitions appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-3.

Figure 6-3 Logical Partition

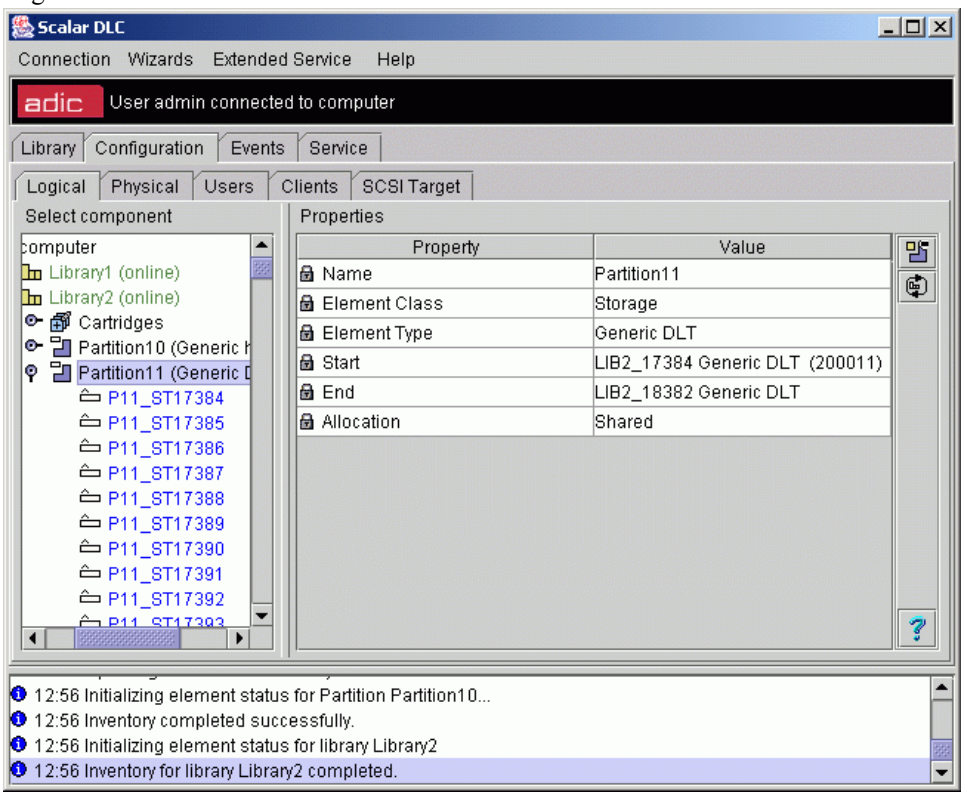


Table 6-3 indicates the list of properties displayed in the *Properties* area of the pane.

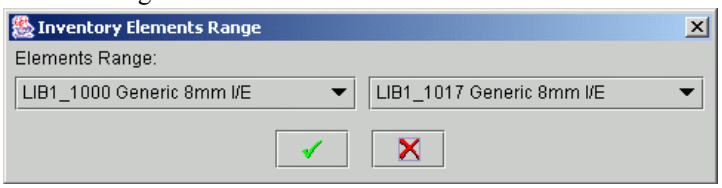
Table 6-3 Logical Partition Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	Partition name.
Element Class		Supplied	Partition class (storage, that is, drive). Refer to Table 4-37 on page 432.
Element Type		Supplied	Partition element type.
Start		Supplied	Start element of partition range.
End		Supplied	End element of partition range.
Allocation		Supplied	*Robot1* (*Robot2*) indicates the robotic device where the partition is located.
			Shared means the partition is shared between two robots.

Table 6-3 Logical Partition Properties and Buttons

Property/Button	Icon	Operation	Description
Unassign partition		Click	Unassign the partition from the logical library (the partition itself remains useful and can be assigned to another logical library).
Inventory range		Click	Initialize a range of elements, assign home positions to cartridges if necessary. A pop-up inventory range window appears. See Figure 6-4.
Help		Click	Open online help for the current pane.

Figure 6-4 Inventory Elements Range

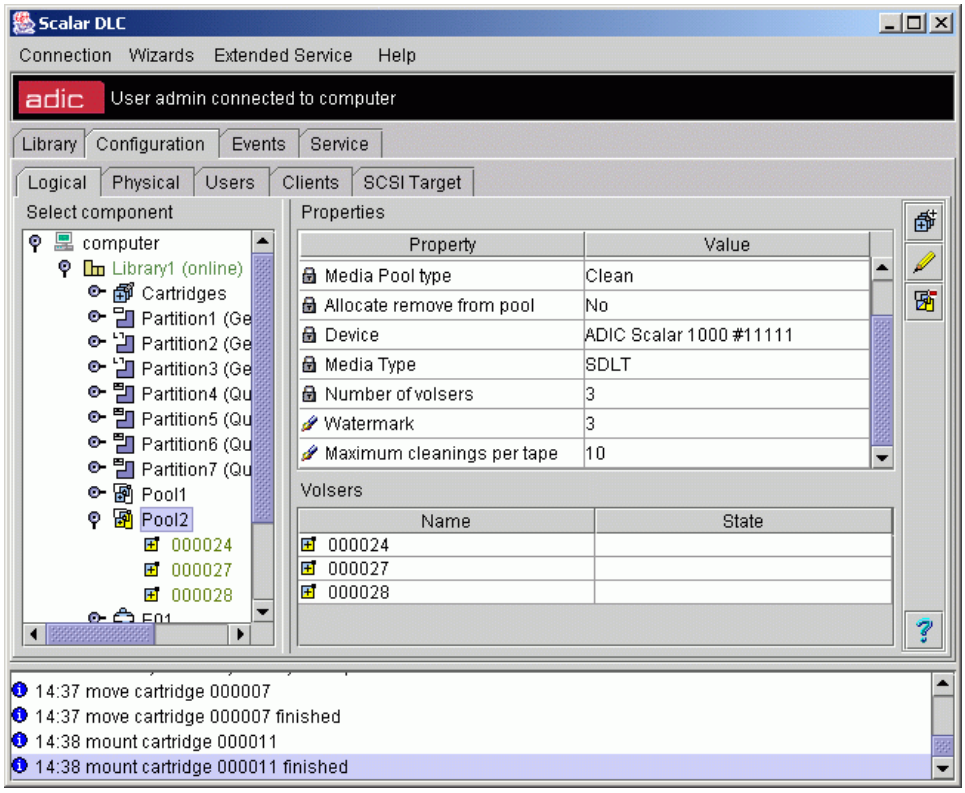


Select start and end elements in the range. Press **OK** to launch the **Inventory Range** operation (it has the same effect as the DAS **PartInventory** command, refer to *DAS 3.11 Administration Guide*). Press **Cancel** to exit without executing **Inventory** Range.

Pool

In the *Select Components* area of the pane, selectable Pools appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-5 on page 66.

Figure 6-5 Pool



Selecting the Pool branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-4.

Table 6-4 Pool Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Pool name. Refer to Table 9-2 on page 93.
ID		Supplied	Pool identification number.
Media Pool type		Supplied	Pool type (data/clean)
Allocate remove from pool		Supplied	Allocation after removal is not supported.
Device		Supplied	Name of device where the pool is located.
Media Type		Supplied	The type of media contained in the pool.
Number of volsers		Supplied	The number of cartridges contained in the pool.
Watermark		Enter	The minimal number of valid cleaning media the pool should contain (for clean pools only).
Maximum cleanings per tape		Enter	The number of times the cleaning cartridge can be used (for clean pools only).

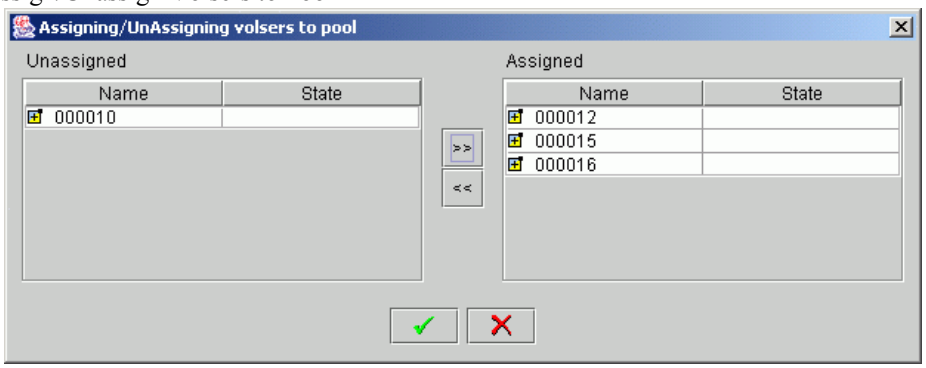
Table 6-4 Pool Properties and Buttons

Property/Button	Icon	Operation	Description
Volsers		Supplied	The cartridges currently assigned to the pool.
Assign/Unassign		Click	Pop-up Assign/Unassign window opens. Refer to *Assign Media to Pool* on page 67.
Update		Click	Save the pool properties after edit.
Remove		Click	Remove the scratch pool (the cartridges remains in the library).
			Remove the clean pool (the cartridges remains in the library).
Help		Click	Open online help for the current pane.

NOTE: Pool names are unique for a logical library. Using the default name ensures uniqueness.

Assign Media to Pool

Figure 6-6 Assign/Unassign Volsers to Pool



The left area contains all available media of appropriate type that are not assigned to the pool. The right area contains all cartridges that are already assigned to the pool.

Select a cartridge that should be assigned to the pool (or removed from it) and press the appropriate arrow button. Press **OK** to close the window and update the pool. Press **Cancel** to close the assignment window without applying the changes.

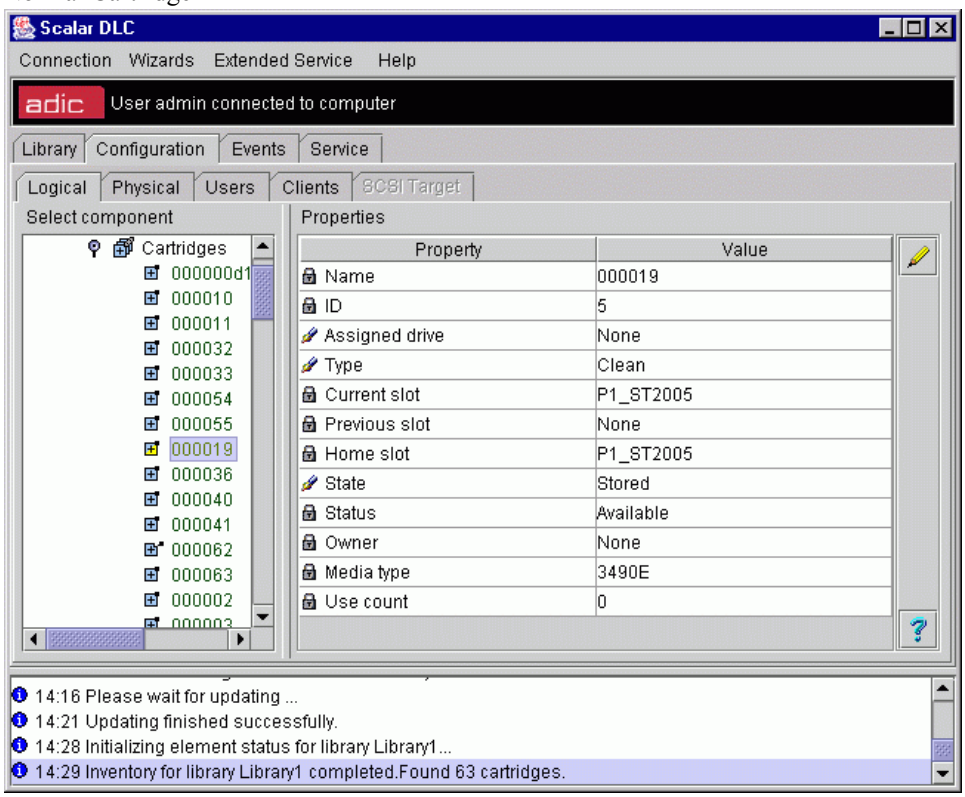
CAUTION: Only the data cartridges can be assigned to the Scratch pool; only the Cleaning cartridges can be assigned to the Clean pool.

NOTE: The operation of assign or unassign a pack of cartridges to or from the pool can be executed as many times as necessary.

Cartridge

In the *Select Components* area of the pane, selectable Cartridges appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-7.

Figure 6-7 Normal Cartridge



Selecting the Cartridge branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-5.

Table 6-5 Cartridge Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	Name (volser), stable for a normal cartridge.
		Enter	Name (volser), editable for a foreign cartridge. Refer to Table 9-2 on page 93.
ID		Supplied	Cartridge identification number.
Assigned drive		Select	A drive assigned to cartridge, if any. If the **Generic mount** operation is executed, the cartridge loads into the assigned drive if it is available.
Type		Select	Cartridge type (data/clean)
Current slot		Supplied	The slot where the cartridge is.
Previous slot		Supplied	The slot where the cartridge was.

Table 6-5 Cartridge Properties and Buttons

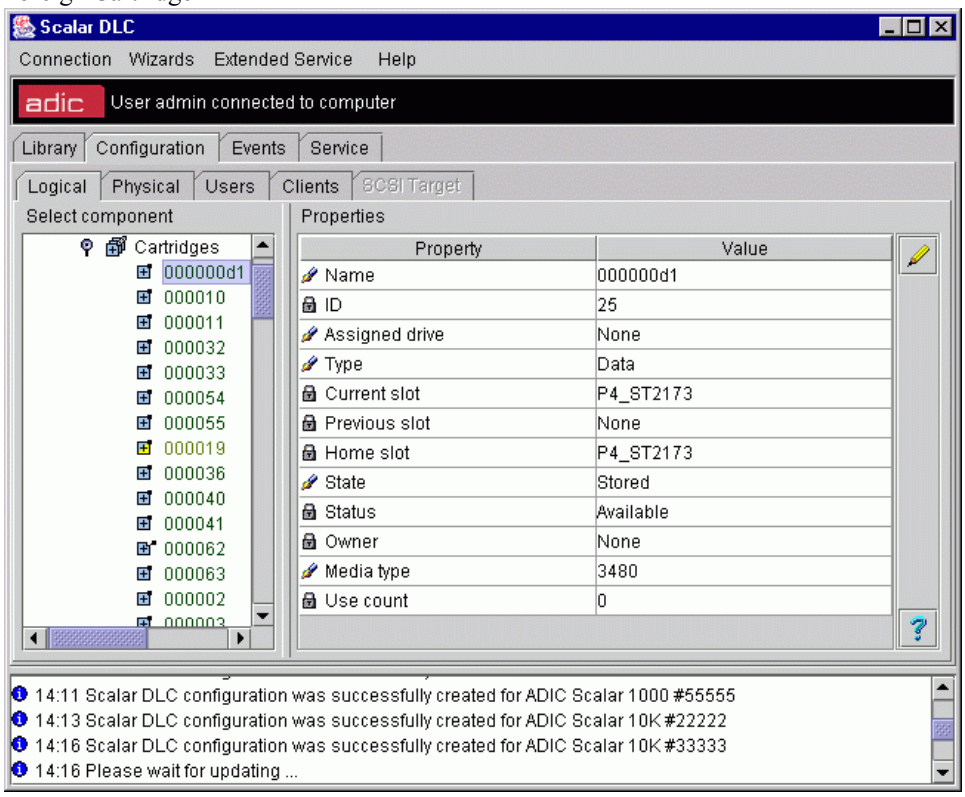
Property/Button	Icon	Operation	Description
Home slot		Supplied	The cartridge home position.
State		Select	Cartridge state. Refer to Table 5-5 on page 57 for the details.
Status		Supplied	The cartridge availability for the commands.
Owner		Supplied	The cartridge owner (client), if any.
Media type		Supplied	Media type, stable for a normal cartridge.
		Select	Media type, changeable for a foreign cartridge.
Use count		Supplied	The number of mounts done (cleanings, for the cleaning cartridge).
Update		Click	Save the cartridge properties after edit.
Help		Click	Open online help for the current pane.

If the cartridge is not found in the library after the **Inventory** has been executed, its state changes to *offline*. After that, the cartridge is removed from the Cartridge list of Logical library and goes to so-called archive list, or the list of the offline cartridges. It is shown under the Physical tab and contains the information about cartridges that were removed from the physical library. Refer to *Offline Cartridge* on page 629.

NOTE: The only method available from the GUI to correctly identify the cleaning cartridges after the Inventory is to change manually the desired individual cartridges type from data to cleaning. Then, if necessary, the acquired cleaning cartridges can be added into the clean pool.

There also exists a ‘foreign cartridges’ category. These cartridges either are duplicates (another cartridge with such a name already exists in the library), or not readable (the barcode scanner that reads the volsers cannot scan the name of current cartridge). To operate with the foreign cartridges, their properties have been extended: the GUI Admin can change the cartridge name (volser) and media type. The foreign cartridge has a media type that is the default for the slot where it is found after the first **Inventory**. The foreign cartridge has a name with a small “u“ (for not readable volser), or with a small “d“ (for duplicated volser). See Figure 6-8 on page 610.

Figure 6-8 Foreign Cartridge

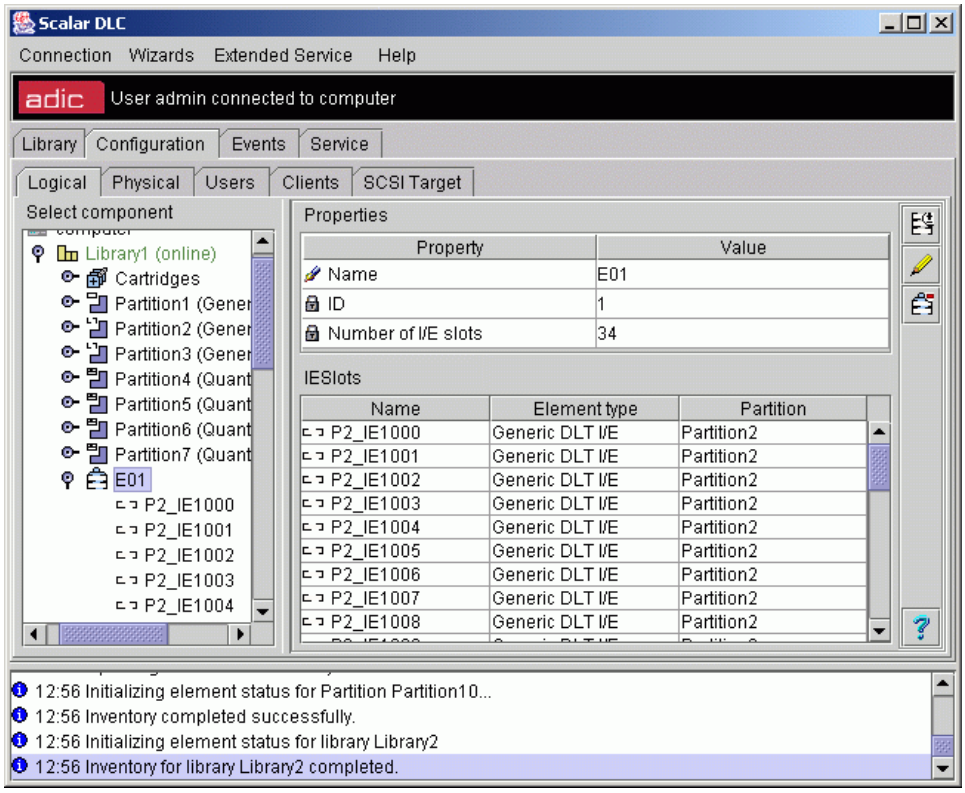


Refer to Table 6-5 on page 68 for the details.

Mailbox

In the *Select Components* area of the pane, selectable Mailboxes appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-9 on page 611.

Figure 6-9 Mailbox



Selecting the Mailbox branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-6.

Table 6-6 Mailbox Properties and Buttons

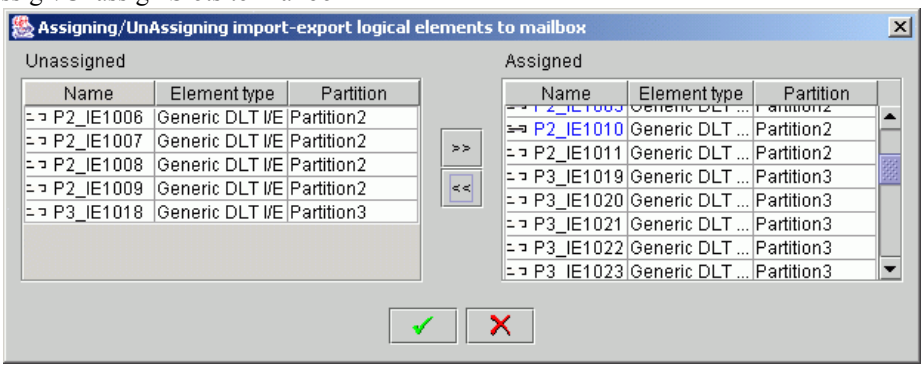
Property/Button	Icon	Operation	Description
Name		Enter	Mailbox name. Refer to Table 9-2 on page 93.
ID		Supplied	Mailbox identification number.
Number of I/E slots		Supplied	The number of assigned slots.
I/E slots		Supplied	The slots currently assigned to the mailbox. The slot names, element type, and partition are indicated.
Assign/Unassign		Click	Pop-up Assign/Unassign window opens. Refer to *Assign Slots to Mailbox* on page 612.
Update		Click	Save the mailbox properties after edit.
Remove		Click	Remove the mailbox.
Help		Click	Open online help for the current pane.

NOTE: Mailbox names are unique for a logical library. Using the default name ensures uniqueness.

NOTE: If the DAS interface is being used, the mailbox names must adhere to the DAS standards. ADIC recommends “**Exx**” and “**Ixx**” names for the Export and Import mailboxes respectively (they can consist of the same mailbox slots).

Assign Slots to Mailbox

Figure 6-10 Assign/Unassign Slots to Mailbox



The left area contains all available import/export (mailbox) slots that are not assigned to the current mailbox. The right area contains all mailbox slots that are already assigned to the mailbox.

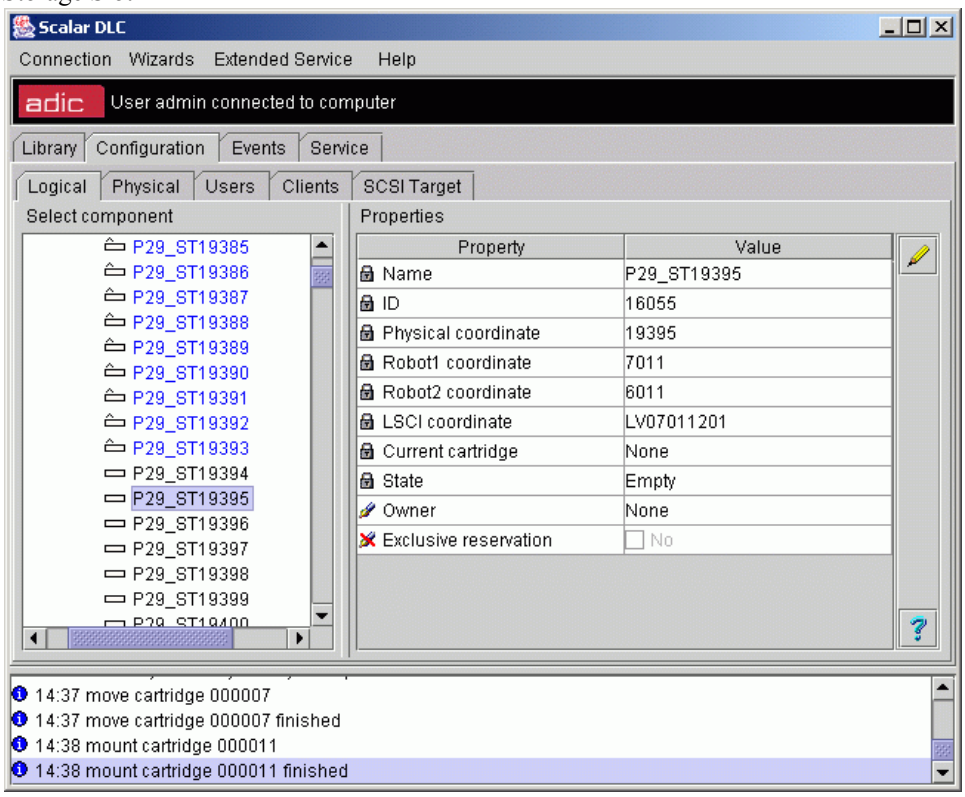
Select a slot that should be assigned to the mailbox (or removed from it) and press the appropriate arrow button. Press **OK** to close the window and update the mailbox. Press **Cancel** to close the assignment window without applying the changes.

NOTE: The operation of assign and unassign a pack of slots to and from the mailbox can be executed as many times as necessary.

Storage Slot

In the *Select Components* area of the pane, selectable Storage Partitions appear. Clicking the expand/collapse button causes an expansion that shows the Storage slots. See **Figure 6-11 on page 613**.

Figure 6-11 Storage Slot



Selecting the Storage slot branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-7.

Table 6-7 Storage Slot Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	Slot name.
ID		Supplied	Slot identification number.
Physical coordinate		Supplied	Slot physical (SCSI) coordinate.
Robot1 coordinate		Supplied	The slot coordinate in Robot1 (*None* means the slot is assigned to another robot).
Robor2 coordinate		Supplied	The slot coordinate in Robot2 (*None* means the slot is assigned to another robot).
LSCI coordinate		Supplied	Slot LSCI coordinate.
Current cartridge		Supplied	A contained cartridge, if any.
State		Supplied	Slot state (empty/occupied)
Owner		Select	A slot owner (client). The reserved slot can be used only by its owner.
			None means the slot is not reserved.

Table 6-7 Storage Slot Properties and Buttons

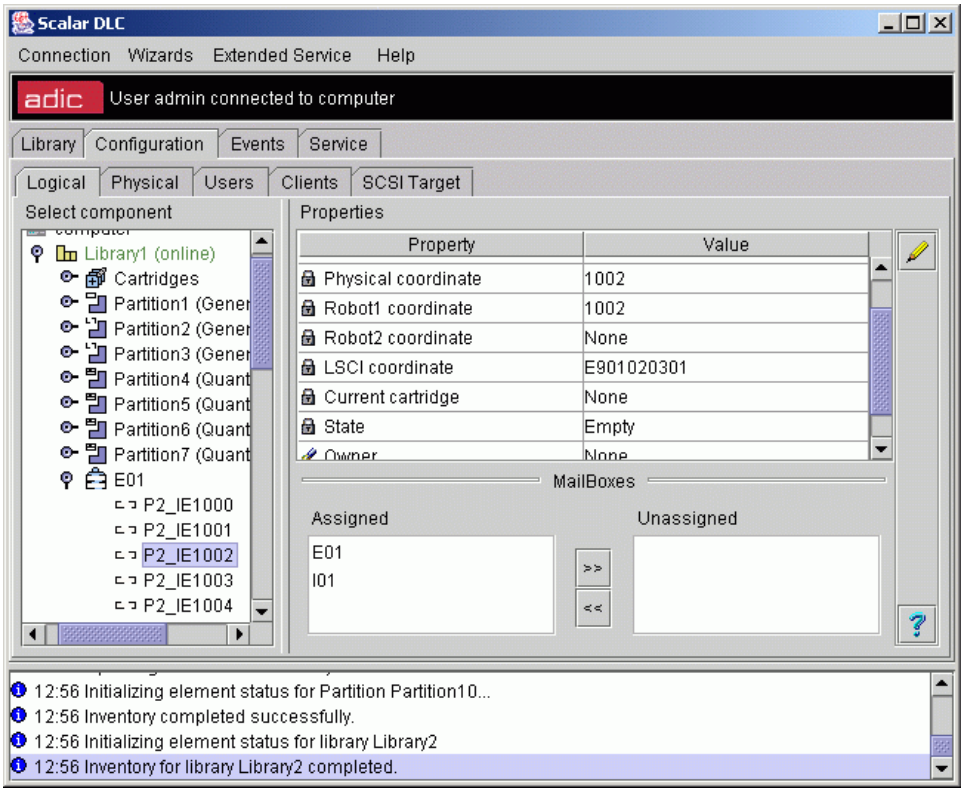
Property/Button	Icon	Operation	Description
Exclusive reservation		Supplied	The reservation may be either normal (another owner can un-reserve the slot) or exclusive (only the owner himself can change the reservation).
Update		Click	Save the slot properties after edit.
Help		Click	Open online help for the current pane.

For the slot physical coordinate, refer to *Element Addressing* on page 26.

Mailbox Slot

In the *Select Components* area of the pane, selectable Mailboxes and Insert/Eject Partitions appear. Clicking the expand/collapse button causes an expansion that shows the Mailbox slots. See Figure 6-12.

Figure 6-12 Mailbox Slot



Selecting the Mailbox slot branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-8 on page 615.

Table 6-8 Mailbox Slot Properties and Buttons

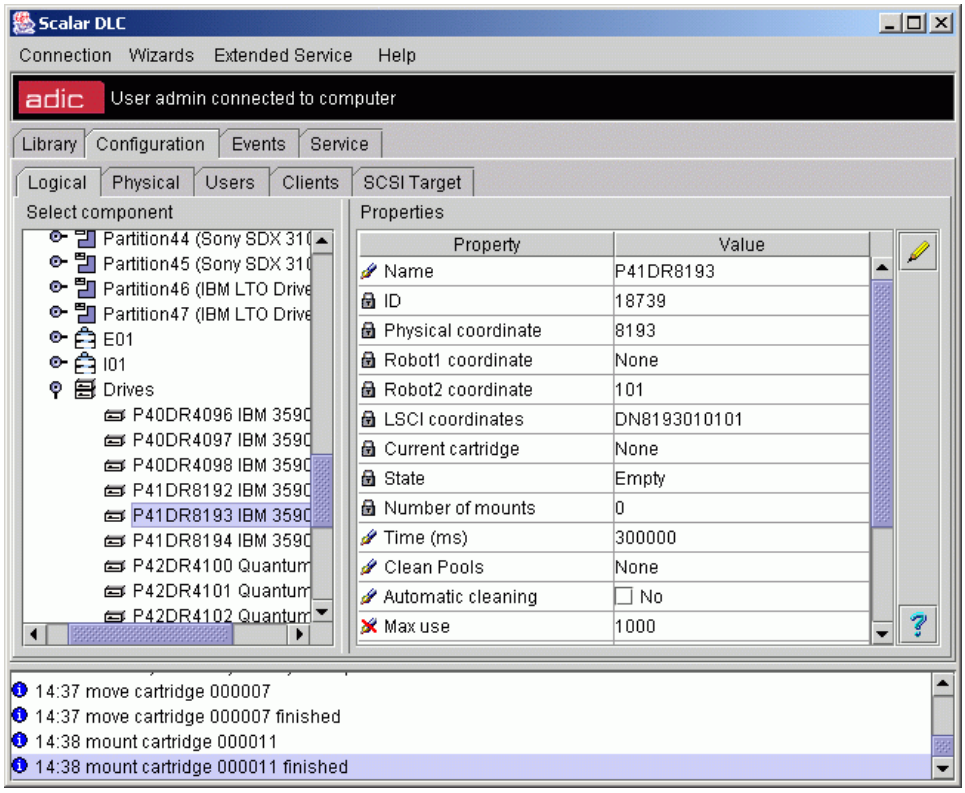
Property/Button	Icon	Operation	Description
Name		Supplied	Slot name.
ID		Supplied	Slot identification number.
Physical coordinate		Supplied	Slot physical (SCSI) coordinate.
Robot1 coordinate		Supplied	The slot coordinate in Robot1 (*None* means the slot is assigned to another robot).
Robor2 coordinate		Supplied	The slot coordinate in Robot2 (*None* means the slot is assigned to another robot).
LSCI coordinate		Supplied	Slot LSCI coordinate.
Current cartridge		Supplied	A contained cartridge, if any.
State		Supplied	Slot state (empty/occupied)
Owner		Select	A slot owner (client). The reserved slot can be used only by its owner.
			None means the slot is not reserved.
Exclusive reservation		Supplied	The reservation may be either normal (another owner can un-reserve the slot) or exclusive (only the owner himself can change the reservation).
Assigned/Unassigned Mailboxes		Select and click	Select mailbox and click arrow button to assign/unassign the current slot to/from it.
Update		Click	Save the slot properties after edit.
Help		Click	Open online help for the current pane.

For the slot physical coordinate, refer to *Element Addressing* on page 26.

Drive

In the *Select Components* area of the pane, selectable Drives and Drive Partitions appear. Clicking the expand/collapse button causes an element expansion. See **Figure 6-13 on page 616**.

Figure 6-13 Drive



Selecting the Drive branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-9.

Table 6-9 Drive Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Drive name. Refer to Table 9-2 on page 93.
ID		Supplied	Drive identification number.
Physical coordinate		Supplied	Drive physical (SCSI) coordinate.
Robot1 coordinate		Supplied	The slot coordinate in Robot1 (*None* means the slot is assigned to another robot).
Robot2 coordinate		Supplied	The slot coordinate in Robot2 (*None* means the slot is assigned to another robot).
LSCI coordinate		Supplied	Drive LSCI coordinate.
Current cartridge		Supplied	A contained cartridge, if any.
State		Supplied	Drive state (empty/occupied).
Number of mounts		Supplied	A number of mounts executed into the drive.

Table 6-9 Drive Properties and Buttons

Property/Button	Icon	Operation	Description
Time (ms)		Enter	The cleaning time for the drive.
Clean pool		Enter	A pool that is used by clean manager to get the cleaning cartridges.
Automatic cleaning		Enter	Allows the drive auto clean manager to be configured. If checked, the *Max Use* field is editable.
Max Use		Supplied	Shows how long the drive could be used without cleaning.
Dismount management		Enter	Allows the dismount manager to be configured. If checked, the *Delay* and *Loops* fields are editable.
Delay (ms)		Supplied	A time the drive requires to unload the cartridge.
Loops		Supplied	Number of retries if the drive does not unload the cartridge.
Owner		Select	A slot owner (client). The reserved slot can be used only by its owner.
			None means the slot is not reserved.
Exclusive reservation		Supplied	The reservation may be either normal (another owner can un-reserve the slot) or exclusive (only the owner himself can change the reservation).
Update		Click	Save the slot properties after edit.
Help		Click	Open online help for the current pane.

For the slot physical coordinate, refer to *Element Addressing* on page 26.

NOTE: If the DAS interface is being used, the drives are to be named according to the DAS standards. ADIC recommends using names no more than 9 alphanumeric characters long and beginning with a letter.

Create Library

Under the Controller properties, the **Add new Logical Library** button appears. Clicking it opens a pop-up library creation pane. See Figure 6-14 on page 618.

NOTE: Only administrator users can create the libraries. For the user without administrative privileges, the create library button is disabled.

Figure 6-14 Logical Library Creation

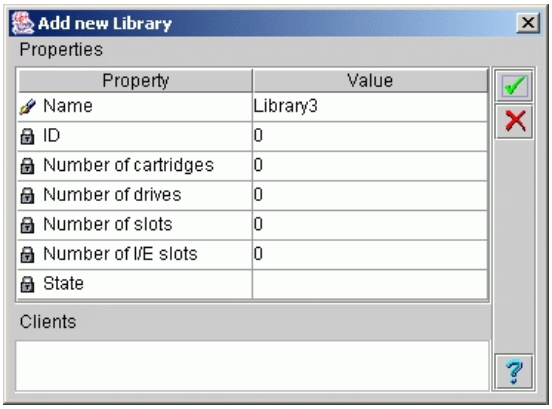


Table 6-10 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-10 Logical Library Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	New logical library name.
ID		Supplied	Logical library identification number.
Number of cartridges		Supplied	Number of available cartridges.
Number of drives		Supplied	Number of available drives.
Number of slots		Supplied	Number of available storage slots.
Number of I/E slots		Supplied	Number of available mailbox slots.
State		Supplied	Logical library state. Refer to Table 4-34 on page 431.
Clients		Supplied	The clients attached to the logical library.
Create		Click	Create logical library.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

CAUTION: **The created logical library is *invalid* and not operable. To complete the library configuration, at least two partitions (storage and drive, three recommended - storage, insert/eject, and drive) should be assigned to the logical library before the inventory can be executed. Refer to *Assign Partition* on page 619 and *Assign Partitions* on page 46.**

Assign Partition

NOTE: There exists a more powerful engine for the multiple partition assignment operation. It is accessible from the Main Menu bar. Refer to *Assign Partitions* on page 46.

Under the Library properties, the **Assign Partition** button appears. Clicking it opens a pop-up library creation pane. See Figure 6-15.

NOTE: Only administrator users can assign the partitions. For the user without administrative privileges, the **Assign Partition** button is disabled.

Figure 6-15 Partition Assign

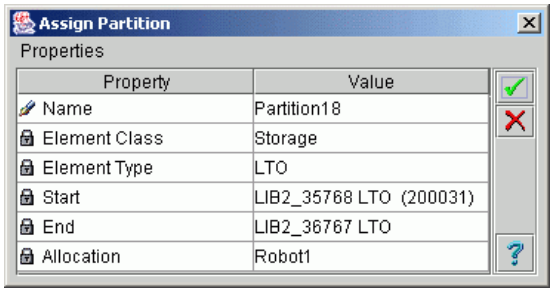


Table 6-11 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-11 Partition Assign Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Select	Select the partition to assign
Element Class		Supplied	Partition class (storage, that is, drive). Refer to Table 4-37 on page 432.
Element Type		Supplied	Partition element type.
Start		Supplied	Start element of partition range.
End		Supplied	End element of partition range.
Allocation		Supplied	*Robot1* (*Robot2*) indicates the robotic device where the partition is located.
			Shared means the partition is shared between two robots.
Assign		Click	Assign partition
Cancel		Click	Cancel assignment.
Help		Click	Open online help for the current pane.

Create Pool

Under the Library properties, the **Add new Scratch Pool** and **Add new Clean Pool** buttons appear. Clicking either opens a pop-up pool creation pane. See Figure 6-16.

NOTE: Only administrator users can create the pools. For the user without administrative privileges, the create pool button is disabled.

Figure 6-16 Pool Creation

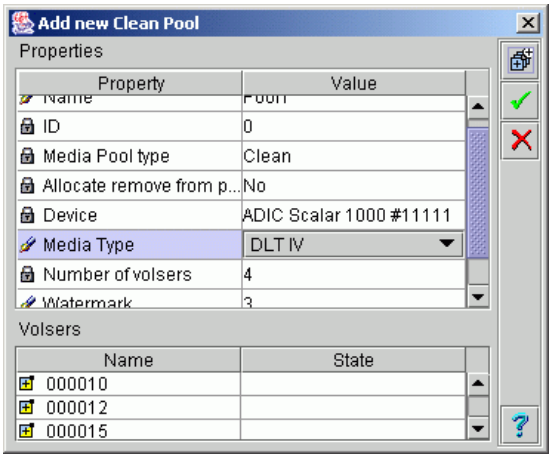


Table 6-12 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-12 Pool Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Pool name. Refer to Table 9-2 on page 93.
ID		Supplied	Pool identification number.
Media Pool type		Supplied	Pool type (data/clean)
Allocate remove from pool		Supplied	Allocation after removal is not supported.
Device		Supplied	Name of device where the pool is located.
Media type		Supplied	The type of media contained in the pool.
Number of volsers		Supplied	The number of cartridges contained in the pool.
Watermark		Enter	The minimal number of valid cleaning media the pool should contain (for clean pools only).
Maximum cleanings per tape		Enter	The number of times the cleaning cartridge can be used (for clean pools only).
Volsers		Supplied	The cartridges currently assigned to the pool.

Table 6-12 Pool Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Assign/Unassign		Click	Pop-up Assign/Unassign window opens. Refer to *Assign Media to Pool* on page 67.
Create		Click	Create pool.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

NOTE: Pool names are unique for a logical library. Using the default name ensures uniqueness.

Create Mailbox

Under the Library properties, the **Add new Mailbox** button appears. Clicking it opens a pop-up mailbox creation pane. See Figure 6-17.

NOTE: Only administrator users can create the mailboxes. For the user without administrative privileges, the **Create Mailbox** button is disabled.

Figure 6-17 Mailbox Creation

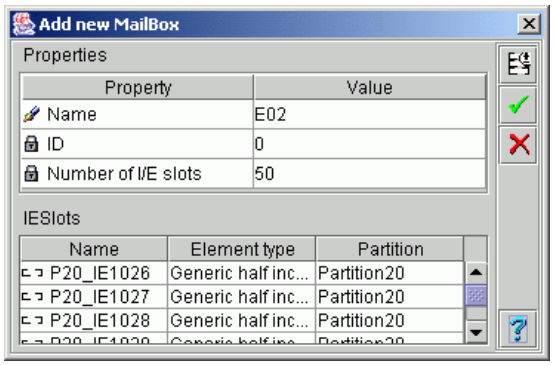


Table 6-13 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-13 Mailbox Creation Properties and Buttons

Property	Icon	Operation	Description
Name		Enter	Mailbox name. Refer to Table 9-2 on page 93.
ID		Supplied	Mailbox identification number.
Number of I/E slots		Supplied	The number of assigned slots.

Table 6-13 Mailbox Creation Properties and Buttons

Property	Icon	Operation	Description
I/E slots		Supplied	The slots currently assigned to the mailbox. The slot names, element type, and partition are indicated.
Assign/ Unassign		Click	Pop-up Assign/Unassign window opens. Refer to *Assign Media to Pool* on page 67.
Create		Click	Create mailbox.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

NOTE: Mailbox names are unique for a logical library. Using a default name ensures uniqueness.

NOTE: If the DAS interface is being used, the mailbox names must adhere to the DAS standards. ADIC recommends using “**Exx**” and “**Ixx**” names for the Export and Import mailboxes respectively (they can consist of the same mailbox slots).

Physical Tab

The Physical Tab pane describes the configuration of a physical library. The starting Physical pane shows the properties of Scalar DLC hardware. See Figure 6-18 on page 623.

NOTE: Only administrator users can modify the Scalar DLC system configuration, remove, or create physical libraries. For the user without administrative privileges, the operation buttons remain disabled.

Figure 6-18 Physical Controller

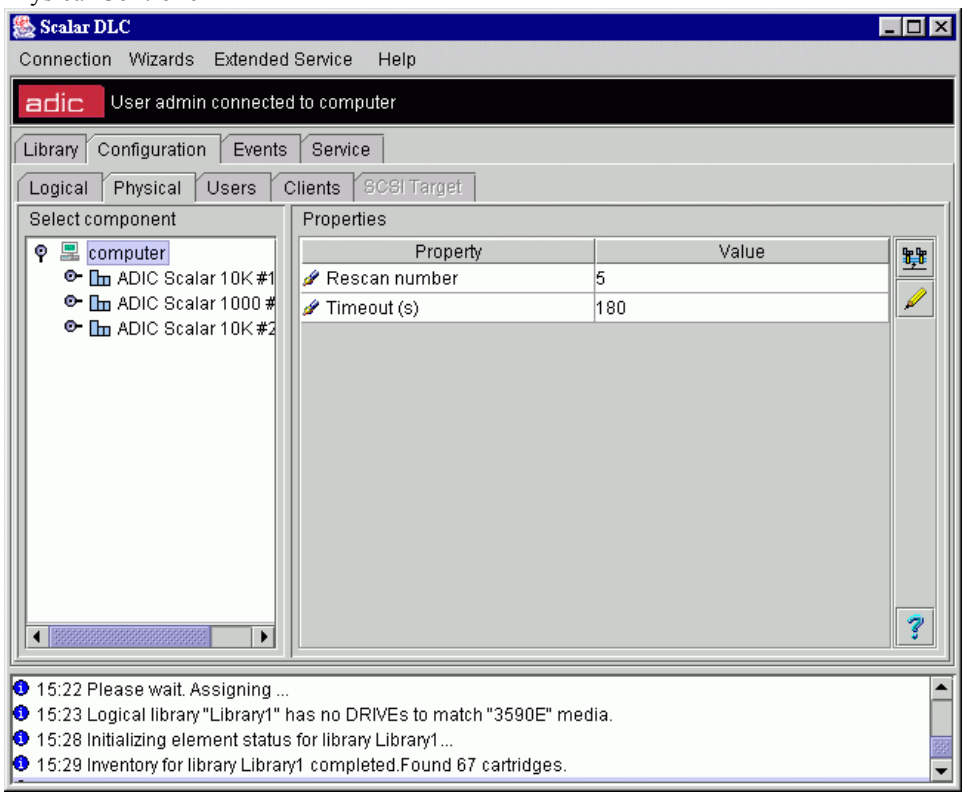


Table 6-14 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-14 Physical Controller Properties and Buttons

Property/Button	Icon	Operation	Description
Rescan number		Enter	The number of Rescan SCSI Bus operations done.
Timeout(s)		Enter	The default timeout time, ms.
Scan SCSI Bus		Click	Scan SCSI bus and create the physical library objects for each new library found.
Update		Click	Save properties after edit.
Help		Click	Open online help for the current pane.

CAUTION: **If the physical library properties are changed (for example, another drive added), the Scan SCSI Bus operation does NOT update the existing library properties. The update can be done only by the Teach command from the device operator panel.**

Library

In the *Select Components* area of the pane, selectable Physical Libraries appear. Clicking the expand/collapse button causes an element expansion.

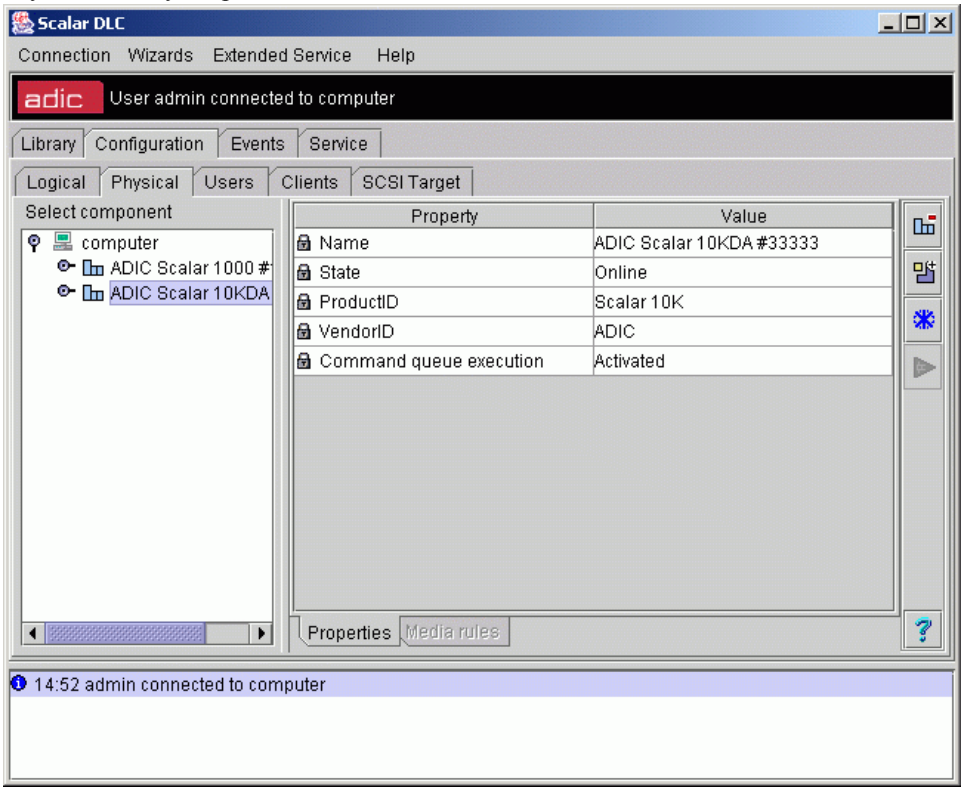
There are two sets of properties associated with a physical library.

- Properties
- Media Rules

NOTE: For the Scalar tape devices, only the Properties tab is available.

See Figure 6-19.

Figure 6-19 Physical Library Properties



Refer to Table 6-15 for the details.

Table 6-15 Physical Library Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	Tape device name.
State		Supplied	Physical library state. Refer to Table 4-35 on page 431.
Product ID		Supplied	Library product ID.

Table 6-15 Physical Library Properties and Buttons

Property/Button	Icon	Operation	Description
Vendor ID		Supplied	Library vendor ID.
Command queue execution		Supplied	*Activated* means commands should be executed when they arrive to the physical library.
			Freezed means commands should be executed only after the library will be activated again.
Remove		Click	Remove the physical library.
Add new Partition		Click	Add new partition. Refer to *Create Partition* on page 637.
Freeze		Click	Freeze command queue execution.
Activate		Click	Activate command queue execution (after freeze).
Help		Click	Open online help for the current pane.

CAUTION: **If the physical library is removed, all partitions, media rules, and offline cartridges are lost. Library delete confirmation is required.**

NOTE: The Freeze command queue execution feature currently is implemented for the Scalar 10K DA libraries only.

Media Rules

NOTE: This feature currently is available only for the AML tape devices.

NOTE: The media rules do not work automatically and require the manual appliance and confirmation.

The physical library can not always correctly identify the cartridge media type by recognizing its barcode label (especially for the old models of barcode reader). The media domain always is recognized correctly, the media type is not. In such cases the un-recognized volser receives the media type as default to the slot where it has been found during **Inventory**.

However, this may lead to incorrect assignment of media type to cartridge, and that can even cause the hardware crash (for example, if the SDLT cartridge has been mis-identified as DLT III and mounted to the Quantum DLT 4000 drive).

To improve the situation, a Media rules feature has been provided for the Scalar DLC administrator could assign a correct media type to the range of volsers. The typical rule is, “if the cartridge is in the specified volser range and has the specified media domain, check whether it has the specified media type“. The volser ranges specified in different rules cannot overlap by media domain (that means, two rules cannot have both same media domain and overlapped volser ranges).

Also refer to *Media Types* on page A28 and *Drive Types* on page A30.

CAUTION: **The media rules feature should be used only by very experienced users. The incorrect assignment of media type to cartridge may cause a hardware crash.**

See Figure 6-20.

Figure 6-20 Media Rules

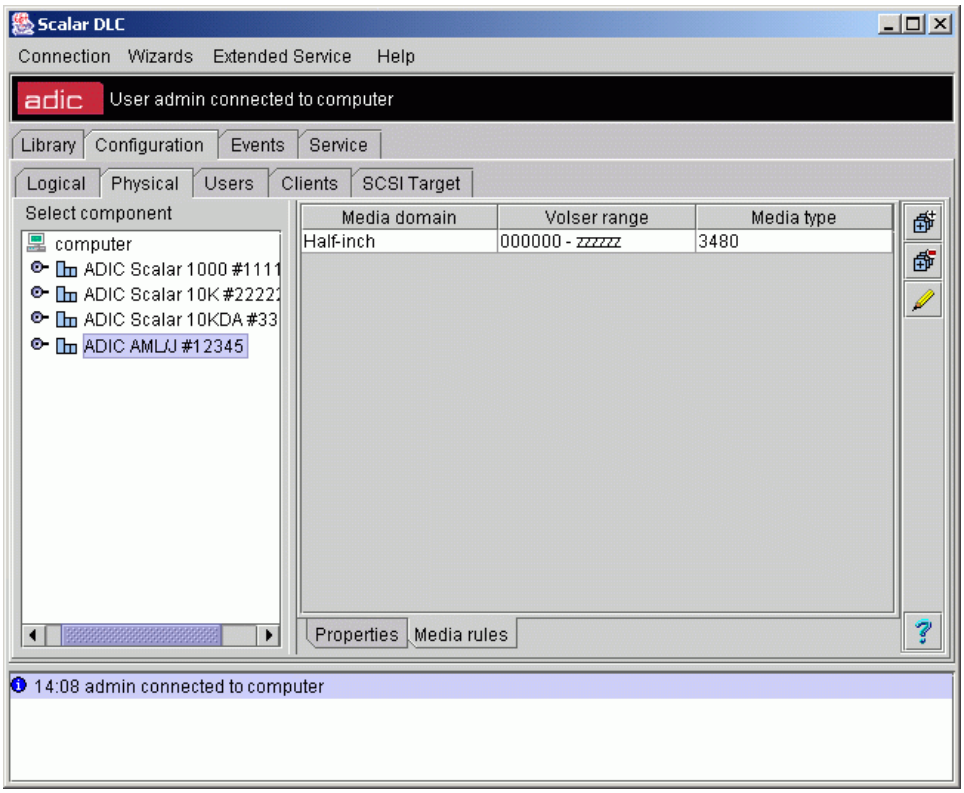


Table 6-16 indicates the list of properties displayed.

Table 6-16 Media Rules

Property/Button	Icon	Operation	Description
Media domain		Supplied	The domain of media selected by the rule.
Volser Range		Supplied	The range of volsers selected by the rule.
Media type		Supplied	The media type that should be assigned.
Add		Click	Add a new media rule. A pop-up window opens, refer to *Create Media Rule* on page 627.

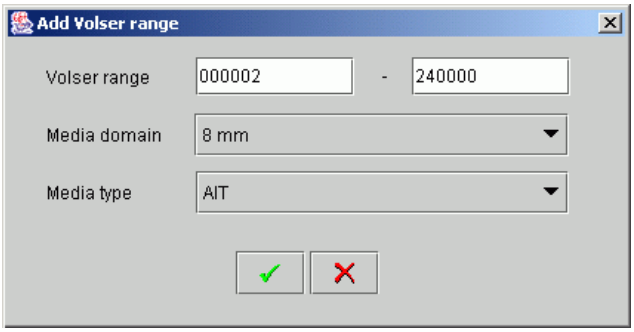
Table 6-16 Media Rules

Property/Button	Icon	Operation	Description
Remove		Click	Remove an existing rule.
Apply		Click	Apply the rule. A pop-up window opens, refer to *Apply Media Rule* on page 627.
Help		Click	Open online help for the current pane.

Create Media Rule

NOTE: Only administrator users can create the media rules. For the user without administrative privileges, the button is disabled.

Figure 6-21 Media Rule Creation

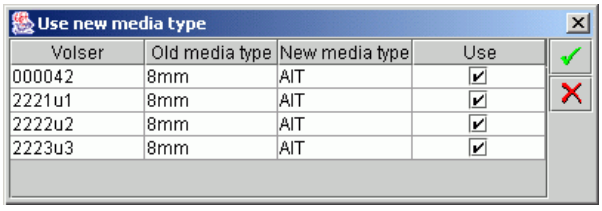


Enter the volser range. Select the media domain. Specify the media type that should be assigned to the cartridges in the specified range, if they do have an appropriate media domain. Press **OK** to create and apply the media rule. Press **Cancel** to exit and do not create the media rule.

Apply Media Rule

NOTE: Only administrator users can apply the media rules. For the user without administrative privileges, the button is disabled.

Figure 6-22 Apply Media Rule



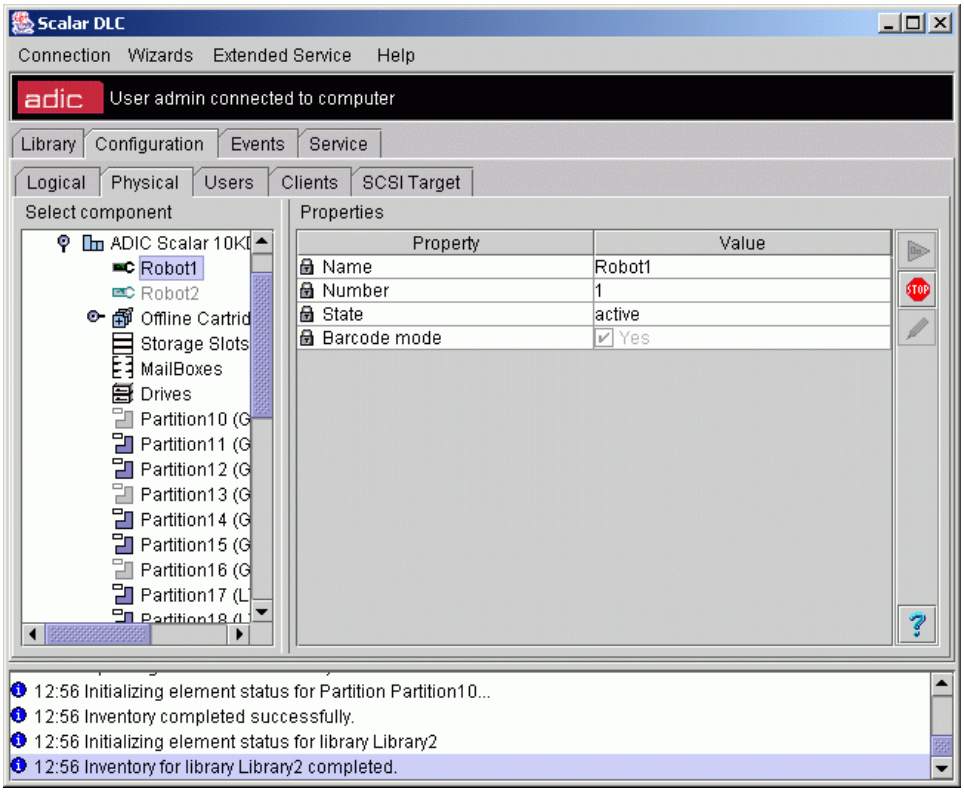
For every *Volser*, check whether the *New* media type should be used instead of *Old* media type. Leave *Use* checkbox blank if it is not true. Press **OK** when finish to apply the media rule. Press **Cancel** to close the pane without applying the rule.

Robot

Depending on type, the physical library can have either one robotic controller (so-called single-aisle library), or two (so-called dual-aisle library).

See Figure 6-23 and Figure 6-24 on page 629 for the details.

Figure 6-23 Robot Online



Selecting the Robot branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-17.

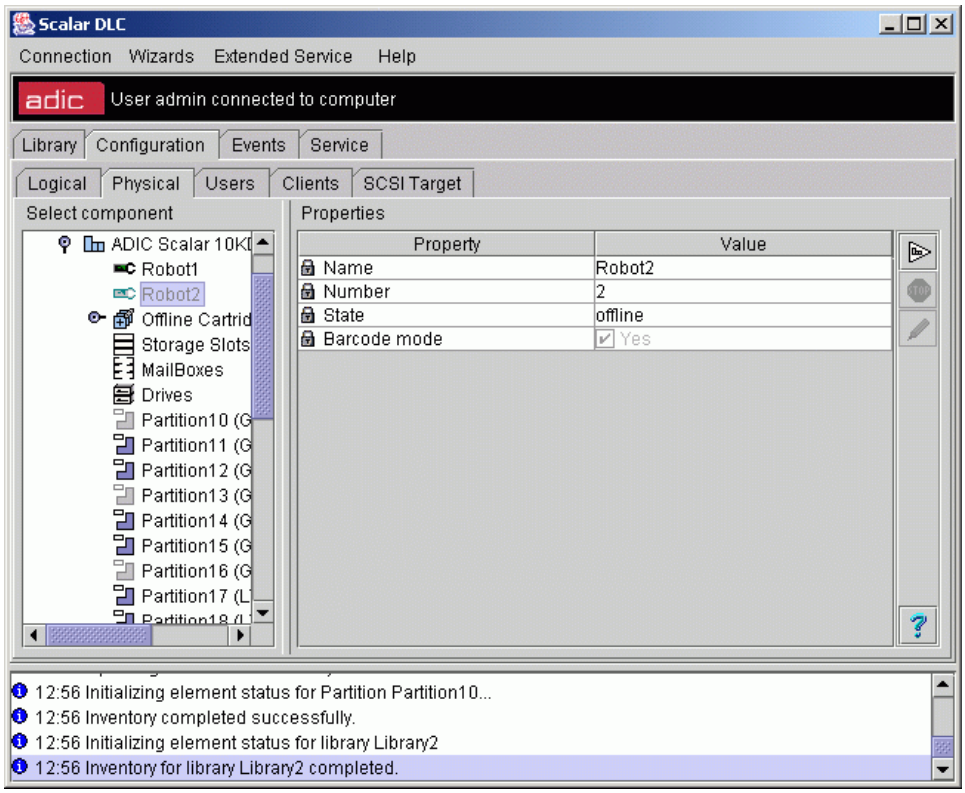
Table 6-17 Robot Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	Robotic controller name.
Number		Supplied	Robotic controller number (1 for single-aisle robot, 1 or 2 for dual-aisle robots).
State		Supplied	Robotic controller state. Refer to Table 4-36 on page 431.
Barcode mode		Supplied	Barcode reader is always active for the Scalar robots.
		Check	Bacrode reader can be deactivated for the AML robots.
Start		Click	Start the robot that is currently *offline*.

Table 6-17 Robot Properties and Buttons

Property/Button	Icon	Operation	Description
Stop		Click	Stop the robot that is currently *online*.
Update		Click	Update the robot parameters after edit.
Help		Click	Open online help for the current pane.

Figure 6-24 Robot Offline



Offline Cartridge

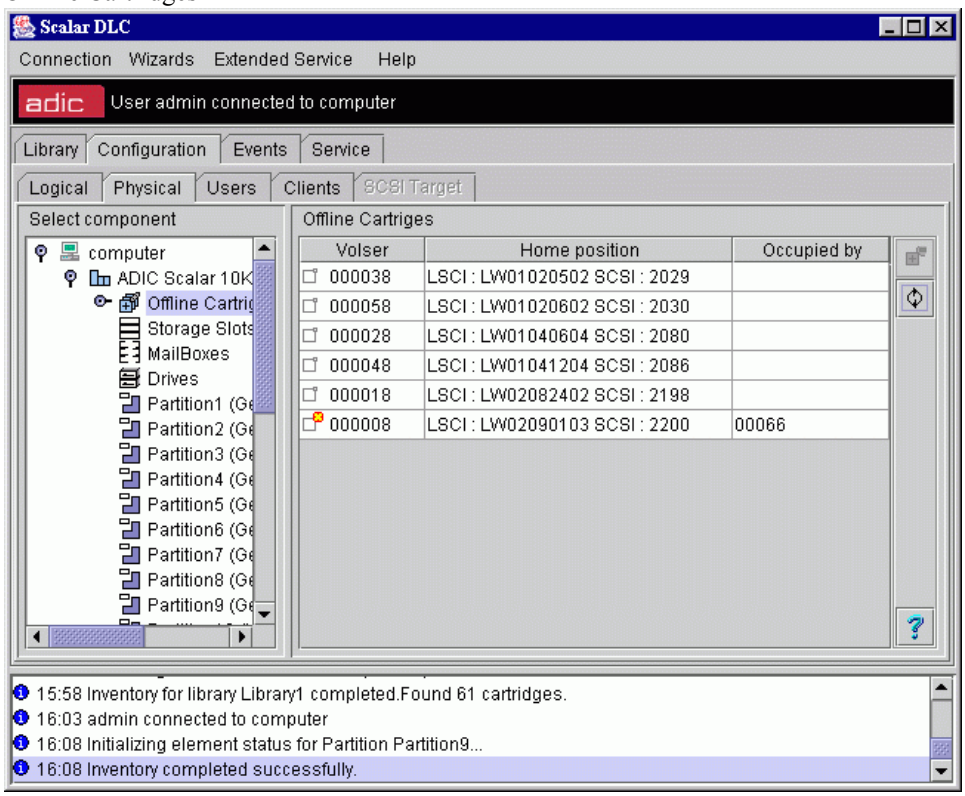
If the cartridge is not found in the library after the **Inventory** has been executed, its state changes to *offline*. After that, the cartridge is removed from the Cartridge list of Logical library and goes to the archive list, or the list of the offline cartridges. It is shown under the Physical tab and contains the information about cartridges that were removed from the physical library.

The offline cartridge usually should contain a short description (for example, when and why it has been removed). The user can physically remove the offline cartridge if this cartridge should not be returned to the system.

The offline cartridges could either save the home position (if they were removed from the library in either *stored, ejected*, *problem box*, or *mounted* state), or lose it (if they were removed in *unloaded* state). If the offline cartridge resided in the home position right before it was removed, this coordinate is saved. If the cartridge later returns to the library, the executed **Inventory** restores its old home position. However, when the cartridge is offline, another cartridge may occupy its old home slot because it is not marked as the home position of a valid cartridge. Should that be the case, the user can either move that cartridge to another storage slot to free the home position of the offline cartridge that he wants to return to the library later, or he can simply return the cartridge to the library. If the user prefers the last, an **Inventory** assigns a new valid home position to a cartridge.

In the *Select Components* area of the pane, selectable Offline Cartridges appears. Clicking the expand/collapse button causes an element expansion. See Figure 6-25 for the Offline Cartridge list and Figure 6-26 on page 631 for the Offline Cartridge.

Figure 6-25 Offline Cartridges

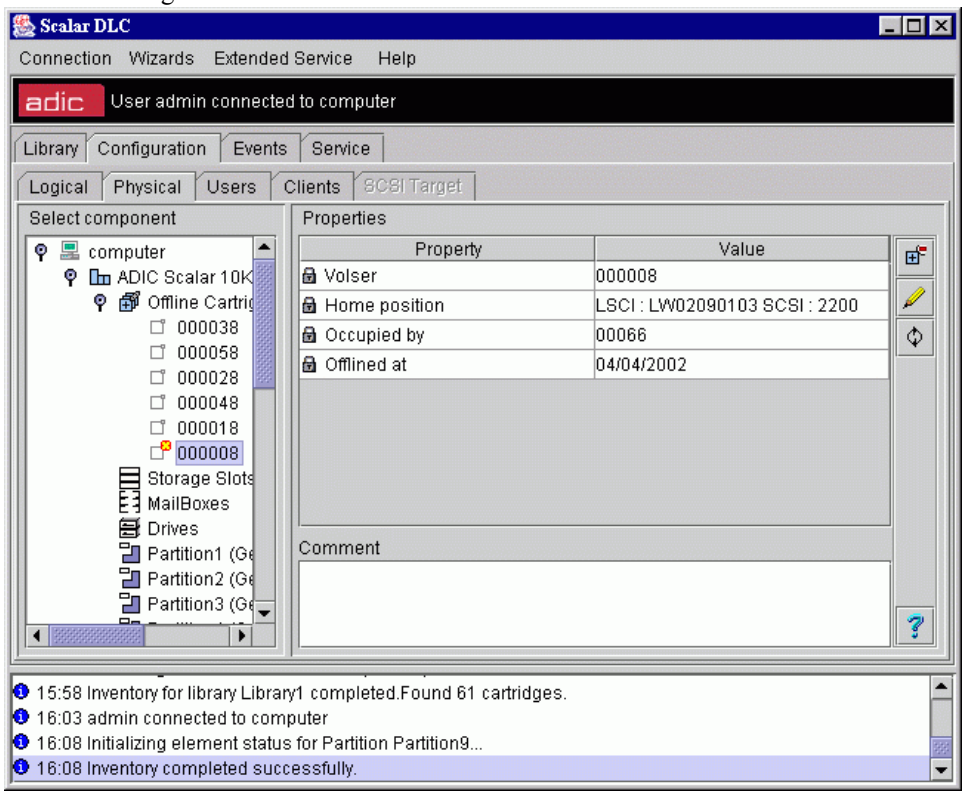


Selecting the Offline Cartridges branch causes the offline cartridge list to appear in the *Offline Cartridges* area of the pane. Refer to Table 6-18 on page 631.

Table 6-18 Offline Cartridges

Property/Button	Icon	Operation	Description
Volser		Supplied	Data cartridge offline, home position is free.
			Cleaning cartridge offline, home position is free.
			Data cartridge offline, home position is occupied.
			Cleaning cartridge offline, home position is occupied.
Home position		Supplied	An offline cartridge home position.
Occupied by		Supplied	A cartridge that occupies offline cartridge home slot, if any.
Refresh		Click	Force refresh the offline cartridges and apply changes in case of any difference. The offline cartridges list itself is not refreshed.
Help		Click	Open online help for the current pane.

Figure 6-26 Offline Cartridge



Selecting the Offline Cartridge branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-19 on page 632.

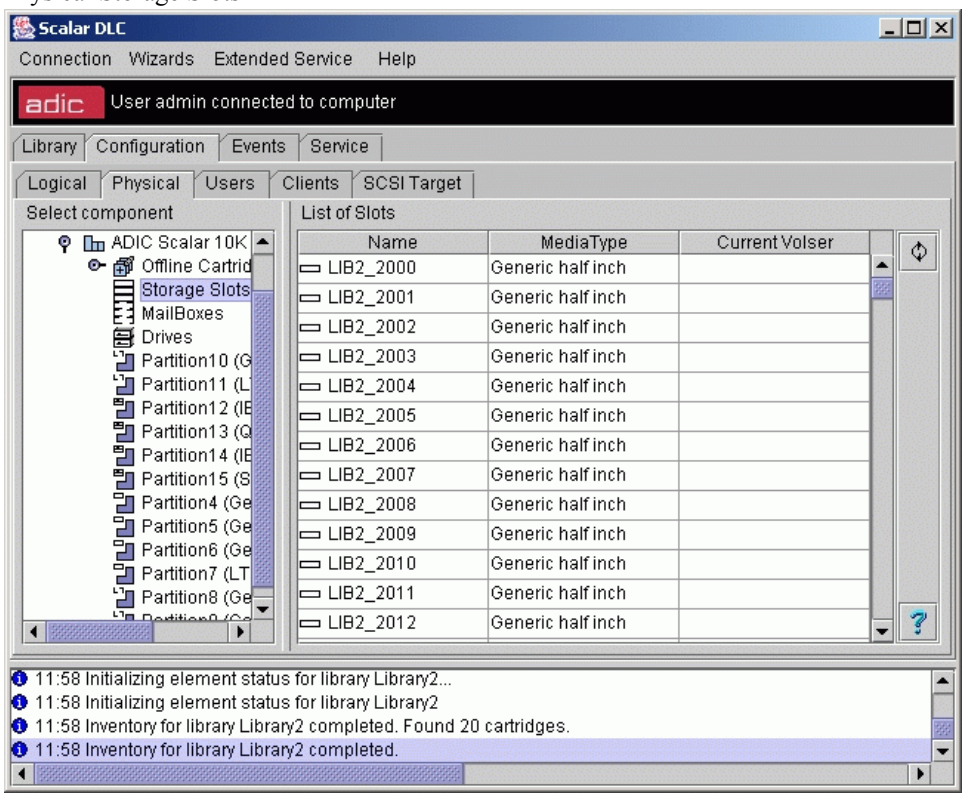
Table 6-19 Offline Cartridge Properties

Property	Icon	Operation	Description
Volser		Supplied	Offline cartridge name.
Home position		Supplied	An offline cartridge home position.
Occupied by		Supplied	A cartridge that occupies offline cartridge home slot, if any.
Offlined at		Supplied	The date (mm/dd/yyyy) when the cartridge has gone to *offline*.
Comment		Enter	The comment about the situation with the cartridge (for example, the reason why it is offline).
Remove		Click	Removes an offline cartridge from the archive.
Update		Click	Save offline cartridge properties after edit.
Refresh		Click	Force refresh the offline cartridges and apply changes in case of any difference. The offline cartridges list itself is not refreshed.
Help		Click	Open online help for the current pane.

Storage Slots

In the *Select Components* area of the pane, selectable Storage Slots appears. See Figure 6-27 on page 633 for the details.

Figure 6-27 Physical Storage Slots



Selecting the Storage Slots causes a list of properties to appear in the *List of Slots* area of the pane. Table 6-20 shows the details.

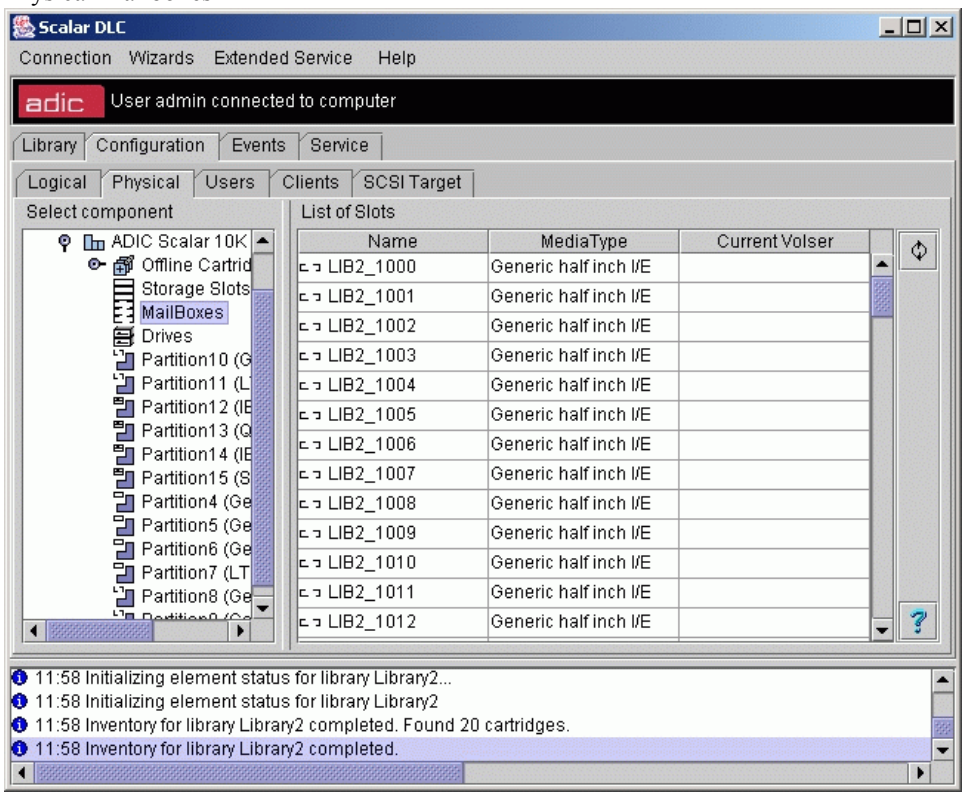
Table 6-20 Storage Slots Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	The slot name. The icon also shows the slot state. Refer to Table 4-38 on page 432.
Media Type		Supplied	A cartridge media type.
Current volser		Supplied	If the slot is occupied, a contained cartridge is shown. For the optical disk, two cartridges are shown.
Refresh		Click	Force refresh the cartridge list and apply changes in case of any difference.
Help		Click	Open online help for the current pane.

Mailboxes

In the *Select Components* area of the pane, selectable Mailboxes appear. See Figure 6-28 on page 634.

Figure 6-28 Physical Mailboxes



Selecting the Mailboxes causes a list of properties to appear in the *List of Slots* area of the pane. Table 6-21 shows the details.

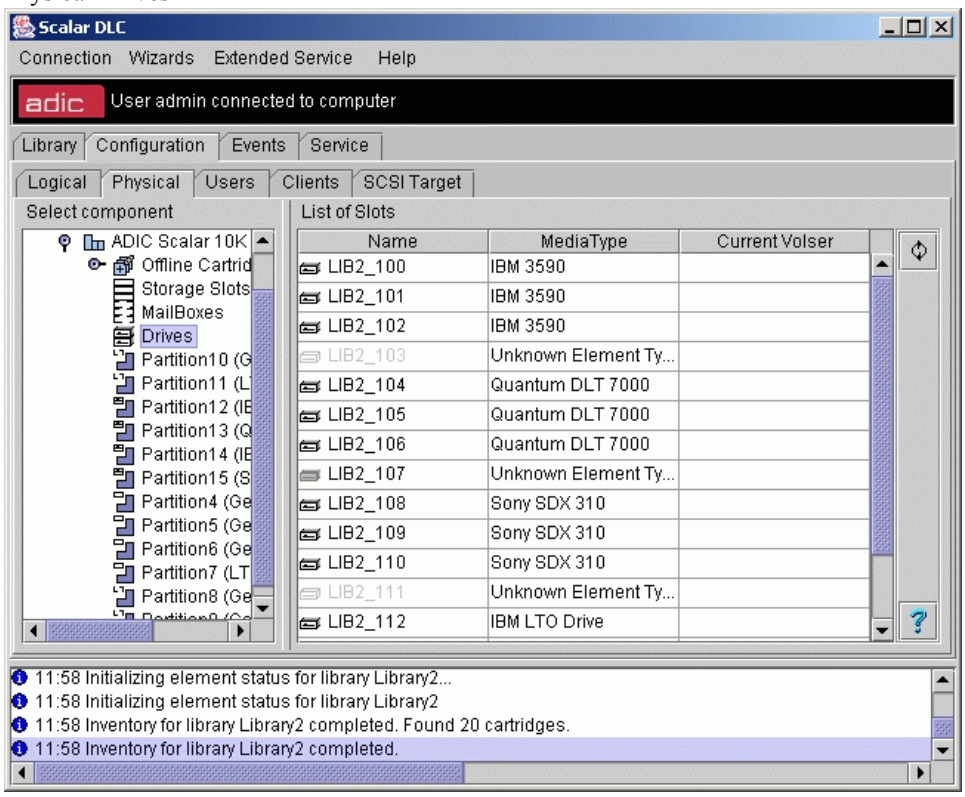
Table 6-21 Mailboxes Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	The slot name. The icon also shows the slot state. Refer to Table 4-39 on page 432.
Media Type		Supplied	A cartridge media type.
Current volser		Supplied	If the slot is occupied, a contained cartridge is shown. For the optical disk, two cartridges are shown.
Refresh		Click	Force refresh the cartridge list and apply changes in case of any difference.
Help		Click	Open online help for the current pane.

Drives

In the *Select Components* area of the pane, selectable Drives appear. See Figure 6-29 on page 635.

Figure 6-29 Physical Drives



Selecting the Drives causes a list of properties to appear in the *List of Slots* area of the pane. Table 6-22 shows the details.

Table 6-22 Drives Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Supplied	The slot name. The icon also shows the slot state. Refer to Table 4-40 on page 433.
Media Type		Supplied	A cartridge media type.
Current volser		Supplied	If the slot is occupied, a contained cartridge is shown. For the optical disk, two cartridges are shown, active side first.
Refresh		Click	Force refresh the cartridge list and apply changes in case of any difference.
Help		Click	Open online help for the current pane.

Partition

Partition is a segment of the physical library that contains a continuous range of slots of single class and type. The partitions cannot overlap, so if the user wants to create a partition that covers a part of already occupied range, he must remove an old partition and create two new partitions instead. Table 4-37 on page 432 shows the different partition classes.

The user can view, modify, and remove the existing partition. See Figure 6-30 to view a partition properties pane.

NOTE: Only administrator users can modify or remove the partition. For the user without administrative privileges, the operation buttons remain disabled.

Figure 6-30 Physical Partition

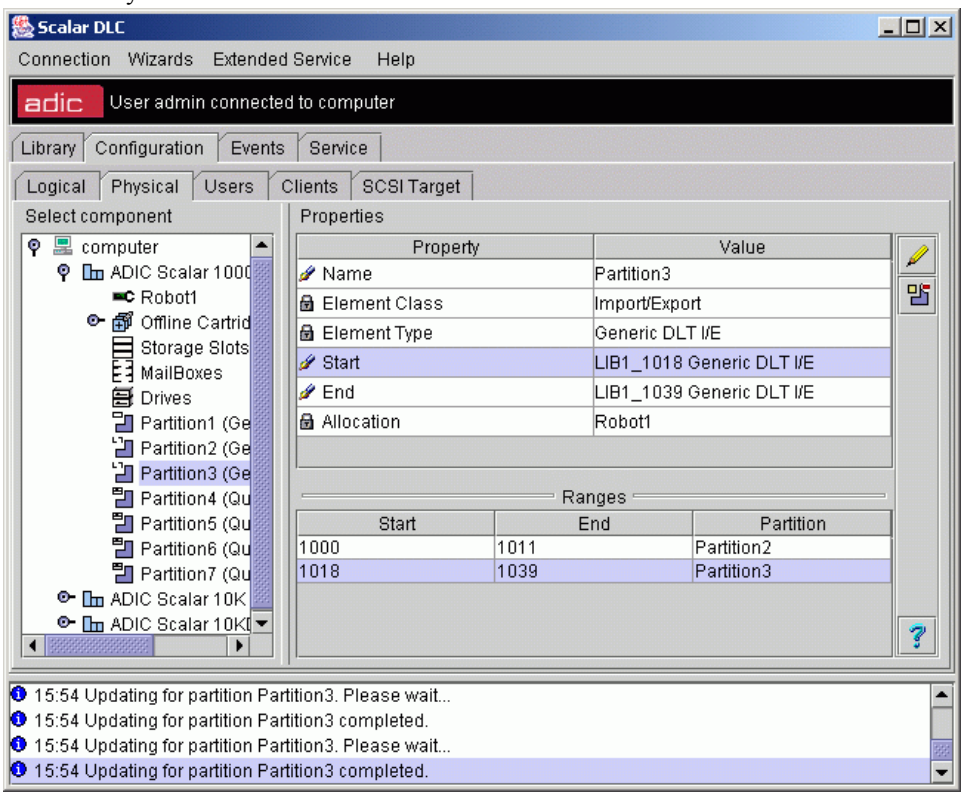


Table 6-23 on page 636 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-23 Physical Partition Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Partition name. Should be unique throughout all physical libraries.
Element Class		Supplied	Partition class (storage, i/e, drive). Refer to Table 4-37 on page 432.
Element Type		Supplied	Partition element type.
Start		Supplied	Start element of partition range.
End		Supplied	End element of partition range.
Allocation		Supplied	*Robot1* (*Robot2*) indicates the robotic device where the partition is located.
			Shared means the partition is shared between two robots.

Table 6-23 Physical Partition Properties and Buttons

Property/Button	Icon	Operation	Description
Ranges		Supplied	The element ranges of selected class and type inside the current physical library. The ranges already occupied with the partitions are shown in gray, and the partition name is indicated. The ranges that are free for the new partition are shown in black.
Update		Click	Save partition properties after edit.
Remove		Click	Remove the partition.
Help		Click	Open online help for the current pane.

Create Partition

Under the Library properties, the **Add new Partition** button appears. Clicking it opens a pop-up partition creation pane. See Figure 6-31.

NOTE: Only administrator users can create the partitions. For the user without administrative privileges, the create partition button is disabled.

Figure 6-31 Partition Creation

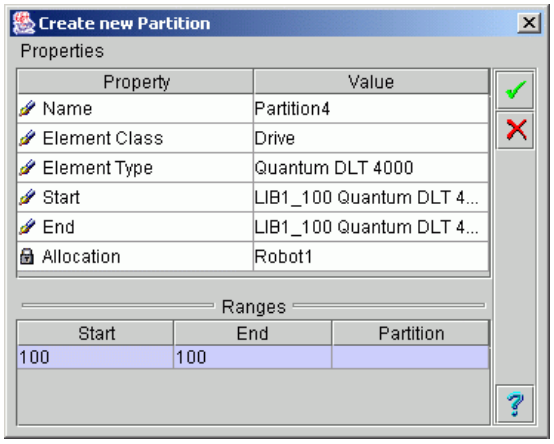


Table 6-24 on page 637 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-24 Partition Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Partition name. Should be unique throughout all physical libraries.
Element Class		Supplied	Partition class (storage, that is, drive). Refer to Table 4-37 on page 432.

Table 6-24 Partition Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Element Type		Supplied	Partition element type.
Start		Supplied	Start element of partition range.
End		Supplied	End element of partition range.
Allocation		Supplied	*Robot1* (*Robot2*) indicates the robotic device where the partition is located.
			Shared means the partition is shared between two robots.
Ranges		Supplied	The element ranges of selected class and type inside the current physical library. The ranges already occupied with the partitions are shown in gray, and the partition name is indicated. The ranges that are free for the new partition are shown in black.
Create		Click	Create partition.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

NOTE: Using the default partition name is recommended but not required.

Users Tab

User is the person who have the rights to log on the Scalar DLC Management GUI.

All users have access to the Users Tab. Users that are known to the Scalar DLC software are indicated by differentiated icons. Refer to Table 6-25 for an illustration of the icons.

Table 6-25 Users Icons

Name	Icon	Description
Logged user		A user is currently logged into the system
Not logged user		A user is not logged into the system.

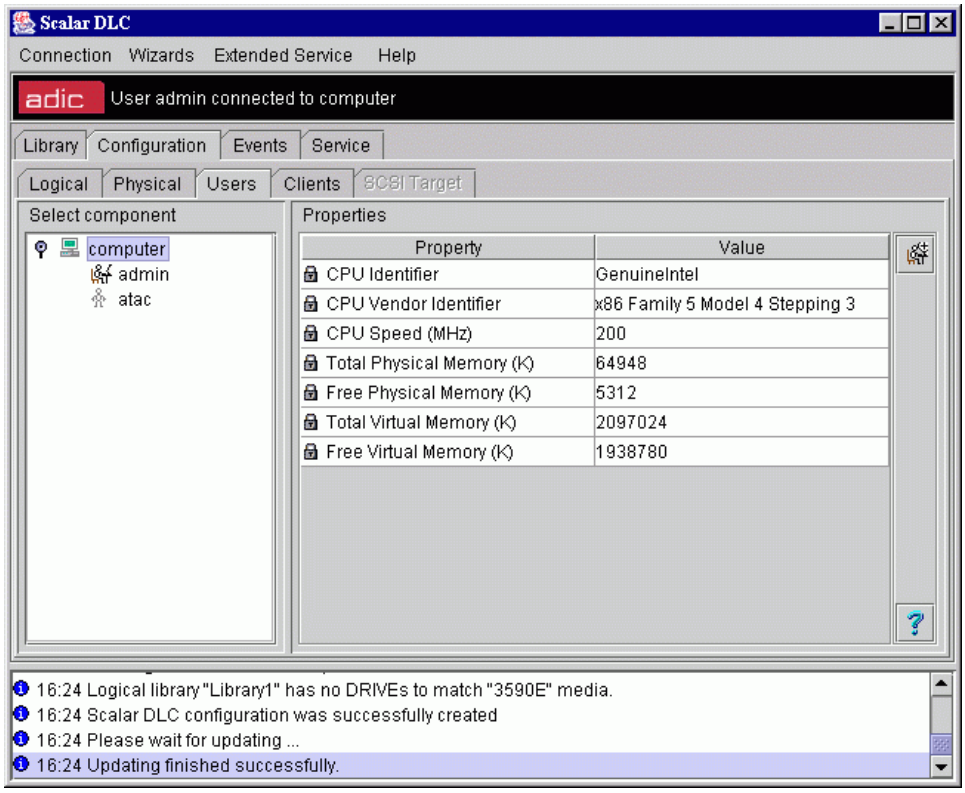
Depending on the access level the user may have additional rights to manage the Scalar DLC via the GUI and execute some operations the Scalar DLC supports. The user access level cannot be changed, however the administrator may grant user with some additional privileges that typical user does not have. Refer to Table 6-26 for explanation.

Table 6-26 User Privileges

Privilege	Description	Admin	User	CE
Change configuration	• Manage Logical library, Pools, Mailboxes, Cartridges, reserve slots • Scan SCSI bus; stop/start robotic controller; manage the partitions of Physical library • Manage Media rules • Manage Clients • Manage Users • Manage SCSI Targets • Manage command queue	Yes	No	No
Logical library manipulation	• Inventory • Stop • Start	Yes	Yes/ No	Yes/ No
Standard move commands	• Mount • Dismount • Import • Export • Drag&drop	Yes	Yes/ No	Yes/ No
Expert move commands	• Move	Yes	No/ Yes	Yes/ No
Rules manipulation	• Create rule • Remove rule • Update rule	Yes	No/ Yes	No
Firmware update	• Update firmware	Yes	No/ Yes	Yes/ No
Logs/Dump manipulation	• Save log/dump to file • Send log/dump via email • Force dump	Yes	No/ Yes	Yes/ No
Physical library diagnostic	• Execute diagnostic	Yes	No/ Yes	Yes/ No
Acknowledge notification	• Acknowledge the notification	Yes	Yes/ No	No/ Yes
Ticket manipulation	• Update problem report • Close problem report • Remove problem report	No/ Yes	No	Yes

The starting Users pane shows the properties of Scalar DLC hardware. See Figure 6-32 on page 640.

Figure 6-32 User Controller



Selecting the Controller causes the Scalar DLC host hardware property list to appear. No edit or change is supported. Refer to Table 6-27.

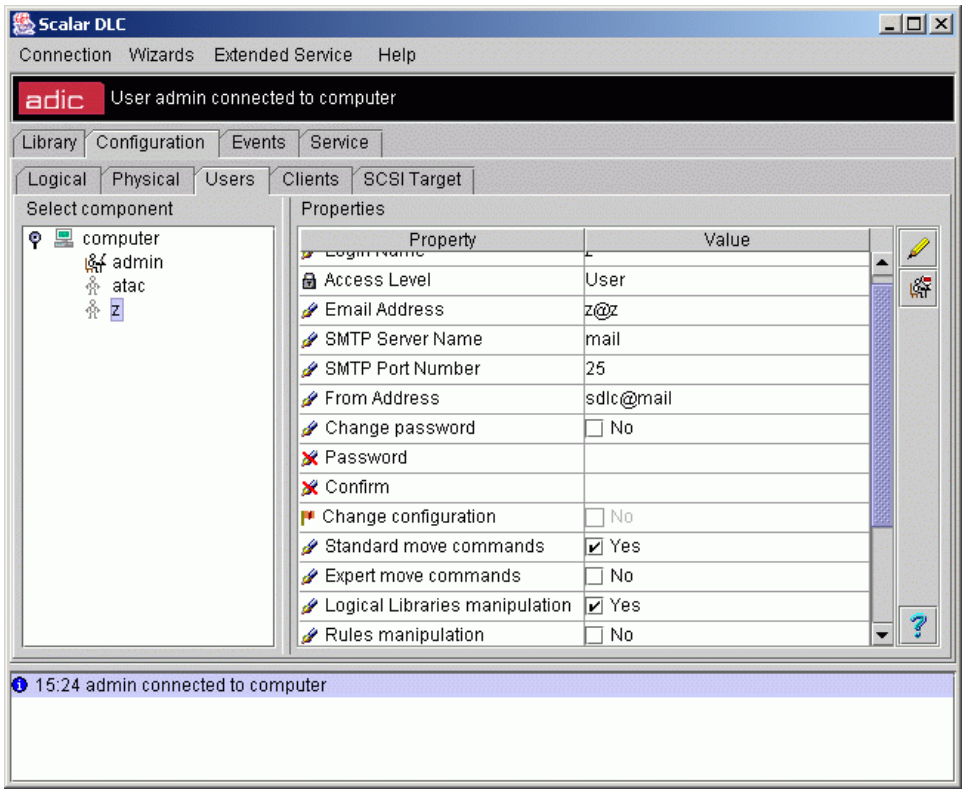
Table 6-27 User Controller Properties and Buttons

Property/Button	Icon	Operation	Description
CPU Identifier		Supplied	The CPU identifier
CPU Vendor ID		Supplied	The CPU vendor identifier
CPU Speed		Supplied	The CPU speed
Total Physical Memory		Supplied	The total physical memory size
Free Physical Memory		Supplied	The free physical memory size
Total Virtual Memory		Supplied	The total virtual memory size
Free Virtual Memory		Supplied	The free virtual memory size
Add new User		Click	Pop-up user creation window appears. Refer to *Create User* on page 642.
Help		Click	Open online help for the current pane.

User

The *Select Component* area of the pane indicates a list of users. When the user is selected from the list, the user is highlighted. See Figure 6-33.

Figure 6-33 User



Selecting the User branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-28.

Table 6-28 User Properties and Buttons

Property/Button	Icon	Operation	Description
Logon Name		Enter	User logon name (changeable).
Access Level		Supplied	User access level (Admin - GUI administrator, CE - customer engineer, User - user with the manual-assigned access properties).
Email Address		Enter	User's email to send notifications.
SMTP Server Name		Enter	SMTP server name.
SMTP Port Number		Enter	SMTP port number.
From Address		Enter	Email address appears in the email field *from.*

Table 6-28 User Properties and Buttons

Property/Button	Icon	Operation	Description
Change password		Check	If the field is checked, the *password* and *confirm* fields becomes editable. Otherwise, user's password cannot be changed. The user cannot change his own password.
Password		Supplied	User's password must be entered here.
Confirm		Supplied	User's password must be confirmed here.
User privileges list		Check	The list of user privileges as described in Table 6-26 on page 639.
		Supplied	
Update		Click	Save user properties after edit.
Remove		Click	Remove the user. The user cannot remove himself.
Help		Click	Open online help for the current pane.

NOTE: Even though the email server parameters are configured during the installation, the value can be edited.

NOTE: User access level is not changeable after the creation. The default CE "atac" cannot be removed. The user also cannot remove himself.

Create User

Under the Controller properties, the **Add new User** button appears. Clicking it opens a pop-up user creation pane. See Figure 6-34 on page 643.

NOTE: Only administrator users can create additional users. For the user without administrative privileges, the create user button is disabled.

Figure 6-34 User Creation

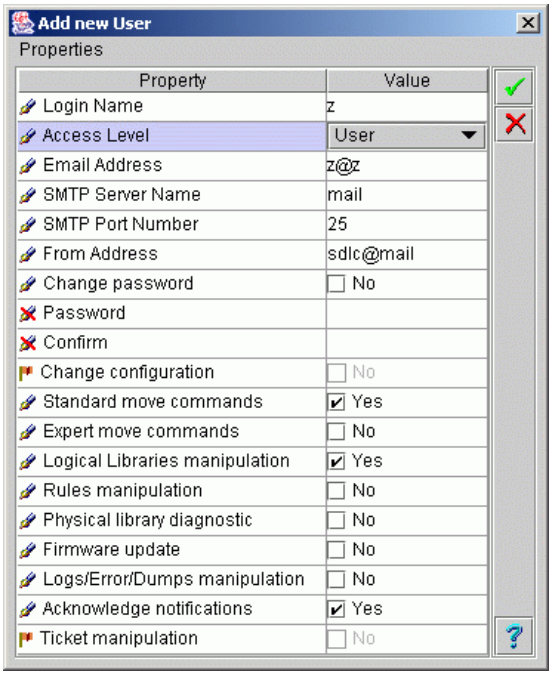


Table 6-29 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-29 User Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Logon Name		Enter	User logon name.
Access Level		Select	User access level (Admin - GUI administrator, CE - customer engineer, User - user with the manual-assigned access properties).
Email Address		Enter	User's email to send notifications.
SMTP Server Name		Enter	SMTP server name.
SMTP Port Number		Enter	SMTP port number.
From Address		Enter	Email address appears in the email field *from.*
Change password		Check	If the field is checked, the *password* and *confirm* fields becomes editable. Otherwise, user's password cannot be changed.
Password		Supplied	User's password must be entered here.
Confirm		Supplied	User's password must be confirmed here.
User privileges list		Check	The list of user privileges as described in Table 6-26 on page 639.
		Supplied	

Table 6-29 User Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Create		Click	Create user.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

Clients Tab

Clients connect to the Scalar DLC software through various interfaces. This release of Scalar DLC software supports application-based DAS, ROBAR, and SCSI clients. A host software application client connects through the DAS or ROBAR interface, or SCSI.

The selected client area of the pane indicates a list of clients. When a client is selected from the list, the client is highlighted.

Table 6-30 shows the icons that represents the Clients tab objects.

Table 6-30 Client Icons

Name	Icon	Description
Client interface		A client interface (DAS, SCSI, and so forth).
Client (online)		This icon indicates a client that is currently online.
Client (offline)		This icon indicates a client that is currently offline.

The three compatible client interfaces are:

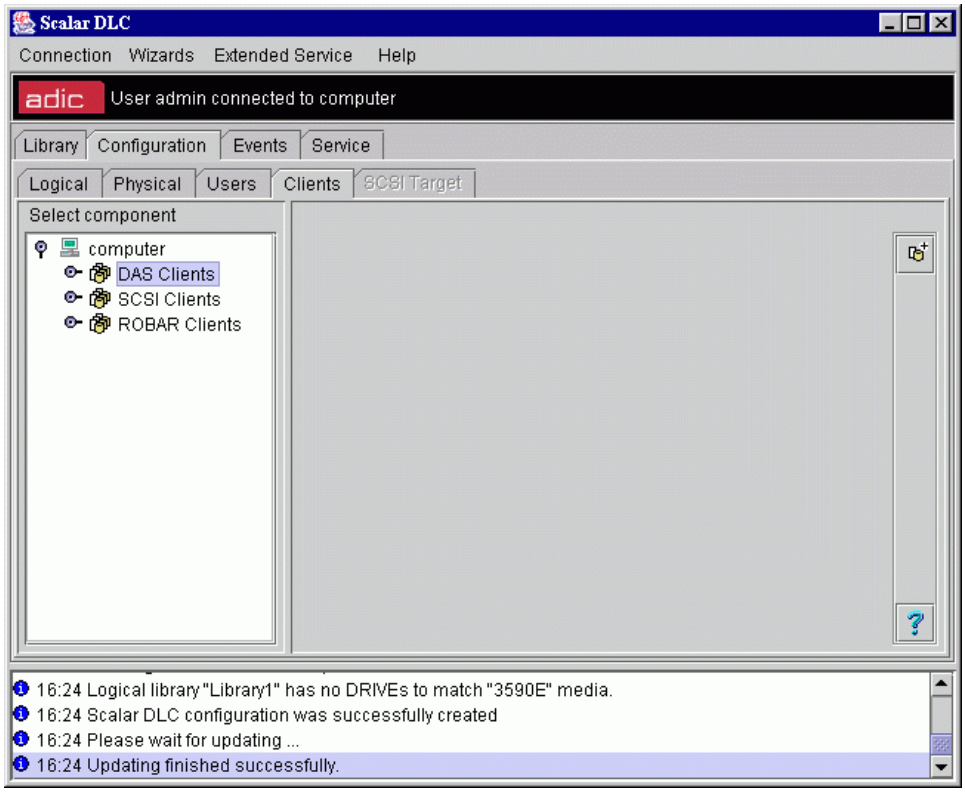
- DAS
- SCSI
- ROBAR

NOTE: DAS and SCSI clients are considered online when a client-sent command is being executed. RPBAR client is considered online when a TCP/IP connection with the client host is established.

DAS

The DAS Interface needs no pre-configuration. See Figure 6-35 on page 645.

Figure 6-35 DAS Interface Pane



Some operational buttons are present in the DAS interface pane on the right. Refer to Table 6-31.

Table 6-31 DAS Interface Operational Buttons

Button	Icon	Operation	Description
Add new Client		Click	Pop-up client creation window appears. Refer to *Create DAS Client* on page 652.
Help		Click	Open online help for the current pane.

DAS Client

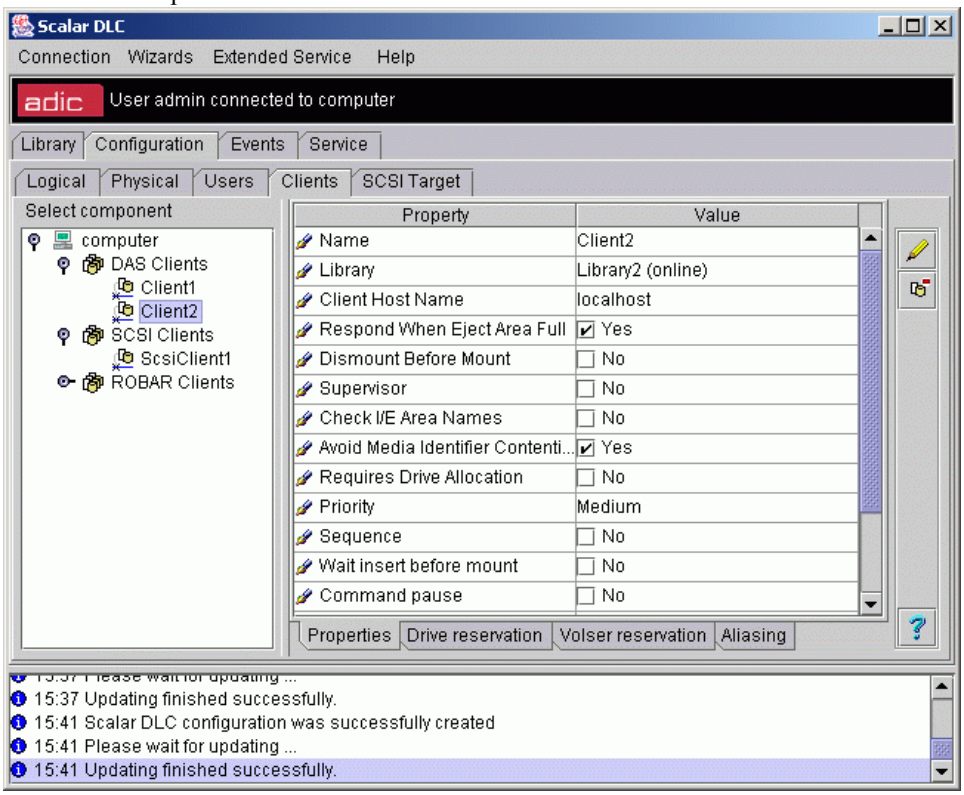
There are four sets of properties associated with the DAS Client. The properties are indicated in the following list:

- Properties
- Drive reservation
- Volser reservation
- Aliasing

NOTE: Only administrator users can modify or remove clients. For the user without administrative privileges, the operation buttons are disabled.

Figure 6-36 shows the DAS Client Properties.

Figure 6-36 DAS Client Properties



Selecting the Client branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-32.

Table 6-32 DAS Client Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	The client name. It must not duplicate an existing client name.
Library		Select	The client will operate with the selected logical library.
Client Host Name		Enter	The host name of the computer running the client software (DNS name for the local or remote host, *localhost* for the local host, or *any* for any host)
Respond When Eject Area Full		Check	Scalar DLC software returns an error if a client tries to eject a cartridge into an eject area with no free slots.
Dismount Before Mount		Don't check	Scalar DLC software does not execute a dismount when a client tries to mount a cartridge into an occupied drive.
Supervisor		Don't check	A client without supervisor privileges cannot use drives and cartridges that are allocated to another client.

Table 6-32 DAS Client Properties and Buttons

Property/Button	Icon	Operation	Description
Check I/E Area Names		Don't check	A client need not work only with DAS standard I/E (mailbox) area names.
Avoid Media Identifier Contention		Check	Cartridge media identifiers are shown only as a result of executing a cartridge information operation.
Requires Drive Allocation		Don't check	A client does not need to allocate the drive slot before executing a mount or dismount.
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.
Sequence		Don't check	A commands sent by client without sequence option will be executed as they're ready. The system will not wait until the previous client command is finished.
Wait insert before mount		Don't check	A client without wait insert option cannot wait until the ejected cartridge will be inserted for the mount could be executed.
Command pause		Don't check	A client without command pause privilege is not authorized to execute "**pausedas**" DAS command.
Drive pause		Don't check	A client without drive pause privilege is not authorized to execute "**pausedrive**" DAS command.
Number of assigned storage		Supplied	The number of storage slots assigned to the client.
Number of assigned I/E slots		Supplied	The number of mailbox (I/E) slots assigned to the client.
Number of assigned drives		Supplied	The number of drives assigned to the client.
Update		Click	Save client properties after edit.
Remove		Click	Remove the client.
Help		Click	Open online help for the current pane.

NOTE: If a firewall exists between the client host and the Scalar DLC, the DAS/ACI firewall PC should be specified under the client host name. Refer to *Install and Upgrade Manual*, *Install DAS Client* section.

See Figure 6-37 for the Drive Reservation pane. It shows the list of all drives in the library, defines what drives are reserved by the clients, and allows to change the reservation status.

Figure 6-37 DAS Client Drive Reservation

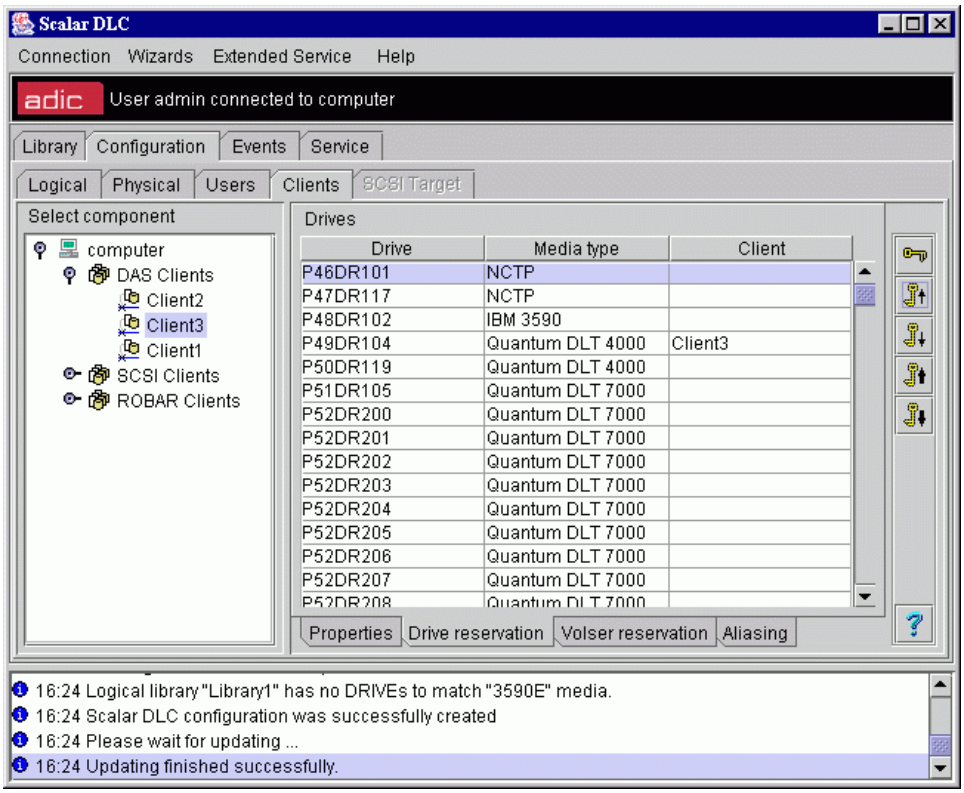


Table 6-33 shows the details.

Table 6-33 DAS Client Drive Reservation

Property/Button	Icon	Operation	Description
Drive		Select	The drive name.
Media Type		Select	The drive media type.
Client		Select	The drive owner, if any,
Unreserve All		Click	De-allocates all slots allocated for the client (storage, I/E, and drives).
Up		Click	Allocates the selected drive for the client, the drive should be empty. Has the same effect as the DAS command “**allocd drive UP**”. Refer to *DAS 3.11 Administration Guide*.
Down		Click	De-allocates the selected drive for the client, the drive should be empty. Has the same effect as the DAS command “**allocd drive DOWN**”. Refer to *DAS 3.11 Administration Guide*.

Table 6-33 DAS Client Drive Reservation

Property/Button	Icon	Operation	Description
Force Up		Click	Allocates the selected drive for the client. Has the same effect as the DAS command "**allocd drive FUP**". Refer to *DAS 3.11 Administration Guide*.
Force Down		Click	De-allocates the selected drive for the client. Has the same effect as the DAS command "**allocd drive FDOWN**". Refer to *DAS 3.11 Administration Guide*.
Help		Click	Open online help for the current pane.

The Volser Reservation pane that describes the volser ranges reservation list for the library is shown on Figure 6-38.

Figure 6-38 DAS Client Volser Reservation

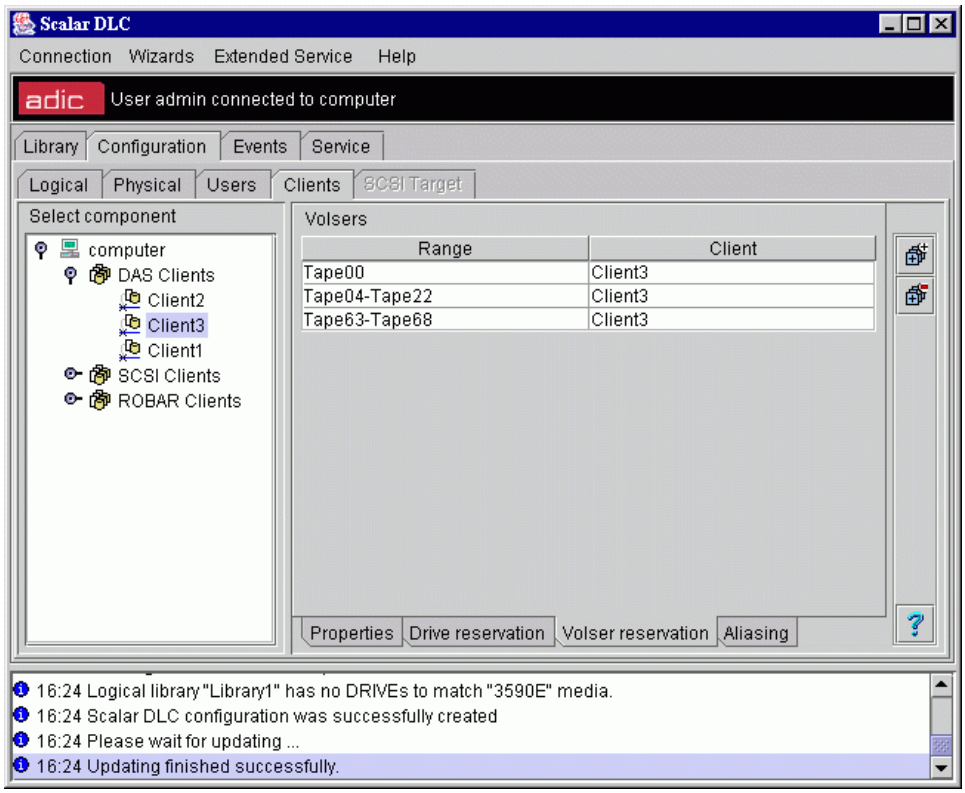


Table 6-34 shows the details.

Table 6-34 DAS Client Volser Reservation

Property/Button	Icon	Operation	Description
Range		Select	The volser range. It can be either a single volser or a range separated by a hyphen.
Client		Select	An owner of the volser range.

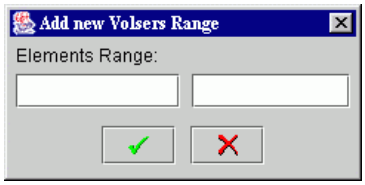
Table 6-34 DAS Client Volser Reservation

Property/Button	Icon	Operation	Description
Add		Click	Pop-up volser range reservation window appears. See Figure 6-39.
Remove		Click	De-allocates the selected volser range for the current client.
Help		Click	Open online help for the current pane.

The volsers reserved for the client may represent the cartridges that are currently not in the library. However, if the cartridge appears in the library, it is marked automatically as ‘allocated’/reserved and can be accessed and managed only by its owner. The ownership can be changed either by the client himself or by the Scalar DLC Management GUI administrator.

NOTE: The client cannot reserve half of an optical disk, only the whole disk. Even if the volser reservation table contains only one volser for the one side, the other is reserved for the client. This is shown under the Cartridge properties.

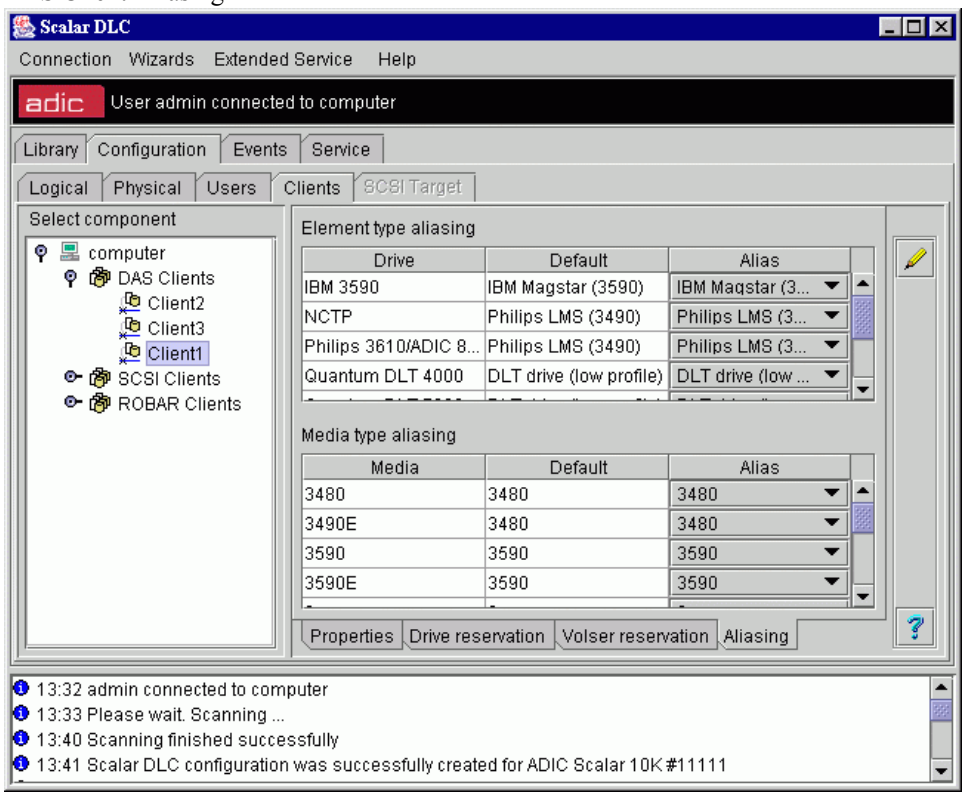
Figure 6-39 Reserve Volser Range



Enter the start and end volser in the range. Press **OK** to reserve them for the current client (it has the same effect as the DAS command **“allocv volserrange UP”**, refer to *DAS 3.11 Administration Guide*). Press **Cancel** to exit without reserving volsers.

Figure 6-40 on page 651 shows the DAS Client Aliasing. This feature is needed for certain DAS-interface based applications that use the media type and element type that differs from default Scalar based types.

Figure 6-40 DAS Client Aliasing



Refer to Table 6-35 for the details.

Table 6-35 DAS Client Aliasing

Property/Button	Icon	Operation	Description
Element type aliasing		Supplied	Assigns the alias of existing drive type to the drive that is accessible to the client.
Drive		Supplied	The drive type in the library accessible by the client.
Default		Supplied	The drive type as in the Scalar DLC-DAS specification. Refer to *Drive Types* on page A30.
Alias		Select	The drive type as in the client specification.
Media type aliasing		Supplied	Assigns the alias of existing media type to the media accessible by the client.
Media		Supplied	The media type in the library accessible by the client.
Default		Supplied	The media type as in the Scalar DLC-DAS specification. Refer to *Media Types* on page A28.
Alias		Select	The media type as in the client specification.
Update		Click	Save client properties after edit.

Table 6-35 DAS Client Aliasing

Property/Button	Icon	Operation	Description
Help		Click	Open online help for the current pane.

NOTE: DAS Client aliasing takes effect only on the data output in DAS interface, and only on the client who has executed this aliasing.

Create DAS Client

NOTE: Only administrator users can create additional clients. For the user without administrative privileges, the create client button is disabled.

It is recommended that the default name be accepted, but it is not required. Be sure that the name specified manually does not duplicate an existing client name.

Under the DAS Interface properties, the **Add new Client** button appears. Clicking it opens a pop-up client creation pane. See Figure 6-41.

Figure 6-41 DAS Client Creation

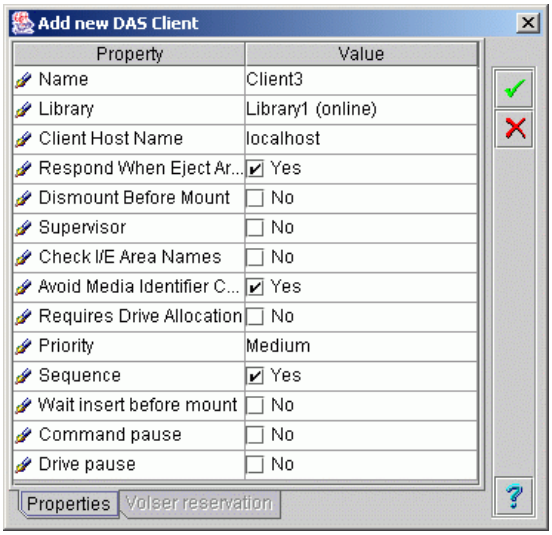


Table 6-36 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-36 DAS Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	The client name. It must not duplicate an existing client name.
Library		Select	The client will operate with the selected logical library.

Table 6-36 DAS Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Client Host Name		Enter	The host name of the computer running the client software (DNS name for the local or remote host, *localhost* for the local host, or *any* for any host)
Respond When Eject Area Full		Check	Scalar DLC software returns an error if a client tries to eject a cartridge into an eject area with no free slots.
Dismount Before Mount		Don't check	Scalar DLC software does not execute a dismount when a client tries to mount a cartridge into an occupied drive.
Supervisor		Don't check	A client without supervisor privileges cannot use drives and cartridges that are allocated to another client.
Check I/E Area Names		Don't check	A client need not work only with DAS standard I/E (mailbox) area names.
Avoid Media Identifier Contention		Check	Cartridge media identifiers are shown only as a result of executing a cartridge information operation.
Requires Drive Allocation		Don't check	A client does not need to allocate the drive slot before executing a mount or dismount.
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.
Sequence		Don't check	A commands sent by client without sequence option will be executed as they are ready. The system will not wait until the previous client command is finished.
Wait insert before mount		Don't check	A client without wait insert option cannot wait until the ejected cartridge will be inserted for the mount could be executed.
Command pause		Don't check	A client without command pause privilege is not authorized to execute "**pausedas**" DAS command.
Drive pause		Don't check	A client without drive pause privilege is not authorized to execute "**pausedrive**" DAS command.
Create		Click	Create client.
Cancel		Click	Cancel creation.

Table 6-36 DAS Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Help		Click	Open online help for the current pane.

NOTE: If a firewall exists between the client host and the Scalar DLC, under the client host name, specify the DAS/ACI firewall PC. Refer to *Install and Upgrade Manual*, *Install DAS Client* section.

NOTE: The new DAS Client is functional immediately after creation. No supervisor restart is required.

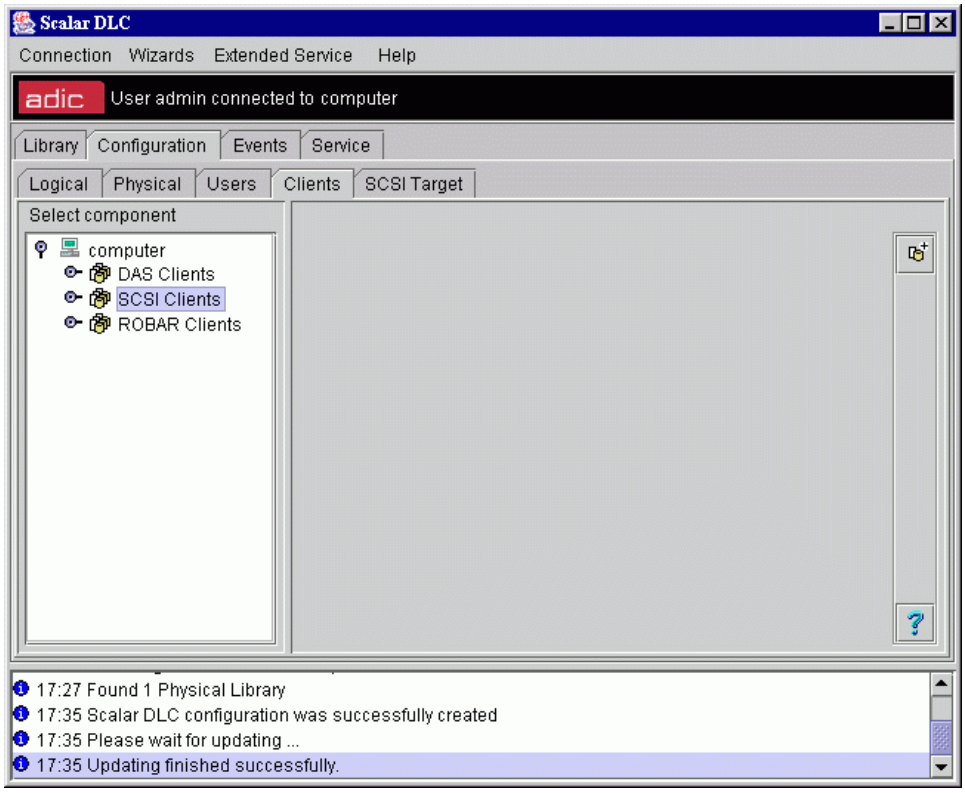
SCSI

NOTE: The Scalar DLC SCSI Client features are available only for the PC with additional SCSI card hardware. Without this card, no SCSI Client can be configured and the SCSI connection cannot be established.

All the operations with the SCSI Clients are enabled only after the configuration of SCSI Target software. That can be done via the SCSI Target tab. Refer to *SCSI Target Tab* on page 666.

Figure 6-42 on page 655 shows the SCSI pane.

Figure 6-42 SCSI Plane



Some operational buttons are present on the right. Refer to Table 6-37.

Table 6-37 SCSI Operational Buttons

Button	Icon	Operation	Description
Add new Client		Click	Pop-up client creation window appears. Refer to *Create SCSI Client* on page 660.
Help		Click	Open online help for the current pane.

SCSI Client

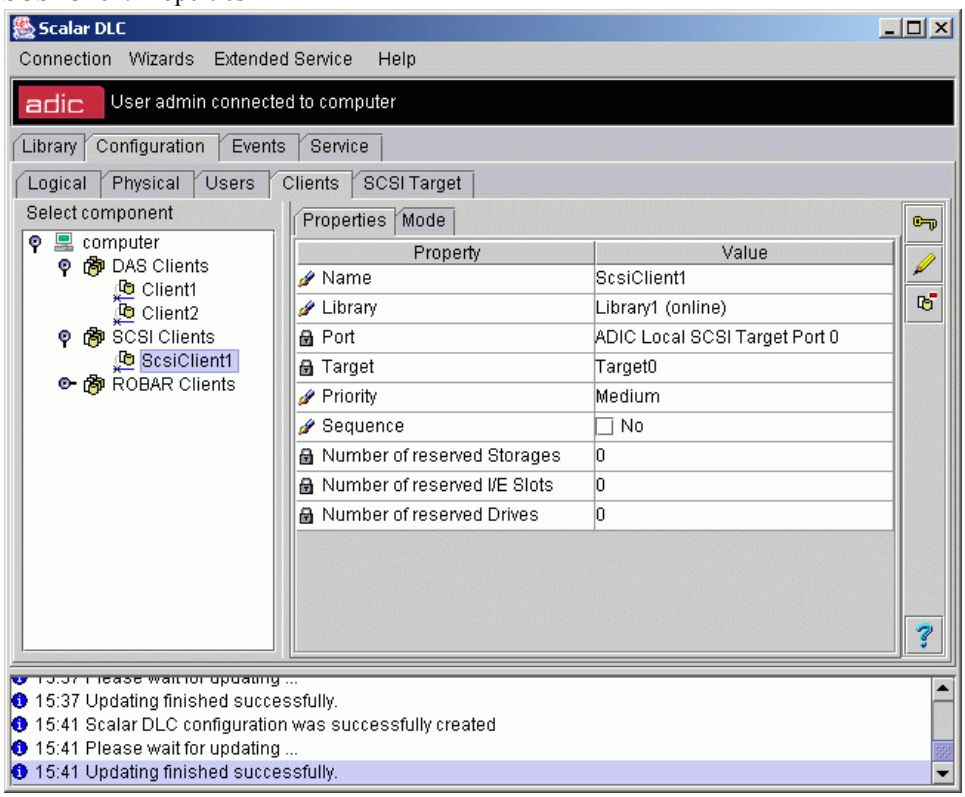
There are two sets of properties associated with the SCSI Client. The properties are indicated in the following list:

- Properties
- Mode

NOTE: Only administrator users can modify or remove clients. For the user without administrative privileges, the operation buttons are disabled.

Figure 6-43 on page 656 shows the SCSI Client Properties pane indicates the main client properties.

Figure 6-43 SCSI Client Properties



Selecting the Client branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-38.

Table 6-38 SCSI Client Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	The client name.
Library		Select	The client operates with the selected logical library.
Port		Supplied	The client is connected to the SCSI bus via the selected port.
Target		Supplied	The client is assigned to the selected target.
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.

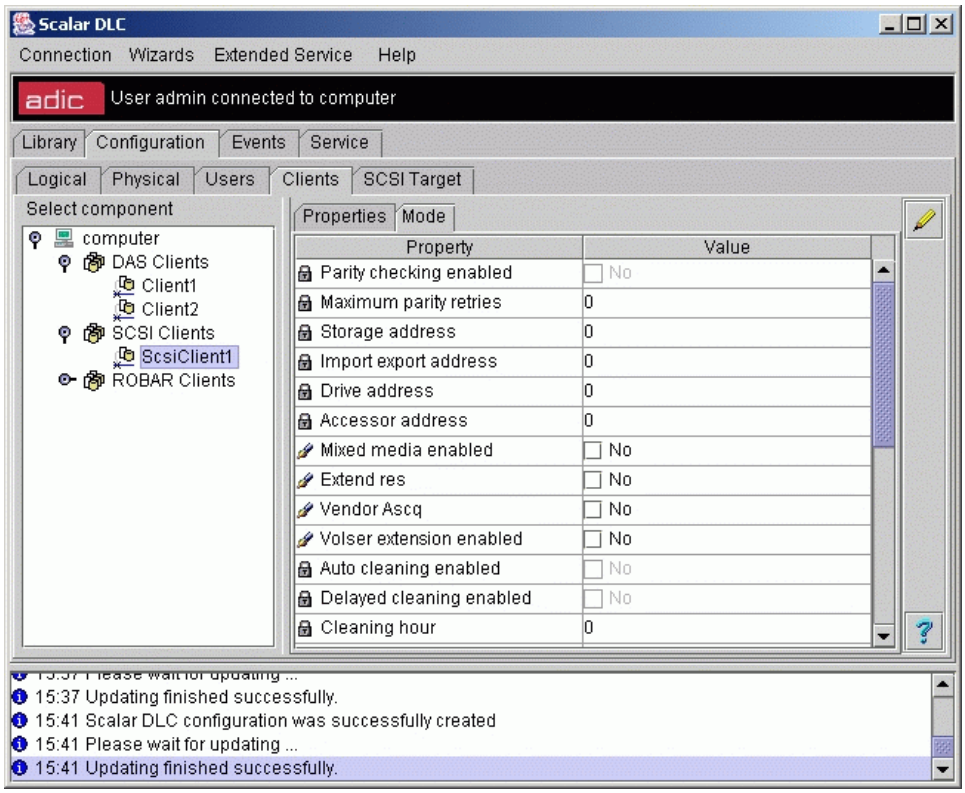
Table 6-38 SCSI Client Properties and Buttons

Property/Button	Icon	Operation	Description
Sequence		Don't check	A commands sent by client without sequence option will be executed as they're ready. The system will not wait until the previous client command is finished.
Number of reserved storage		Supplied	The number of storage slots assigned to the client.
Number of reserved I/E slots		Supplied	The number of mailbox (I/E) slots assigned to the client.
Number of reserved drives		Supplied	The number of drives assigned to the client.
Unreserve All		Click	De-allocates all slots allocated for the client (storage, I/E, and drives).
Update		Click	Save client properties after edit.
Remove		Click	Remove the client.
Help		Click	Open online help for the current pane.

NOTE: Because of interface properties, only one SCSI Client can be assigned to the one SCSI Target.

Figure 6-44 on page 658 shows the SCSI Client Mode pane indicates the client mode parameters.

Figure 6-44 SCSI Client Mode



Refer to Table 6-39.

NOTE: The details about SCSI Client Mode Parameters can be seen in the *Scalar 10K Operator Guide* and the *Scalar 1000 Operator Guide (Mode Sense (1Ah) Response*).

Table 6-39 SCSI Client Mode Parameters and Buttons

Property/Button	Icon	Operation	Description
Parity checking enabled		Supplied	Whether the parity checking enabled
Maximum parity retries		Supplied	The maximum number of times to retry the message out, command out, or data out phase after a parity error.
Storage address		Supplied	First storage address (0=default).
Import/export address		Supplied	First i/e element address (0=default).
Drive address		Supplied	First drive address (0=default).
Accessor address		Supplied	Accessor address (0=default).
Mixed media enabled		Don't check	Whether the library operates in mixed media mode.

Table 6-39 SCSI Client Mode Parameters and Buttons

Property/Button	Icon	Operation	Description
Extended res		Don't check	Whether the Read Element Status and Request Volume Element Address commands return extended element status information.
Vendor Ascq		Don't check	The ASC/ASCQ returned if a Move Media command is issued to an incompatible location.
Volser extension enabled		Don't check	The Volser extension identification for Read Element Status and Request Volume Element Address commands.
Auto cleaning enabled		Supplied	Whether the auto-cleaning is enabled.
Delayed cleaning enabled		Supplied	Whether the delayed cleaning is enabled.
Cleaning hour		Supplied	Cleaning schedule, hour.
Cleaning minute		Supplied	Cleaning schedule, minute.
Auto teach enabled		Supplied	Whether the auto-teach is enabled.
Auto inventory enabled		Supplied	Whether the auto-inventory is enabled.
Operation mode		Supplied	Operation mode parameter.
LCD security valid		Supplied	Whether the LCD security is valid.
LCD security enabled		Supplied	Whether the LCD security is enabled.
LCD write line1		Supplied	LCD write line1.
LCD write line2		Supplied	LCD write line2
LCD write line3		Supplied	LCD write line3
LCD write line4		Supplied	LCD write line4
LCD display line1		Supplied	LCD display line1
LCD display line2		Supplied	LCD display line2
LCD display line3		Supplied	LCD display line3
LCD display line4		Supplied	LCD display line4
Update		Click	Save client properties after edit.
Help		Click	Open online help for the current pane.

Create SCSI Client

NOTE: Only administrator users can create clients. For the user without administrative privileges, the create client button is disabled.

Under the SCSI properties, the **Add new Client** button appears. Clicking it opens a pop-up client creation pane. See Figure 6-45 for the Properties pane.

Figure 6-45 SCSI Client Creation Properties

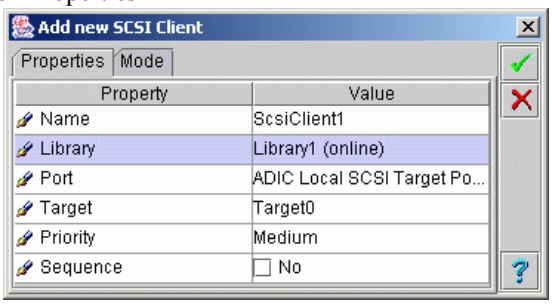


Table 6-40 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-40 SCSI Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	The client name.
Library		Select	The client operates with the selected logical library.
Port		Select	The client is connected to the SCSI bus via the selected port.
Target		Select	The client is assigned to the selected target.
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.
Sequence		Don't check	A commands sent by client without sequence option will be executed as they're ready. The system will not wait until the previous client command is finished.
Create		Click	Create client.
Cancel		Click	Cancel creation.

Table 6-40 SCSI Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Help		Click	Open online help for the current pane.

NOTE: The new SCSI Client is functional immediately after creation. No supervisor restart is required.

ROBAR

Figure 6-46 shows the ROBAR Interface pane.

Figure 6-46 ROBAR Interface Pane

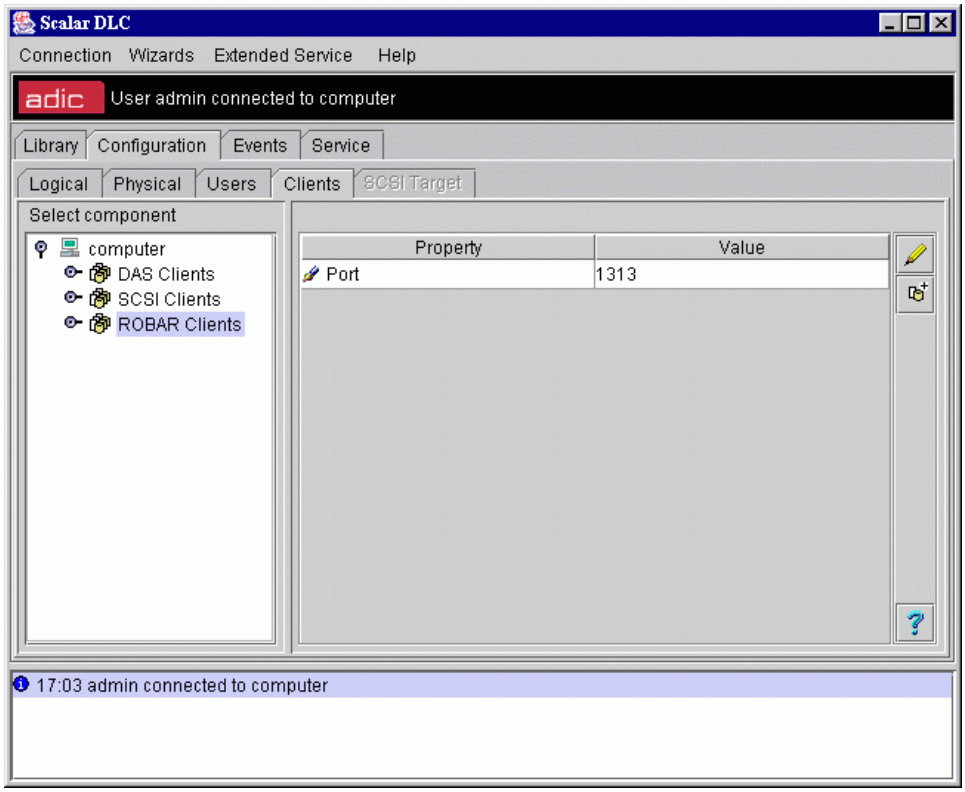


Table 6-41 indicates the properties displayed in the *Properties* area of the pane.

Table 6-41 ROBAR Interface Properties and Buttons

Property/Button	Icon	Operation	Description
Port		Enter	Through this port the ROBAR client TCP/IP connection(s) will be established. NOTE: The default value of **0** is not valid.
Update		Click	Save port properties after edit.

Table 6-41 ROBAR Interface Properties and Buttons

Property/Button	Icon	Operation	Description
Add new Client		Click	Pop-up client creation window appears. Refer to *Create ROBAR Client* on page 664.
Help		Click	Open online help for the current pane.

CAUTION: **The ROBAR interface must be valid before the ROBAR client can be created either manually or by configuration wizard (refer to *Create Configuration* on page 42).**

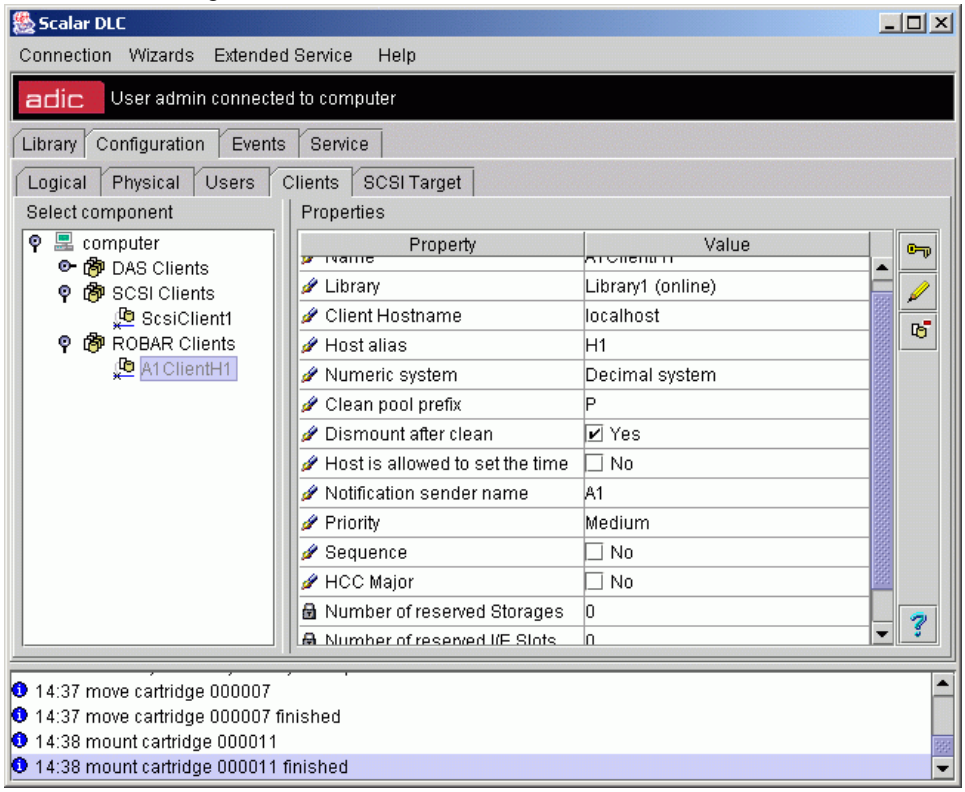
NOTE: Changing the port number applies to all ROBAR clients. The supervisor restart is required.

ROBAR Client

NOTE: Only administrator users can modify or remove clients. For the user without administrative privileges, the operation buttons are disabled.

Figure 6-47 on page 662 shows the ROBAR Client Properties.

Figure 6-47 ROBAR Client Properties



Selecting the Client branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-42.

Table 6-42 ROBAR Client Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	Client name. It must not duplicate an existing client name.
Library		Select	The client works with the selected logical library.
Client Host Name		Enter	The host name of the computer running the client software (DNS name for the local or remote host, *localhost* for the local host, or *any* for any host)
Host alias		Enter	Host alias (ROBAR format).
Numeric system		Select	Numeric system format (decimal/ hexadecimal).
Clean pool prefix		Enter	Clean pool prefix used by ROBAR client.
Dismount after clean		Check	Indicates whether the cleaning cartridge should be dismounted after the cleaning ends.
Host is allowed to set the time		Don't check	A client host should not be allowed to set the time.
Notification sender name		Enter	Notification sender (ROBAR format).
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.
Sequence		Don't check	Commands sent by client without sequence option will be executed as they are ready. The system will not wait until the previous client command is finished.
HCC Major		Don't check	Commands send by client without major host parameter cannot be addressed/ replied via the major host.
Number of assigned storage		Supplied	The number of storage slots assigned to the client.
Number of assigned I/E slots		Supplied	The number of mailbox (I/E) slots assigned to the client.

Table 6-42 ROBAR Client Properties and Buttons

Property/Button	Icon	Operation	Description
Number of assigned drives		Supplied	The number of drives assigned to the client.
Unreserve All		Click	De-allocates all slots allocated for the client (storage, I/E, and drives).
Update		Click	Save client properties after edit.
Remove		Click	Remove the client.
Help		Click	Open online help for the current pane.

Create ROBAR Client

NOTE: Only the administrator users can create the clients. For the user without administrative privileges, the create client button is disabled.

It is recommended that the default name be accepted, but it is not required. Be sure that the name specified manually does not duplicate an existing client name.

Under the ROBAR Interface properties, the **Add new Client** button appears. Clicking it opens a pop-up client creation pane. See Figure 6-48 on page 664.

Figure 6-48 ROBAR Client Creation

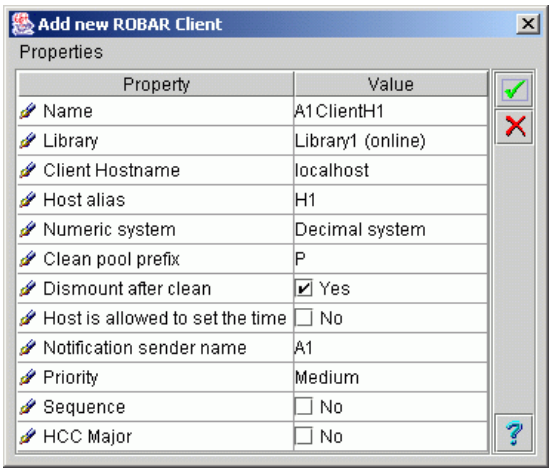


Table 6-43 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-43 ROBAR Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Name		Enter	The client name. It must not duplicate an existing client name.
Library		Select	The client works with the selected logical library.

Table 6-43 ROBAR Client Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Client Host Name		Enter	The host name of the computer running the client software (DNS name for the local or remote host, *localhost* for the local host, or *any* for any host).
Host alias		Enter	Host alias (ROBAR format).
Numeric system		Select	Numeric system format (decimal/ hexadecimal).
Clean pool prefix		Enter	Clean pool prefix used by ROBAR client.
Dismount after clean		Check	Indicates whether the cleaning cartridge should be dismounted after the cleaning ends.
Host is allowed to set the time		Don't check	A client host should not be allowed to set the time.
Notification sender name		Enter	Notification sender (ROBAR format).
Priority		Select	*Low* means the client commands have the lowest priority in a queue. Refer to *Queue Tab* on page 71.
			Medium means the client commands have the standard priority in a queue. Refer to *Queue Tab* on page 71.
			High means the client commands have the highest priority in a queue. Refer to *Queue Tab* on page 71.
Sequence		Don't check	Commands sent by client without sequence option will be executed as they're ready. The system will not wait until the previous client command is finished.
HCC Major		Don't check	Commands send by client without major host parameter cannot be addressed/ replied via the major host.
Create		Click	Create client.
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

NOTE: The new ROBAR Client is functional immediately after creation. No supervisor restart is required.

SCSI Target Tab

NOTE: This tab is accessible only if the Scalar DLC SCSI Client component is installed.

The SCSI Target tab is designed for the configuration of the Target part of the Small Computer System Interface (SCSI) interface.

The SCSI Target is an intermediary between the logical library (configured by the Scalar DLC) and the SCSI. This intermediary needs a configuration, too; and it is executed into two steps. First, the SCSI target should be configured. Second, the Scalar DLC SCSI Client(s) must be created and assigned to the appropriate logical libraries. The fist step is executed here. The second step is executed via the Clients tab. Refer to *SCSI Client* on page 655.

The SCSI client (user or software application) connects to the Scalar DLC via Target object that is shown to it as a part of the SCSI bus. One target may contain one client (SCSI Client). All initiators of the SCSI bus may use the target configured for it. The physical connection is established via the host bus adapter (this hardware is called SCSI Adapter, the model of adapter does not matter if it is supported by the Scalar DLC software). Table 2-1 on page 24 describes the target adapters the Scalar DLC software currently supports.

The host bus adapter sends and receives commands via the channels called SCSI Ports. Depending on the command stream direction the ports are operating in Initiator or Target mode (they are called Initiator ports or Target ports). The Scalar DLC works with the Target ports only, the initiator mode is not allowed for the port configured as Target. The configuration of the Target mode for the SCSI Ports is executed via the SCSI Target Port Tool (refer to *SCSI Target Port Utility* on page A18).

The Targets are to be created manually. After the target is created, a SCSI client can be added as an intermediary between the logical library and the target object that represents an initiator of the SCSI bus (it can be either a user or a software application).

Table 6-44 shows the icons that represents the SCSI Target tab objects.

Table 6-44 SCSI Target Icons

Name	Icon	Text Color	Description
Enabled port		Black	Indicates a SCSI Port (enabled). The port is functional, and the connection with the initiators can be established.
Disabled port		Gray	Indicates a SCSI Port (disabled). The port will be functional after enabling, but the connection with the initiators cannot be established. The user cannot add new targets but may operate with the existing targets and remove them.
Absent port		Light-gray	Indicates a SCSI Port (not present). The port is not functional. The user cannot add new targets but may operate with the existing targets and remove them.

Table 6-44 SCSI Target Icons

Name	Icon	Text Color	Description
Active target		Black	Indicates a SCSI Target (active). There is a client configured for this target. The SCSI bus initiators may now work with the target.
Not active target		Gray	Indicates a SCSI Target (not active). The target is ready to accept a SCSI client. The SCSI bus initiators may not work with the target until it will be *active*.

Port

NOTE: The SCSI ports cannot be configured via Scalar DLC Management GUI because they are built-in external system objects. The Scalar DLC software may only use them if they are usable.

The operation of enable/disable the Port is executed via the SCSI Target Port Tool. Refer to *SCSI Target Port Utility* on page A18.

In the *Select Components* area of the pane, selectable Ports appear. Clicking the expand/collapse button will cause an element expansion. See Figure 6-49 on page 667 and Figure 6-50 on page 668.

Figure 6-49 Port: SCSI

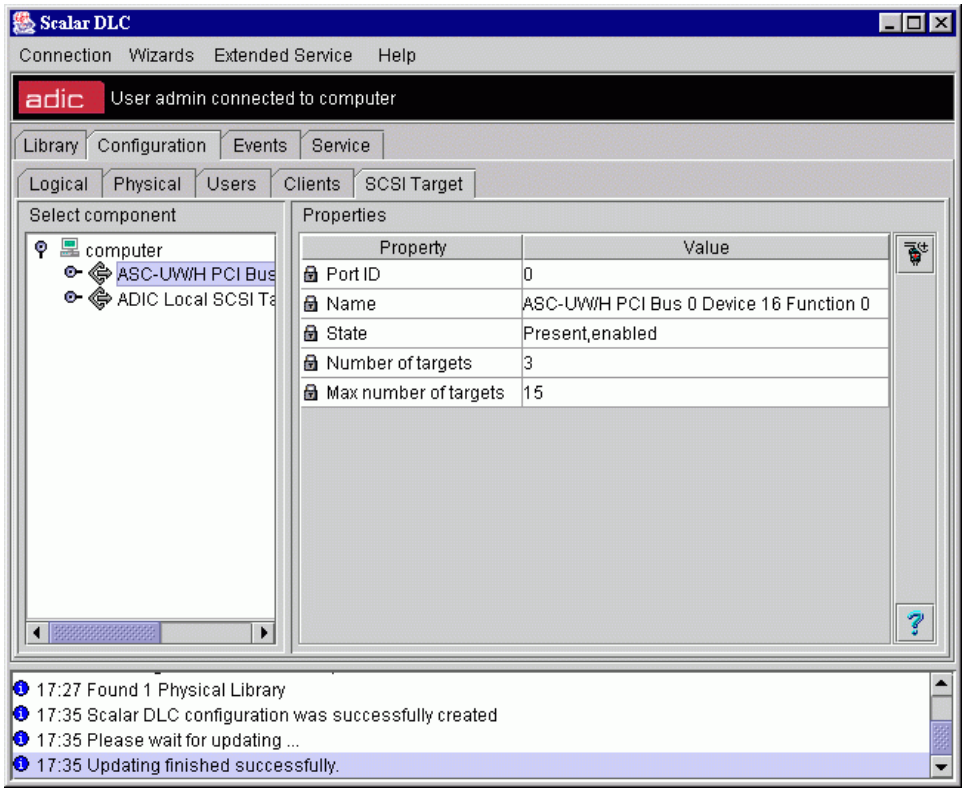
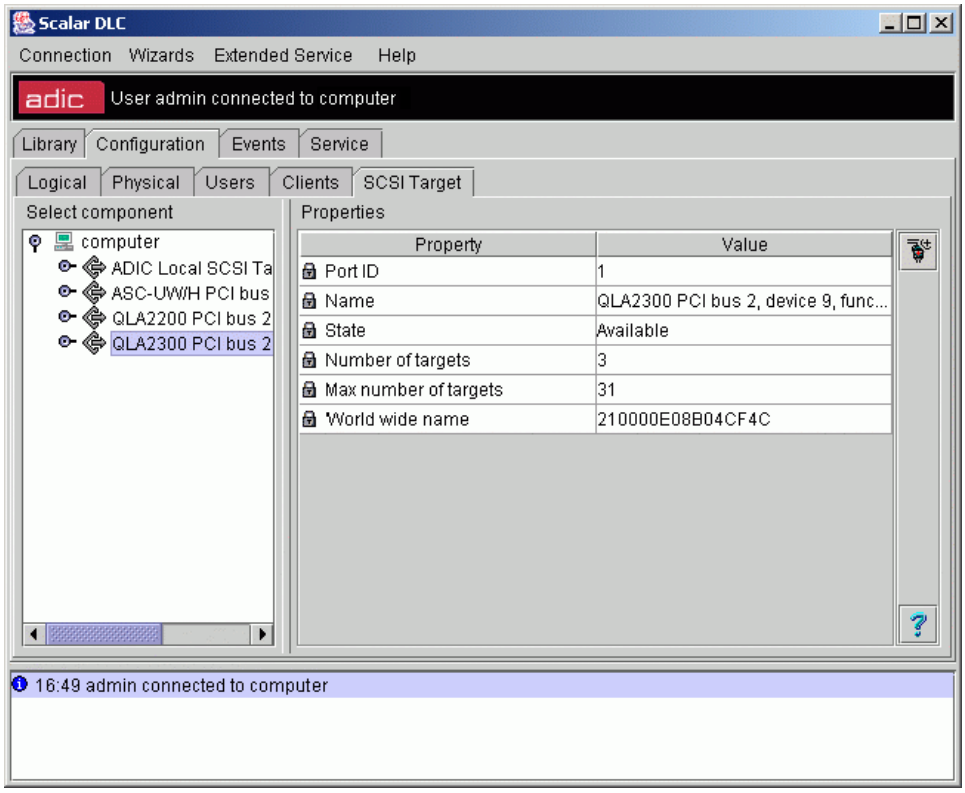


Figure 6-50 Port: Fiber Channel



Selecting the Port branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-45.

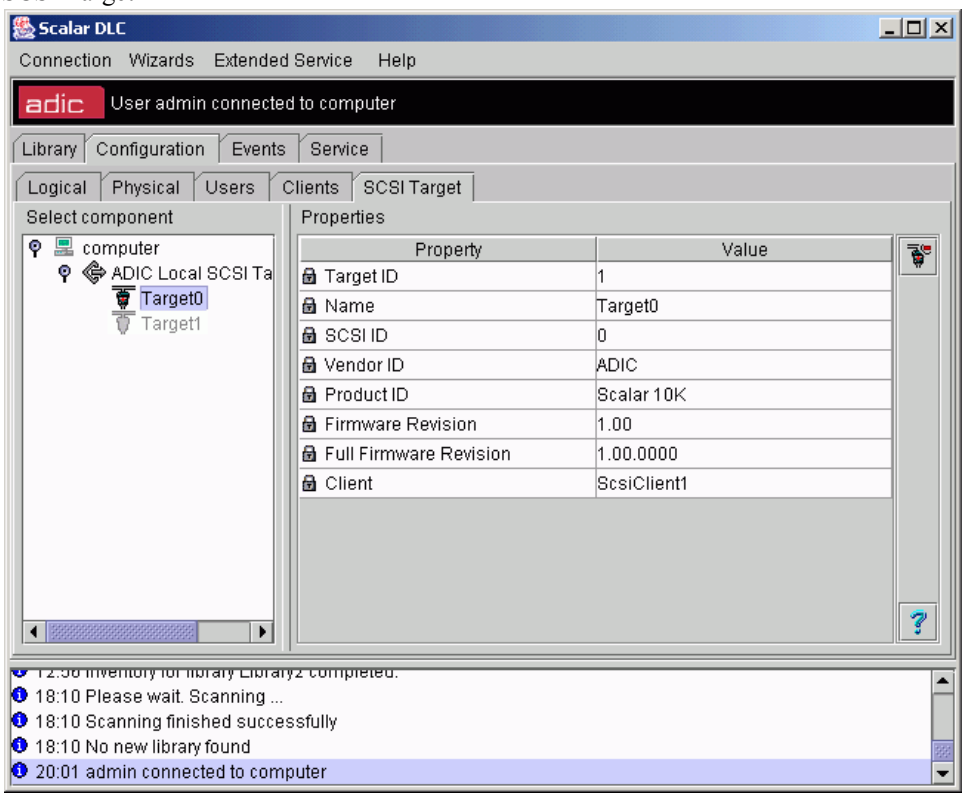
Table 6-45 SCSI Port Properties and Buttons

Property/Button	Icon	Operation	Description
Port ID		Supplied	The port ID.
Name		Supplied	The port unique name.
State		Supplied	The port state. Refer to Table 6-44 on page 666.
Number of targets		Supplied	The number of targets currently configured for the SCSI port.
Max number of targets		Supplied	The maximum number of targets that can be configured for the SCSI port.
World wide name		Supplied	(only for the Fibre Channel) The world wide port name, hexadecimal.
Add new Target		Click	Pop-up target creation window appears. Refer to *Create Target* on page 670.
Help		Click	Open online help for the current pane.

Target

In the *Select Components* area of the pane, selectable Ports appear. Clicking the expand/collapse button causes an element expansion. See Figure 6-51 on page 669.

Figure 6-51 SCSI Target



Selecting the Target branch causes the list of properties to appear in the *Properties* area of the pane. Refer to Table 6-46.

Table 6-46 SCSI Target Properties and Buttons

Property/Button	Icon	Operation	Description
Target ID		Supplied	The target ID (internal).
Name		Supplied	The target name. Contains ‘Target’ and the SCSI ID.
SCSI ID		Supplied	The target SCSI ID (external, seen by SCSI initiator).
Vendor ID		Supplied	SCSI Target vendor ID.
Product ID		Supplied	SCSI Target product ID. The format of the data transferred from/to the SCSI initiator:
Firmware Revision		Supplied	The firmware revision level, short form.
Full Firmware Revision		Supplied	The firmware revision level, complete.

Table 6-46 SCSI Target Properties and Buttons

Property/Button	Icon	Operation	Description
Client		Supplied	The assigned SCSI Client (for the active target only).
Remove		Click	Remove the SCSI Target.
Help		Click	Open online help for the current pane.

For the details of the SCSI command format, refer to:

- SCSI Reference Manual for the Scalar 10K library.
- SCSI Reference Manual for the Scalar 1000 library.

The *not active* Target becomes *active* after a client (SCSI Client) assigned to this target. Refer to *SCSI Client* on page 655.

CAUTION: **When the SCSI Target is removed, the SCSI Client configured for this target is removed too.**

Create Target

NOTE: Only administrator users can create targets. For the user without administrative privileges, the create target button is disabled.

Under the SCSI Port properties, the **Add new Target** button appears (active for the *enabled* ports only). Clicking it opens a pop-up target creation pane. See Figure 6-52.

Figure 6-52 SCSI Target Creation

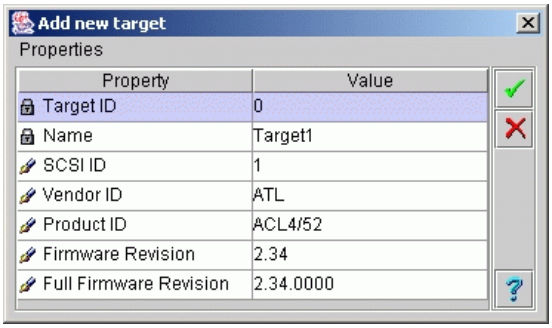


Table 6-47 indicates the list of properties displayed in the *Properties* area of the pane.

Table 6-47 SCSI Target Creation Properties and Buttons

Property/Button	Icon	Operation	Description
Target ID		Supplied	The target ID (internal).
Name		Supplied	The target name. Contains ‘Target’ and the SCSI ID.

Table 6-47 SCSI Target Creation Properties and Buttons

Property/Button	Icon	Operation	Description
SCSI ID		Enter	The target SCSI ID (external, seen by SCSI initiator).
Vendor ID		Select	SCSI Target vendor ID.
Product ID		Select	SCSI Target product ID. The format of the data transferred from/to the SCSI initiator:
Firmware Revision		Enter	The firmware revision level, short form.
Full Firmware Revision		Enter	The firmware revision level, complete.
Create		Click	Create SCSI target
Cancel		Click	Cancel creation.
Help		Click	Open online help for the current pane.

CAUTION: **The target creation is not possible if the port already contains the maximum number of targets.**

NOTE: The newly created target will *not* be active until there is a SCSI client assigned to that target.

When the target is created for the Fiber Channel port, check its SCSI ID:

- Using SCSI ID 0 is strongly not recommended.
- It is recommended that the Fiber Channel adapter Hard Loop ID (can be seen in PC BIOS setup) and the SCSI ID for a new target be different.

Events Tab

This section describes the Events Tab. The Events Tab is designed for viewing event notifications or modifying rules that govern event reporting. The Scalar DLC software pre-defined rules can be modified and/or user-defined rules can be added. The Events Tab contains an additional level with the following tabs:

- Queue
- Monitoring
- Acknowledge
- History
- Rules

Queue Tab

NOTE: This tab is accessible for all users. The operation buttons are active for the GUI administrator only.

The Queue Tab shows the queue of commands accepted and being currently executed by the Scalar DLC software. Usually these commands are send by client backup applications. See Figure 7-1.

Figure 7-1 Queue Tab

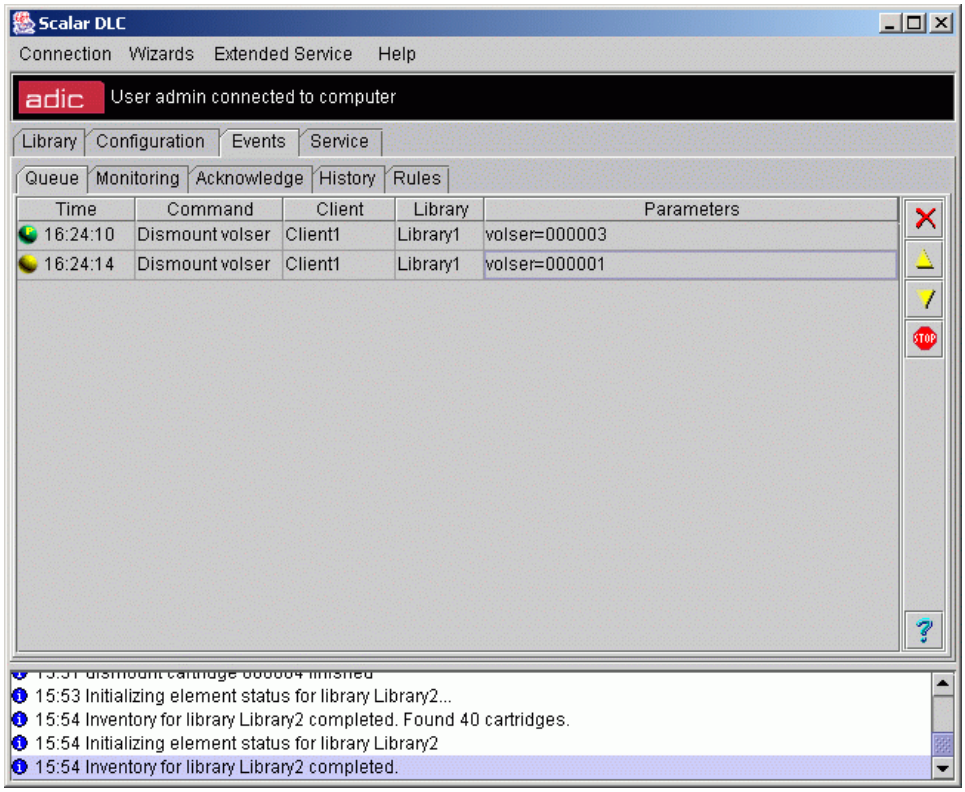


Table 7-1 describes the areas of the Queue pane.

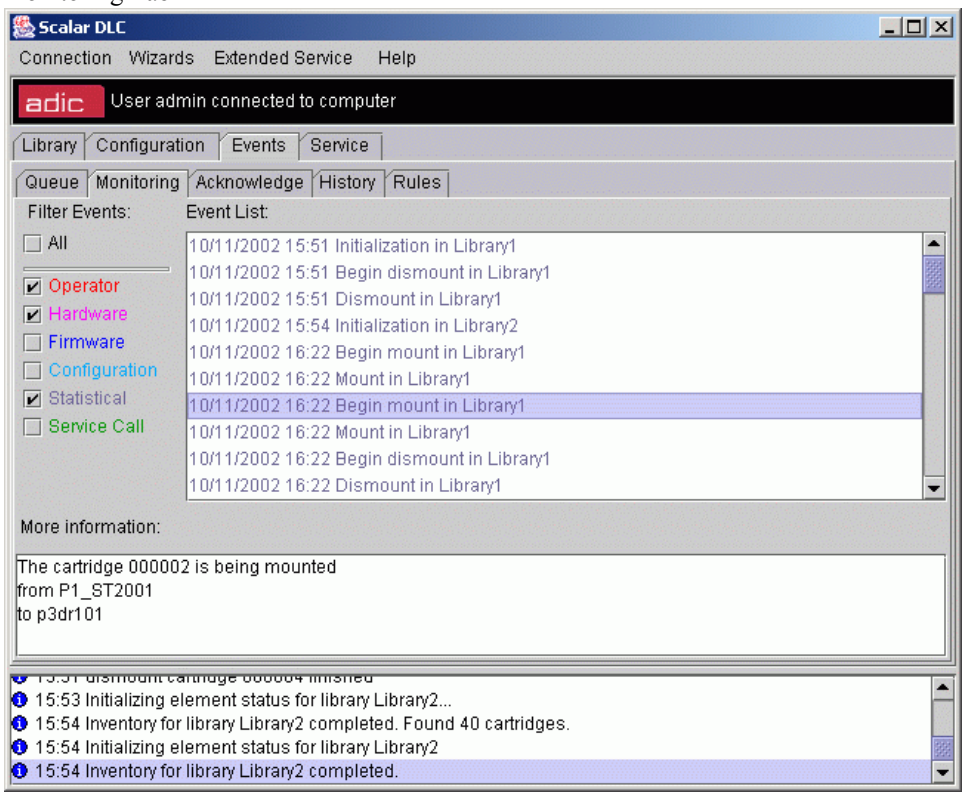
Table 7-1 Queue Properties and Buttons

Property/Button	Icon	Operation	Description
Time		Select	The current command arriving/execution time (HH:MM:SS format). A command status is indicated here (see below).
Running/ Preparing		Select	The command is running or preparing to be executed.
Pending		Select	The command is pending the required resources.
Waiting, normal		Select	The command is waiting, its priority is normal.
Waiting, high		Select	The command is waiting, its priority has been raised.
Waiting, low		Select	The command is waiting, its priority has been lowered.
Idle		Select	The command is idle (stopped).
Command		Select	The current command.
Client		Select	The client who send a command.
Library		Select	The logical library where the command is executed.
Parameters		Select	The command operating parameters.
Cancel		Click	Cancel command execution and remove command from list.
Raise priority		Click	Raise waiting command priority.
Lower priority		Click	Lower waiting command priority.
Stop		Click	Stop command execution. The command remains idle.
Help		Click	Open online help for the current pane.

Monitoring Tab

The Monitoring Tab pane describes notifications that it receives during the current login session. Monitored events do not require acknowledgment. See Figure 7-2 on page 73.

Figure 7-2 Monitoring Tab



In the *Filter Events* area of the pane, there are seven predefined event classes. Each event class is shown in a different color. Refer to Table 7-2 for a list of the events classes.

Table 7-2 Monitoring Tab Event Classes

Event Class	Color	Checked	Description
All	Black	Yes	All received notifications are displayed.
		No	Only checked notifications are displayed.
Operator	Red	Yes	Operator notifications are displayed.
		No	Operator notifications are not displayed.
Hardware	Pink	Yes	Hardware notifications are displayed.
		No	Hardware notifications are not displayed.
Firmware	Blue	Yes	Firmware notifications are displayed.
		No	Firmware notifications are not displayed.
Configuration	Turquoise	Yes	Configuration notifications are displayed.
		No	Configuration notifications are not displayed.
Statistical	Dark Blue	Yes	Statistical notifications are displayed.
		No	Statistical notifications are not displayed.
Service Call	Green	Yes	Service Call notifications are displayed.
		No	Service Call notifications are not displayed.

In the *Event List* area of the pane, every event is detailed in a series of single rows. The description of the event is copied from the internal table of events. The event information for the current login session is updated automatically, but the information is lost after the Scalar DLC GUI is closed. Refer to Table 7-3 for the description.

Table 7-3 Monitoring Tab Event List

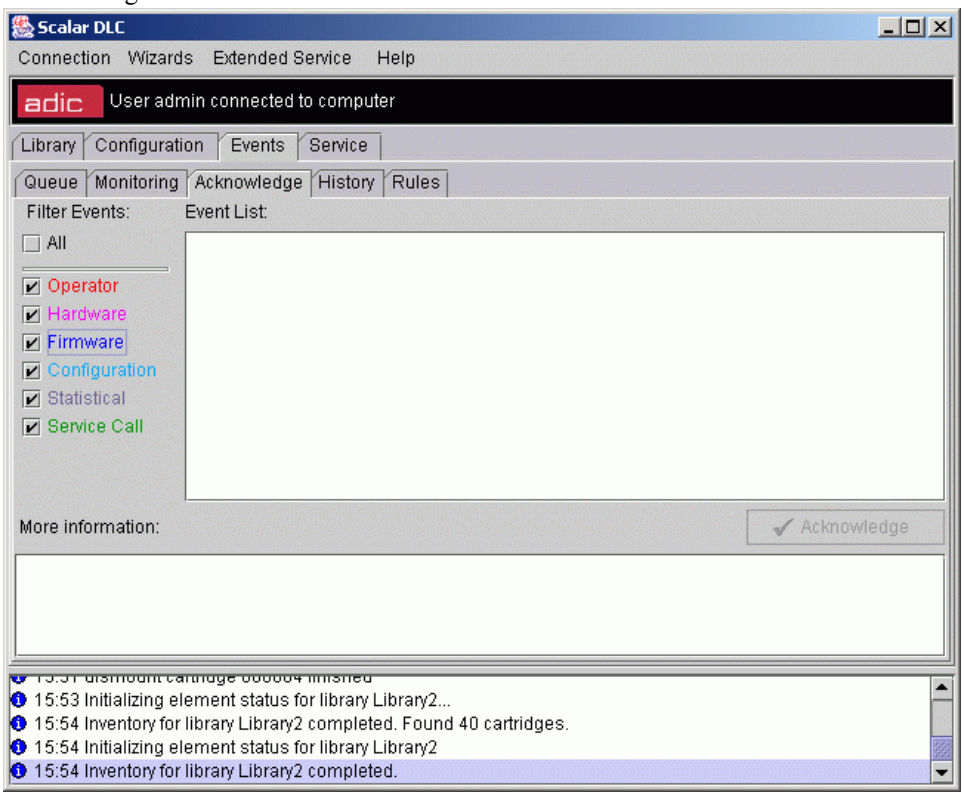
Event	Description
Date	This is the date of the event in the MM/DD/YYYY format.
Time	This is the time of the event in the HH:MM format.
Event	This is the event notification data.

In the *More Information* area of the pane, additional information about the current session is listed. If the *Event List* area cannot contain the complete message, the entire message appears in the *More Information* area.

Acknowledge Tab

The Acknowledge Tab pane describes the notifications received during current login sessions that require a user acknowledgement. See Figure 7-3.

Figure 7-3 Acknowledge Tab



If **Acknowledge** is pressed by the user after an event is selected from the *Event List*, the event is acknowledged by the Scalar DLC software. If a rule associated with the event specifies a service ticket, the Scalar DLC software service generates the service ticket. Refer to *ATAC Calls Tab* on page 89 for the description of procedures associated with ticket generation.

In the *Filter Events* area of the pane, there are seven predefined event classes. Each class of event is shown in a different color. Refer to Table 7-4 for the descriptions.

Table 7-4 Acknowledge Tab Event Classes

Event Class	Color	Checked	Description
All	Black	Yes	All received notifications are displayed.
		No	Only checked notifications are displayed.
Operator	Red	Yes	Operator notifications are displayed.
		No	Operator notifications are not displayed.
Hardware	Pink	Yes	Hardware notifications are displayed.
		No	Hardware notifications are not displayed.
Firmware	Blue	Yes	Firmware notifications are displayed.
		No	Firmware notifications are not displayed.
Configuration	Turquoise	Yes	Configuration notifications are displayed.
		No	Configuration notifications are not displayed.
Statistical	Dark Blue	Yes	Statistical notifications are displayed.
		No	Statistical notifications are not displayed.
Service Call	Green	Yes	Service Call notifications are displayed.
		No	Service Call notifications are not displayed.

In the *Event List* area of the pane, every event is detailed in a series of single rows. The description of the event is copied from the internal table of events. The event information is updated automatically. Refer to Table 7-5 for the description.

Table 7-5 Acknowledge Tab Event List

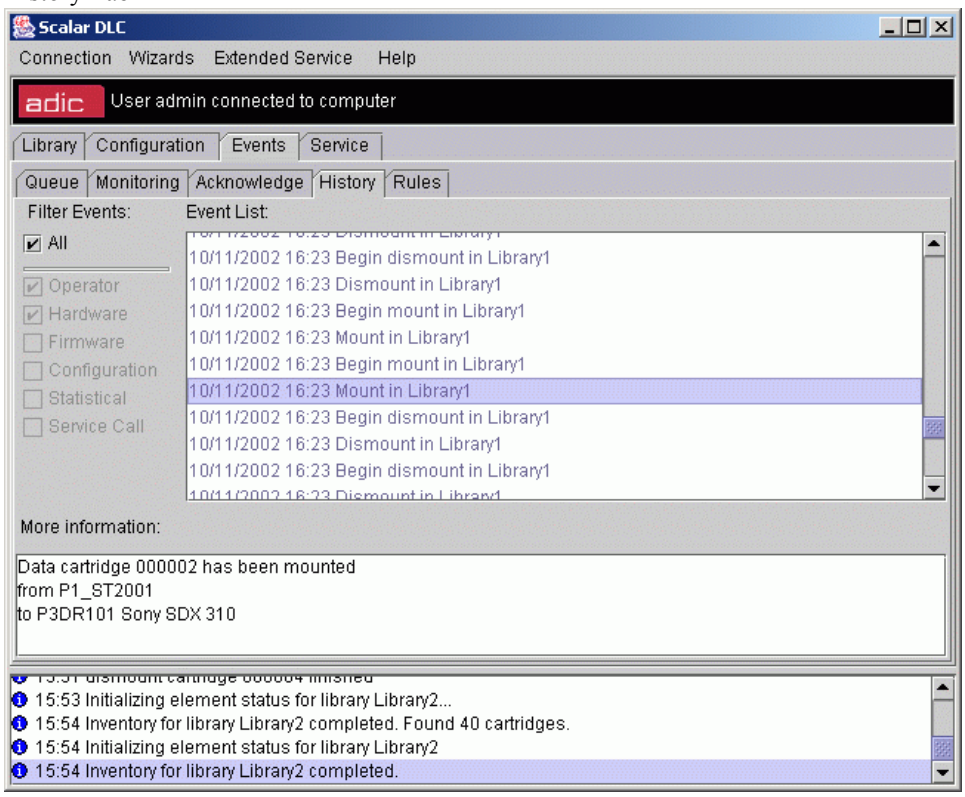
Event Class	Description
Date	This is the date of the event in the MM/DD/YYYY format.
Time	This is the time of the event in the HH:MM format.
Event	This is the event notification data.

In the *More Information* area of the pane, additional information about the current session is listed. If the *Event List* area cannot contain the complete message, the entire message appears in the *More Information* area.

History Tab

The History Tab pane contains the last 200 notifications that were received during login sessions. See **Figure 7-4 on page 76**.

Figure 7-4 History Tab



In the *Filter Events* area of the pane, there are seven predefined event classes. Each class of the event is shown in a different color. Refer to Table 7-6 for a list of the events classes.

Table 7-6 History Tab Event Classes

Event Class	Color	Checked	Description
All	Black	Yes	All received notifications are displayed.
		No	Only checked notifications are displayed.
Operator	Red	Yes	Operator notifications are displayed.
		No	Operator notifications are not displayed.
Hardware	Pink	Yes	Hardware notifications are displayed.
		No	Hardware notifications are not displayed.
Firmware	Blue	Yes	Firmware notifications are displayed.
		No	Firmware notifications are not displayed.
Configuration	Turquoise	Yes	Configuration notifications are displayed.
		No	Configuration notifications are not displayed.
Statistical	Dark Blue	Yes	Statistical notifications are displayed.
		No	Statistical notifications are not displayed.
Service Call	Green	Yes	Service Call notifications are displayed.
		No	Service Call notifications are not displayed.

In the *Event List* area of the pane, each event is detailed in a series of single rows. The description of the event is copied from the internal table of events. The event information for all login sessions is updated automatically. The list is truncated when there are 200 notifications. Refer to Table 7-7 for the description.

Table 7-7 History Tab Event List

Event Class	Description
Date	This is the date of the event in the MM/DD/YYYY format.
Time	This is the time of the event in the HH:MM format.
Event	This is the event notification data.

In the *More Information* area of the pane, additional information about all sessions is listed. If the *Event List* area cannot contain the complete message, the entire message appears in the *More Information* area.

Rules Tab

NOTE: This section is available only for the user with the rules manipulation rights.

The rules are used to act when a specific event occurs. The actions include simple notification of event, notification of event that require acknowledgment, and service call ticket generation.

The user can launch the wizard-based process for adding user-defined rules.

The Rules pane displays the list of both pre-defined and user-created rules along with their properties. See **Figure 7-5 on page 78**.

Figure 7-5 Rules Tab

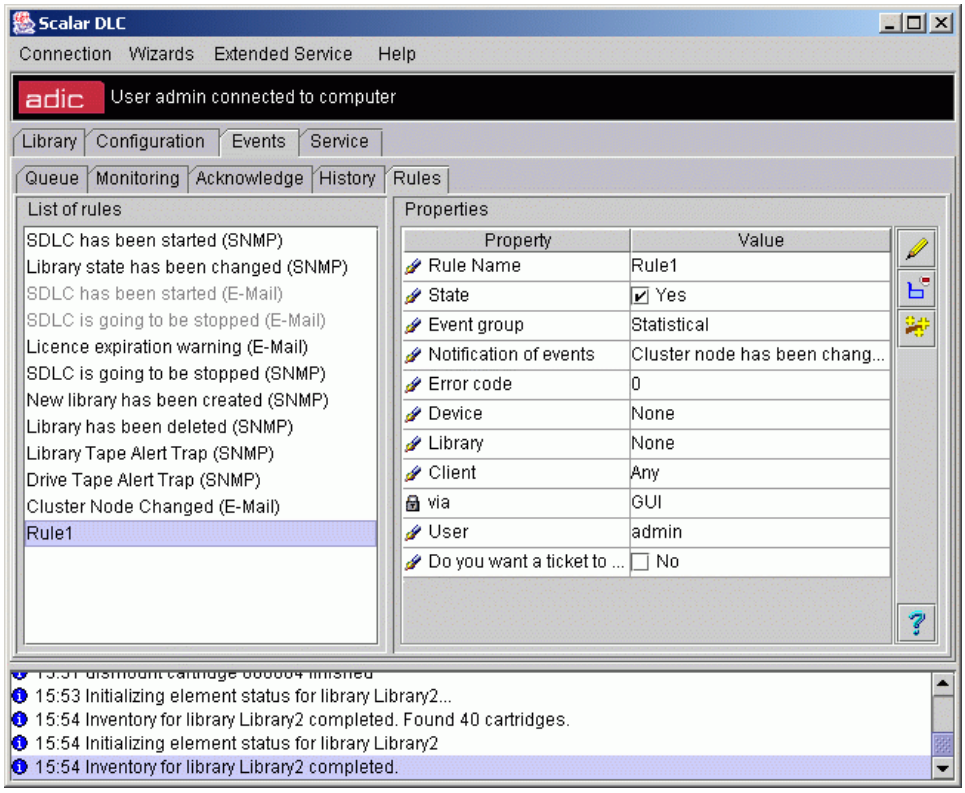


Table 7-8 indicates the list of properties displayed in the *Properties* area of the pane.

Table 7-8 Rule Properties and Buttons

Property/Button	Icon	Operation	Description
Rule Name		Enter	Rule name.
State		Check	*Yes* means the rule is active.
Event group		Select	The event group. Refer to Table 4-19 on page 414.
Notification of events		Select	The event to notify. Refer to Table 4-19 on page 414.
Error code		Select	Error code. Refer to Table 4-19 on page 414.
Device		Select	Physical library. Refer to Table 4-19 on page 414.
Library		Select	Logical library. Refer to Table 4-19 on page 414.
Client		Select	Client. Refer to Table 4-19 on page 414.
via		Supplied	The way to send notifications: Email, SNMP, or GUI. The notification method can not be changed.
Email Destination		Select	The notification email destination (*email* only).

Table 7-8 Rule Properties and Buttons

Property/Button	Icon	Operation	Description
Email Template		Select	The notification email template (*email* only).
User		Select	The user who should acknowledge the notification (*GUI* only).
Generate ticket		Check	Whether a ticket should be generated after acknowledge (*GUI* only).
Update		Click	Save the rule properties after edit.
Remove		Click	Remove the rule.
Wizard		Click	Launch the Rule wizard. Refer to *Create Rule* on page 414.
Help		Click	Open online help for the current pane.

S

 NOTE: The rules configured to send email notifications cannot be activated if the Email Notifications field in the Registration Info pane is not checked. Refer to *Registration Information* on page 423.

Service Tab

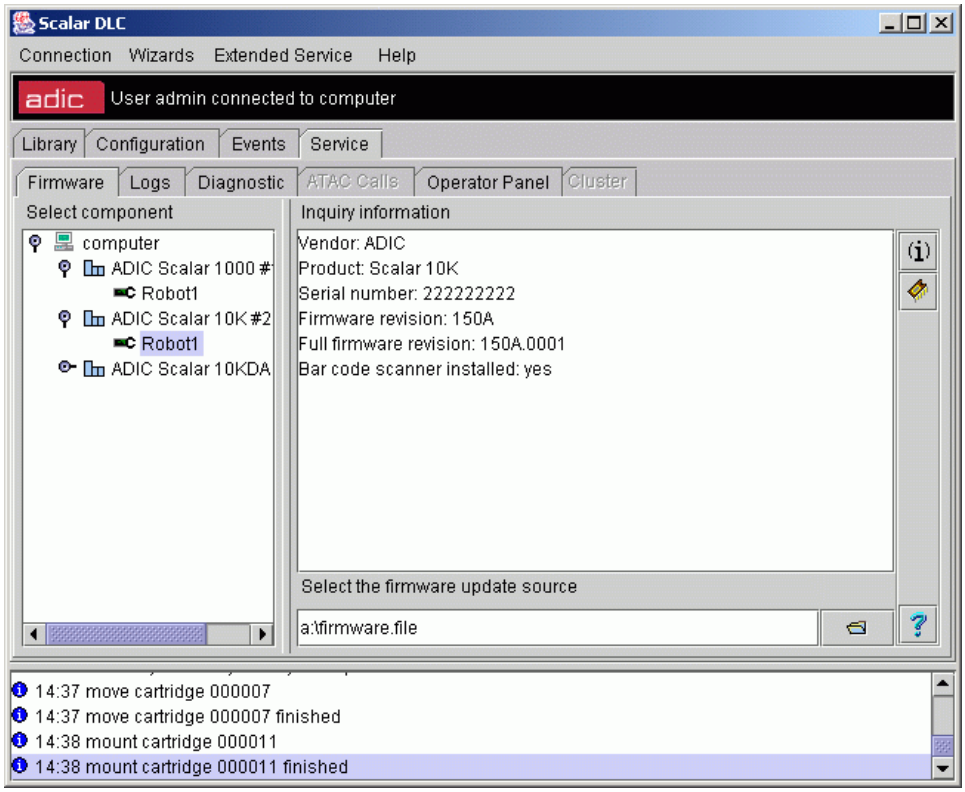
This section describes the Service Tab. The Service Tab is designed for the Customer Engineer (CE) and Admin users. The Service Tab has an additional level with the following tabs:

- Firmware
- Logs
- Diagnostic
- ATAC Calls (for CE only)
- Operator Panel
- Cluster (for Cluster Solution only)

Firmware Tab

This pane has been designed to update the firmware for the physical library. During the process of the Firmware update, all the physical libraries are placed into the *Service* state; after the update completes successfully, the physical libraries are placed into the *Online* state. See Figure 8-1.

Figure 8-1 Firmware Tab



In the *Inquiry information* area of the pane, the properties are shown for the selected and highlighted robotic controller. Refer to Table 8-1 on page 82 for the definitions.

Table 8-1 Library Firmware Properties and Buttons

Property/Button	Icon	Operation	Description
Inquiry information		Supplied	The robot inquiry information: vendor ID, product ID, serial number, firmware revision, and so forth. Depending on the product ID, the information may vary.
Inquiry		Click	Re-scan the inquiry information for the selected library.
Update firmware		Click	Update the library firmware (disabled in applet)
Load from file		Click	Load firmware file from disk (disabled in applet)
Help		Click	Open online help for the current pane.

Logs Tab

This pane allows the user to view the error log, the command history, and the dump log for the selected physical library. When a specific event is selected, the information that has been collected can be sent to a specified email address.

This section provides an additional level with the following tabs:

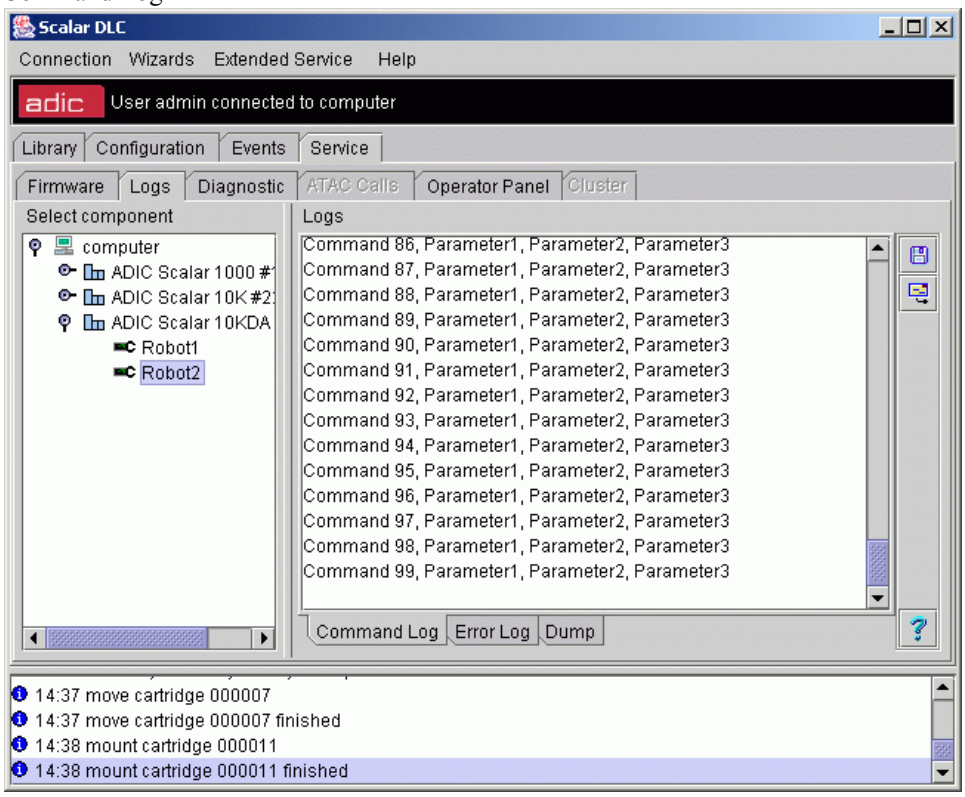
- Command Log tab
- Error Log tab
- Dump tab

Command Log

After the Logs tab is opened, the Command Log tab is shown. See Figure 8-2 on page 83.

NOTE: The Command Log feature is not available for Scalar 1000 libraries.

Figure 8-2 Command Log

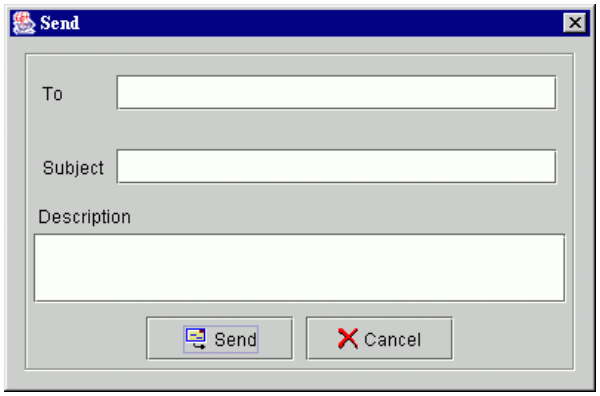


The command log for the selected library appears in the *Logs* area on the right pane. Some operational buttons are present on the right. Refer to Table 8-2.

Table 8-2 Command Log Operational Buttons

Button	Icon	Operation	Description
Save to file		Click	Save log to file.
Send email		Click	Send the log via email. See Figure 8-3.
Help		Click	Open online help for the current pane.

Figure 8-3 Email Data



Refer to Table 8-3 for the email selections.

Table 8-3 Email Properties

Property	Operation	Description
To	Enter	This is the recipient email address associated with the data. Multiple email addresses must be separated with semicolons.
Subject	Enter	This is the subject of the email.
Description	Enter	This is the description that identifies the data.
Send	Click	This button sends the email to the recipient.
Cancel	Click	This button closes the Email dialog without sending email.

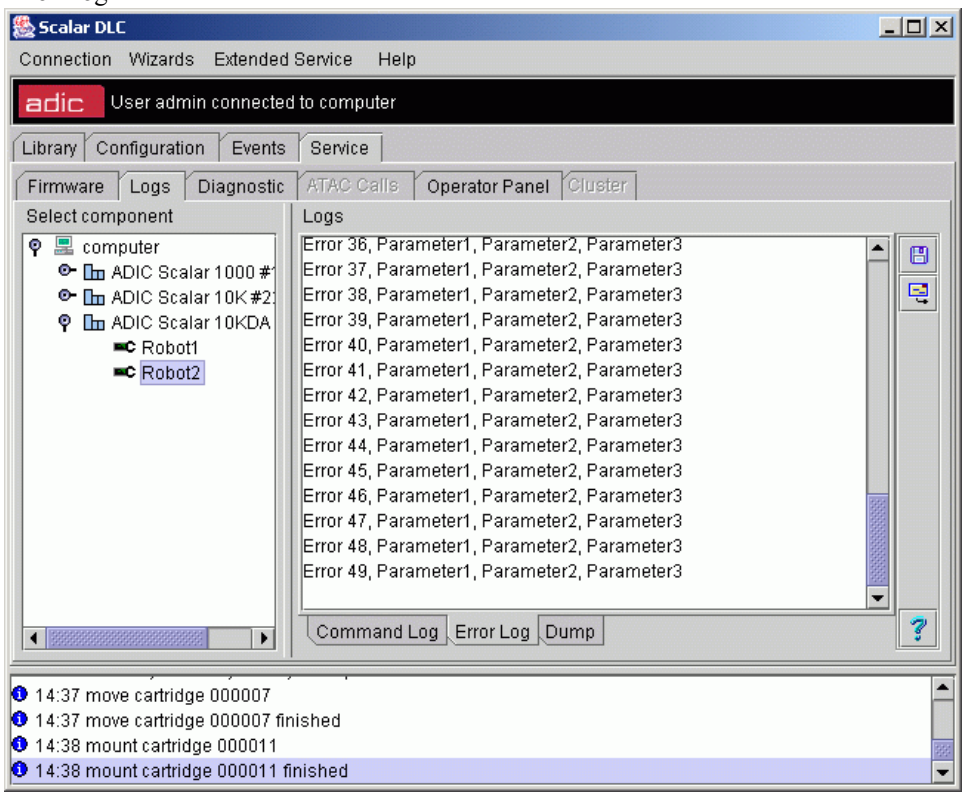
NOTE: The email will be sent successfully only if the email parameters of the current user are valid.

Error Log

This tab contains an error log for the selected library. See Figure 8-4 on page 85.

NOTE: The Error Log feature is not available for Scalar 1000 libraries.

Figure 8-4 Error Log



The error log for the selected library appears in the *Logs* area on the right pane. Some operational buttons are present on the right. Refer to Table 8-4.

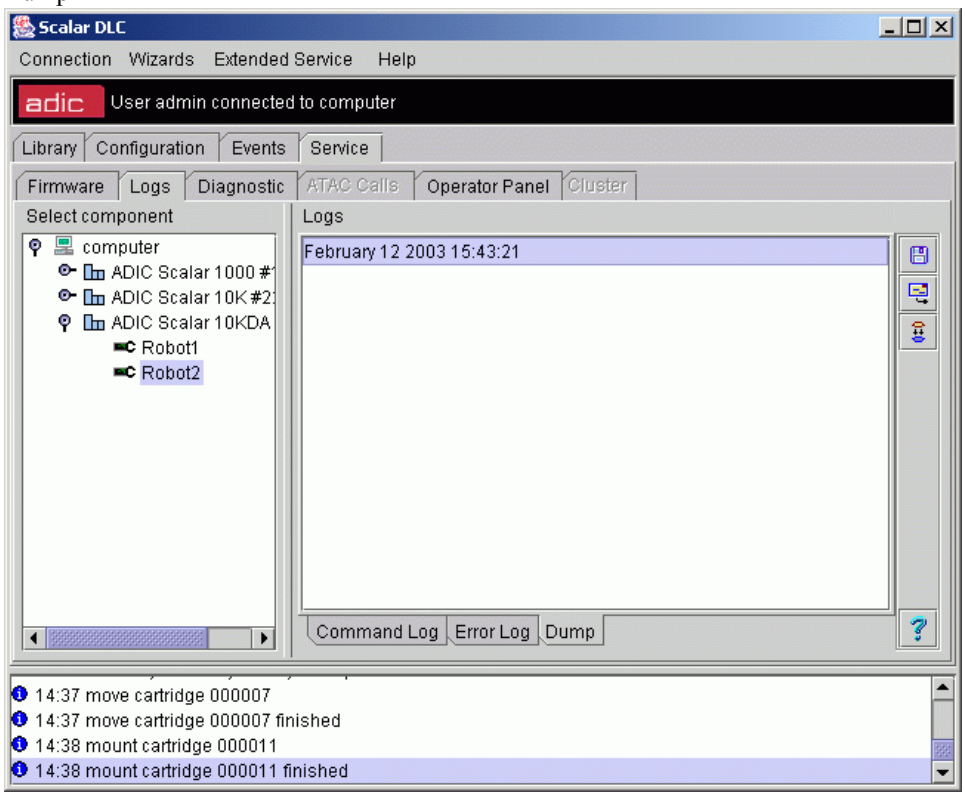
Table 8-4 Error Log Operational Buttons

Button	Icon	Operation	Description
Save to file		Click	Save log to file.
Send email		Click	Send the log via email. See Figure 8-3 on page 83.
Help		Click	Open online help for the current pane.

Dump

This tab contains the list of firmware dumps. See Figure 8-5 on page 86.

Figure 8-5 Dump



The dump log for the selected library appears in the *Logs* area on the right pane.

Some operational buttons are present on the right. Refer to Table 8-5.

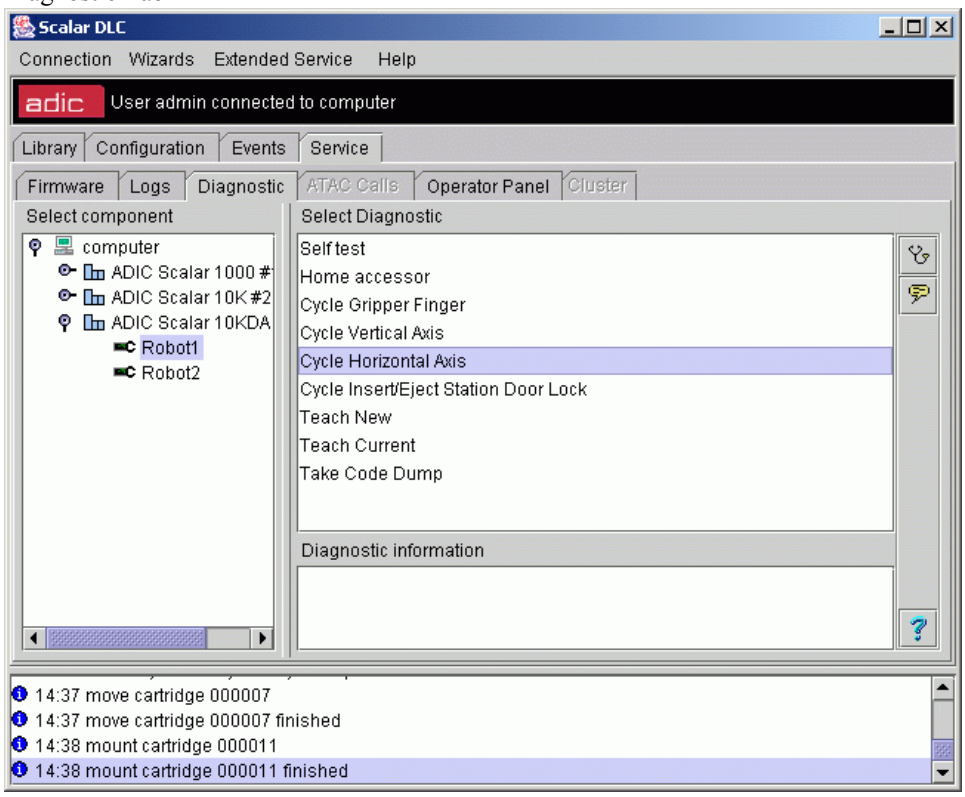
Table 8-5 Dump Operational Buttons

Button	Icon	Operation	Description
Save to file		Click	Save dump to file.
Send email		Click	Send the dump via email. See Figure 8-3 on page 83.
Force dump		Click	Activate the firmware dump.
Help		Click	Open online help for the current pane.

Diagnostic Tab

This Diagnostic pane allows the user to view the results of a diagnostic test on a physical library. See Figure 8-6 on page 87.

Figure 8-6 Diagnostic Tab

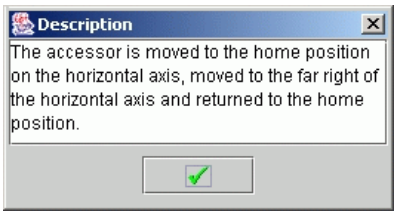


The result of the diagnostic test appears in the *Diagnostic Information* area on the right. In the *Select Diagnostic* area, the list of different diagnostic tests is shown. Refer to Table 8-6 on page 88 for the pane areas.

Table 8-6 Diagnostic Information

Property/Button	Icon	Operation	Description
Select Diagnostic		Select	*Self test* is the complete test included in all of the steps described in the following lines.
			Home Accessor moves the accessor to the home position on the vertical and horizontal axes.
			Cycle Gripper Finger opens and closes the gripper fingers.
			Cycle Vertical Axis moves the accessor to the home position on the vertical axis, then to the top of the vertical axis, and returns it to the home position.
			Cycle Horizontal Axis moves the accessor to the home position on the horizontal axis, then to the far right of the horizontal axis, and returns it to the home position.
			Cycle Insert/Eject Station Door Lock locks and then unlocks the Insert/Eject solenoid.
			Teach New reteaches the library configuration.
			Teach Current reteaches the library current configuration.
			Take Code Dump saves the current state of code execution in DRAM.
Diagnostic information		Supplied	The results of the diagnostic test.
Execute		Click	Execute the selected diagnostic test.
Description		Click	Show the selected diagnostic test description. See Figure 8-7.
Help		Click	Open online help for the current pane.

Figure 8-7 Diagnostic Description



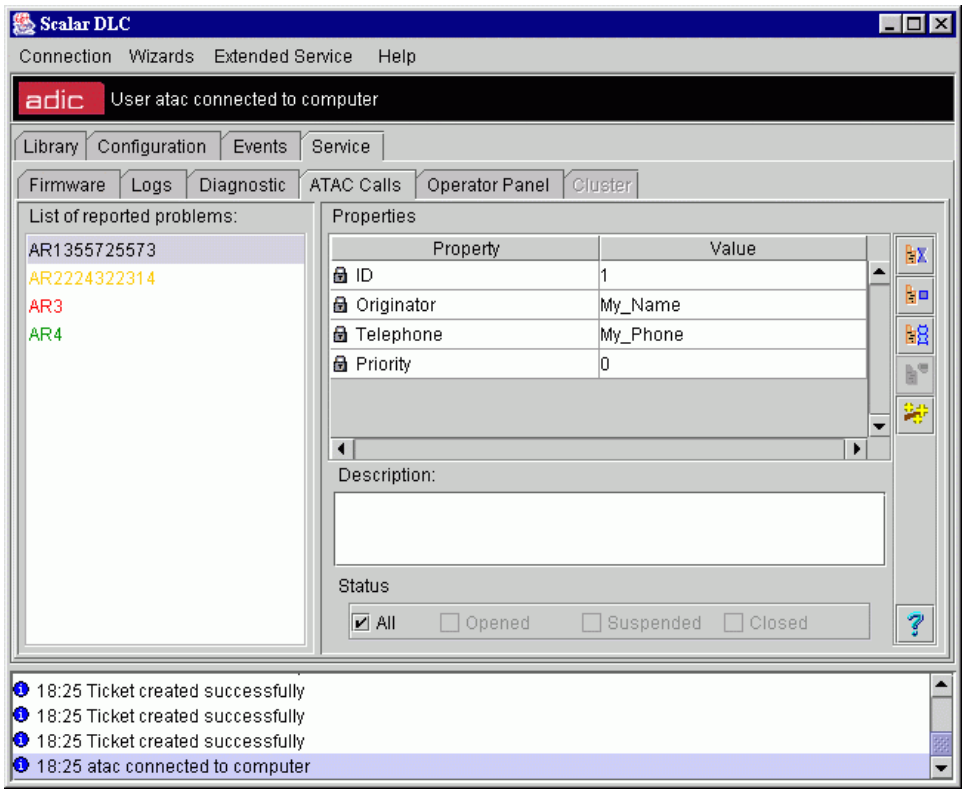
ATAC Calls Tab

NOTE: This tab is accessible only by Customer Engineers (CE) and the users with the ticket management rights. All CEs are a part of the ADIC Technical Assistance Center (ATAC).

Selecting the ATAC Calls Tab pane is the first step to solving a problem. A written description of the problem is shown there. Tickets can be generated manually by the user or automatically by a notification rule.

The user creates tickets with the help of the Ticket wizard launched from the Management GUI main menu. See Figure 8-8.

Figure 8-8 ATAC Calls Tab



In the *List of reported problems* area of the pane, all of the reported problems are listed. The ticket reports are color coded for identification. Refer to Table 8-7 for a description of the color codes.

Table 8-7 Color Codes

List	Color	Description
Open	Red	This color indicates an opened problem.
Suspended	Black	This color indicates a solved problem but the ticket has not been closed.
In Process	Yellow	This color indicates that a CE worked on the problem.

Table 8-7 Color Codes

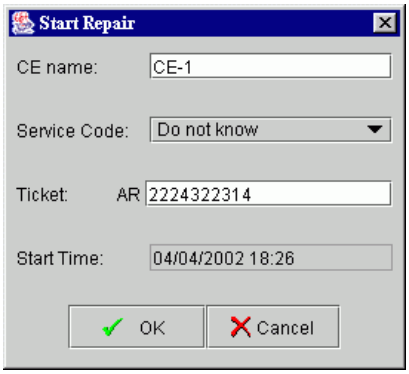
List	Color	Description
Closed	Green	This color indicates a solved problem, and the ticket has been closed.

In the *Properties* area of the pane, the properties are shown for the selected and highlighted problem list area. Refer to Table 8-8 for the definitions.

Table 8-8 Ticket Properties and Buttons

Property/Button	Icon	Operation	Description
ID		Supplied	The ticket ID (generated by the Scalar DLC software or applied manually by the CE).
Originator		Supplied	The ticket originator.
Telephone		Supplied	The originator's phone number.
Priority		Supplied	The problem priority selected by the originator.
Description		Supplied	The brief description of the problem entered by the originator.
Status, All problems		Check	Displays all problems.
Status, Opened		Check	Displays all opened problems.
Status, Suspended		Check	Displays all suspended problems.
Status, Closed		Check	Displays all closed problems.
Start Repair		Click	Display the Start Repair dialog (for the *opened* tickets only). See Figure 8-9 on page 811.
Under Repair		Click	Display the Repair dialog (for the *suspended* or *in process* tickets only). See Figure 8-10 on page 812.
Close		Click	Close ticket (for the *opened* or *suspended* tickets only).
History		Click	Display the History pane. See Figure 8-13 on page 814.
Remove		Click	Remove ticket (for the *closed* tickets only).
Wizard		Click	Launch the Ticket wizard. Refer to *Create Ticket* on page 48.
Help		Click	Open online help for the current pane.

Figure 8-9 Start Repair



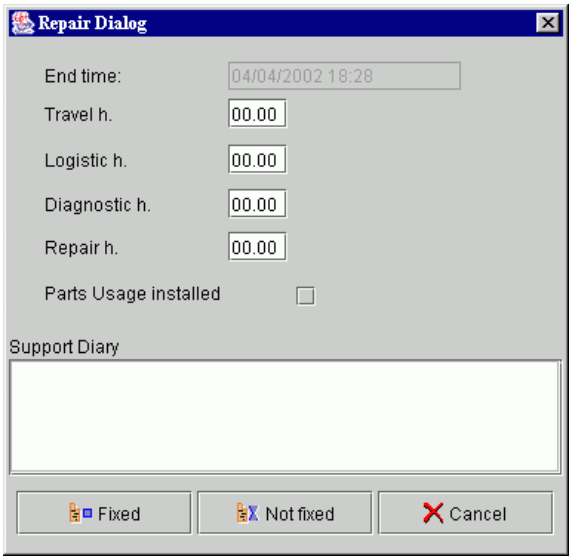
Refer to Table 8-9 for the details.

Table 8-9 Start Repair

Property	Operation	Description
CE Name	Enter	The CE name. It indicates a person assigned by ATAC as responsible for solving a problem.
Start Time	Supplied	The start time of the repair.
Service Code	Select	*Do not know* means the CE cannot make a problem determination based on the service ticket information.
		Unscheduled Repair means an unexpected repair is required.
		Scheduled Repair means a pre-arranged time has been allocated for the repair.
		Information Call means information is being sent to ATAC.
		Customer Resp. means the problem is caused or belongs to the customer.
		Preventive Maint. means routine preventive maintenance is scheduled.
		Installation means the ticket is generated to notify ATAC about the installation of the system.
		De-Installation means the ticket is generated to notify ATAC about a system de-installation.
		EC/Field Bill means a service call is the result of an EC/ Field build installation.
		Feature Code Change means a new feature or function is added to the system.
Ticker AR	Enter	The AR registration number supplied by ATAC support. The registration number must be exactly ten digits long.
OK	Click	Accept entered information.
Cancel	Click	Return to the ATAC Calls pane, changes discarded.

See Figure 8-10 on page 812 for the Repair dialog.

Figure 8-10 Repair

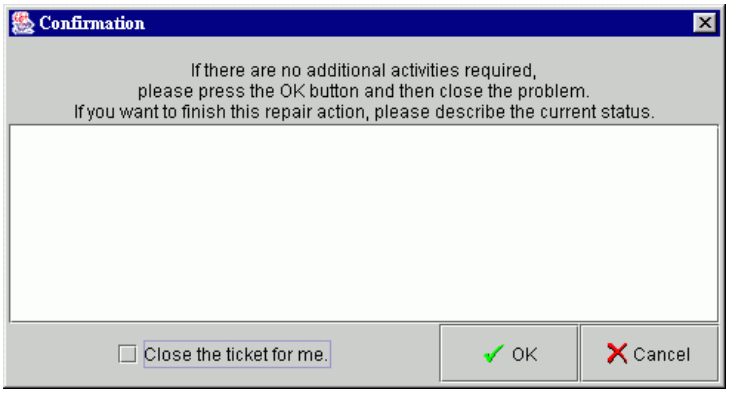


The area descriptions are detailed in Table 8-10.

Table 8-10 Repair

Property	Operation	Description
End Time	Supplied	The end repair time.
Travel h.	Enter	The time required to travel to the customer site.
Logistics h.	Enter	The time for administrative functions associated with the repair. Parts ordering is an example of the logistics associated with a repair.
Diagnostic h.	Enter	The time it took to diagnose the problem.
Repair h.	Enter	The time necessary to repair the problem.
Parts Usage Installed	Check	Total repair parts usage.
Support Diary	Enter	Comments about the repair process.
Fixed	Click	The problem is fixed. See Figure 8-11 on page 813.
Not fixed	Click	The problem is not fixed. See Figure 8-12 on page 813.
Cancel	Click	Return to the ATAC Calls pane, changes discarded.

Figure 8-11 Fixed Problem Confirmation



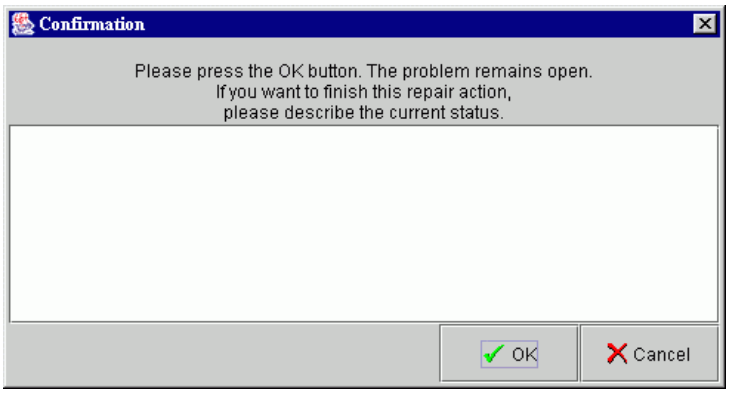
The area descriptions are detailed in Table 8-11.

Table 8-11 Confirmation of a Fixed Problem

Property	Operation	Description
Current Status	Enter	A description of the current problem status.
OK	Click	Return to the ATAC Calls pane. The ticket can be closed.
Cancel	Click	Return to the Repair dialog.
Close the ticket for me	Check	The Scalar DLC software closes the problem ticket automatically.

See Figure 8-12 for the Non-Fixed Problem Confirmation dialog.

Figure 8-12 Not Fixed Problem Confirmation



The area descriptions are detailed in Table 8-12.

Table 8-12 Confirmation of a Not fixed Problem

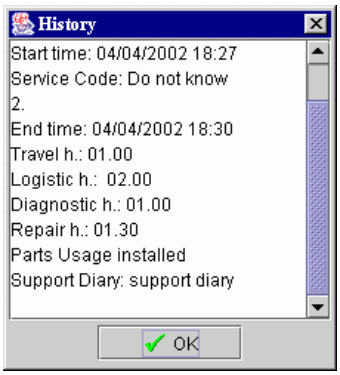
Property	Operation	Description
Current Status	Enter	A description of the current problem status.

Table 8-12 Confirmation of a Not fixed Problem

Property	Operation	Description
OK	Click	Return to the ATAC Calls pane. The ticket will be *In process*.
Cancel	Click	Return to the Repair dialog.

The Repair History dialog lists the events associated with a specific repair. See Figure 8-13.

Figure 8-13 Repair History



The area descriptions are detailed in Table 8-13.

Table 8-13 Repair History

Property	Operation	Description
Ticket ID	Supplied	The ticket identifier generated by the Scalar DLC software service.
CE Name	Supplied	The ticket originator identification.
Start Time	Supplied	The start time of the repair service.

Table 8-13 Repair History

Property	Operation	Description
Service Code	Select	*Do not know* means the CE cannot make a problem determination based on the service ticket information.
		Unscheduled Repair means an unexpected repair is required.
		Scheduled Repair means a pre-arranged time has been allocated for the repair.
		Information Call means information is being sent to ATAC.
		Customer Resp. means the problem is caused or belongs to the customer.
		Preventive Maint. means routine preventive maintenance is scheduled.
		Installation means the ticket is generated to notify ATAC about the installation of the system.
		De-Installation means the ticket is generated to notify ATAC about a system de-installation.
		EC/Field Bill means a service call is the result of an EC/Field build installation.
		Feature Code Change means a new feature or function is added to the system.
Ticket AR	Supplied	The AR registration number supplied by ATAC support.
End Time	Supplied	The Scalar DLC software service supplies the end time.
Travel h.	Supplied	The travel time for arriving at the customer location.
Logistics h.	Supplied	The time for administrative functions associated with the repair. Parts ordering is an example of the logistics associated with the repair.
Diagnostic h.	Supplied	The time to diagnose the problem.
Repair h.	Supplied	The time necessary to repair the problem.
Parts Usage Installed	Supplied	The total repair parts.
Support Diary	Supplied	Comments about the repair process.

Operator Panel Tab

This tab mimics the operator panel on real device and provides an interactive path between the operator and the library indicators and push-buttons that control the library. See Figure 8-14 on page 816 and Figure 8-15 on page 817.

CAUTION: **Look into the aisle to make sure there are no obstructions or personnel present prior to applying library power. Movements of mechanical components in the library can cause serious injury.**

Figure 8-14 Operator Panel Tab for the Scalar 10K

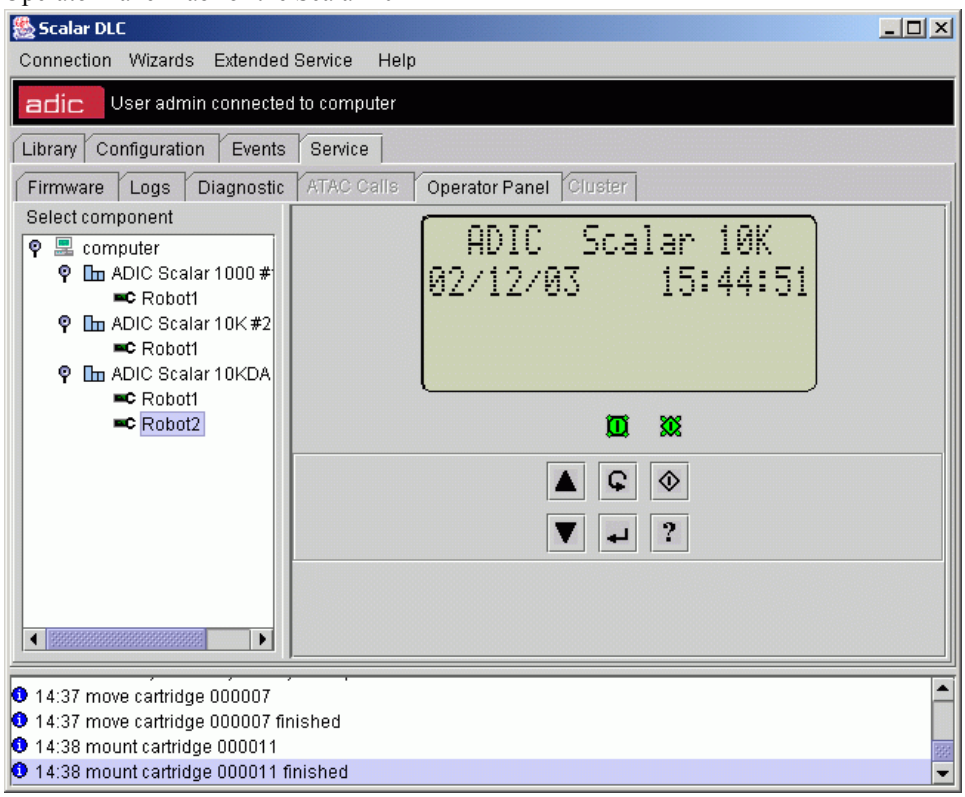


Figure 8-15 Operator Panel Tab for the Scalar 1000

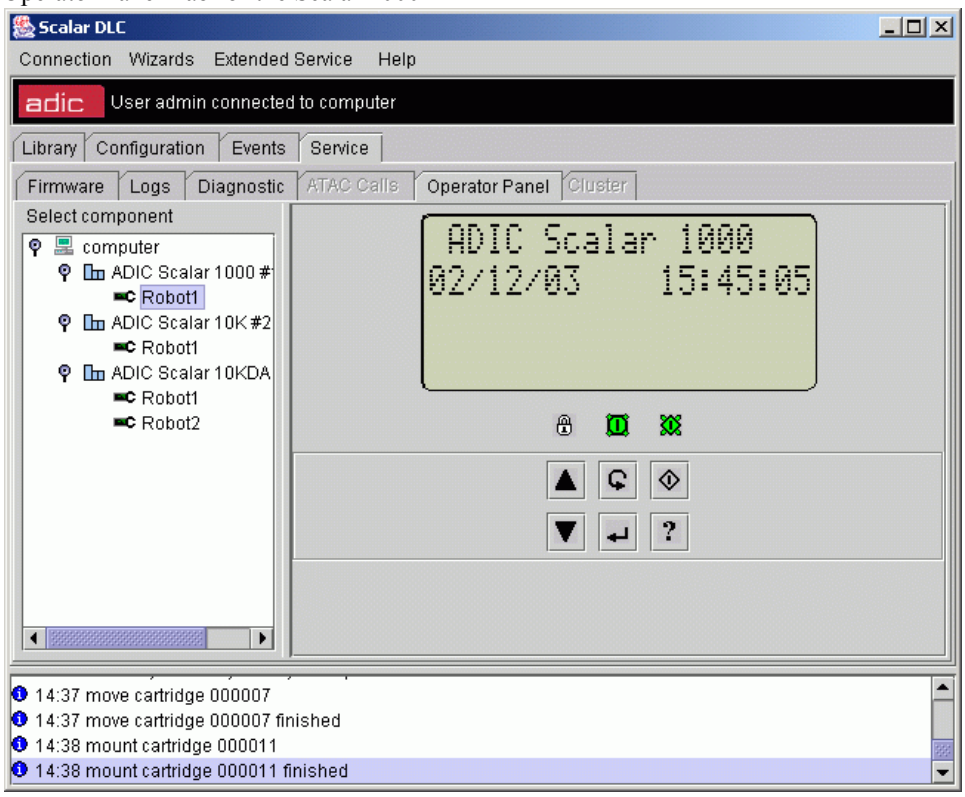


Table 8-14 describes the operator panel items.

Table 8-14 Operator Panel Indicators and Buttons

Item	Description
LCD Screen	The vendor ID, library type, date, and time are shown on the operator LCD screen. The operations with push-buttons are indicated here, too.
	The **Locked** indicator is lit whenever the I/E station is locked (only for Scalar 1000 libraries).
	The **Power On** indicator is lit whenever the Control Module is connected to the power source, the Control Module switch, and the AC Power Compartment(s) circuit breakers are ON.
	The **Ready** indicator is lit whenever Power is available in the aisle and the library is ready to perform motion commands from the host.
	The **Up Arrow** push button: • scrolls the display to show previous line(s). • moves the cursor (>) up from selection to selection. • increases the current value to the next value when used in an entry field.

Table 8-14 Operator Panel Indicators and Buttons

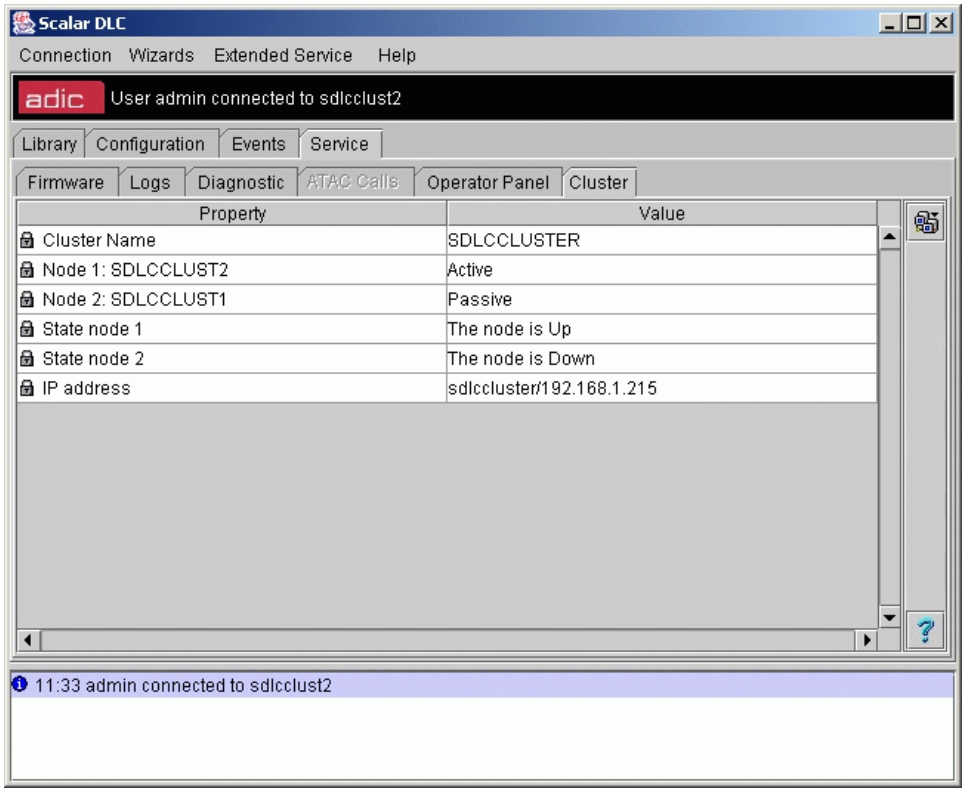
Item	Description
	The **Down Arrow** push button: • scrolls the display to show the next line(s). • moves the cursor (>) down from selection to selection. • decreases the current value to the previous value when used in an entry field.
	The **Escape** push button: • leaves the current display and returns to the previous display, if it exists. • moves from the Initial Screen to the Main Menu.
	The **Enter** push button: • selects the current option as the next action to be performed by the library, the cursor (>) indicates the chosen option. • acts as a TAB button to the next required entry field when multiple field entries are being entered. In this case, the button cycles through all the entry locations until the **Accept** option is chosen (with Y).
	The **Ready** push button: • transitions the library from a Ready state to Not Ready or Not Ready to the Ready state.
	The **Help** push button: • displays help text for the current selected item if available. In this mode, the **Arrow** buttons scroll through the help text, and the **Escape** button is used to exit the help display.

Cluster Tab

NOTE: This tab is available only when the Scalar DLC is installed as a Cluster solution.

When the Scalar DLC software is installed on the host, it can be accessed by the name of this host. In the case of Cluster solution, there are two ways: either login to the active host or use a cluster virtual name. ADIC strongly recommends the second way because there is no way to foretell what host is active when the user tries to access the Scalar DLC host. See Figure 8-16 on page 819.

Figure 8-16 Cluster Tab



The properties are shown for the current cluster. Refer to Table 8-15 for the definitions.

Table 8-15 Cluster Properties and Buttons

Property/Button	Icon	Operation	Description
Cluster name		Supplied	The virtual host name used to access both cluster nodes.
Node1		Supplied	Cluster Node1 name and status.
Node2		Supplied	Cluster Node2 name and status.
State node1		Supplied	Scalar DLC state on Node1.
State node2		Supplied	Scalar DLC state on Node2.
IP address		Supplied	The IP address of the current cluster host.
Change cluster node		Click	Change active cluster node. The node that is currently active goes down and the node currently passive goes up. **NOTE:** The operation will be successful only when both node PCs are running.
Help		Click	Open online help for the current pane.

Troubleshooting

This section contains useful general troubleshooting information if a user encounters problems during installation or normal usage. Refer to *Troubleshooting Applications* for information about third party applications. Refer to *Error Codes* on page 95 for a list of error codes used in the ATAC Calls Tab and in the Rules Tab and Create Rule wizard.

Troubleshooting Applications

The following section describes some general troubleshooting notes.

SQL Server Agent

Sometimes, after the PC restarts, the Scalar DLC supervisor does not start automatically because SQL Server Agent does not start. Do the following:

1. Launch **Windows Desktop > Start > Settings > Control Panel > Administrative Tools > Services**.
2. Find the **SQLSERVERAGENT** service and start it manually.
3. Start Scalar DLC supervisor service either manually (from the same Services window) or via the Scalar DLC state icon (gray penguins) on the toolbar.

SCSI and Fibre Channel Target Mode Driver

There should be the Initiator driver(s) activated in the system before the Target driver(s) are installed. Refer to *Initiator Driver Installation* on page 92 for the details.

The Initiator driver can be installed before installing Scalar DLC software of after this operation as well. However, it should be done *before* installing SCSI Target drivers.

CAUTION: **If there is a Virtual SCSI Target Mode Driver installed, it should be removed before the SCSI Target Mode Driver installation. This can be done from Control Panel > Add-Remove Programs.**

SCSI and Fiber Channel

The SCSI and/or Fiber Channel Adapters must be installed into the PCI-type slots.

Before connecting SCSI Initiator (client host) and Target (Scalar DLC host) adapters with the SCSI cable, make sure that they match each other (for example, both adapters are either High Voltage Differential (HVD), Low Voltage Differential (LVD), or Single-Ended). Connecting two adapters that do not match will cause hardware damage. Refer to **Table 2-1 on page 24** for a description of adapters that are currently supported and to **Table 9-1 on page 92** for a match description.

Table 9-1 Paraallel SCSI Match

Adapter Class	Matched
Single-ended (SE)	SE, SE/LVD
Low voltage differential (LVD)	LVD, SE/LVD
SE/LVD	SE, LVD, SE/LVD
High voltage differential (HVD)	HVD

The supported Fiber Channel adapters do match each other.

Initiator Driver Installation

For each SCSI adapter found during the Windows setup and/or startup the operating system usually installs the Initiator mode driver. However, for the newest adapter models, there can be trouble finding an appropriate driver because they are not present in a standard driver library. If such a problem encountered, follow the steps below.

NOTE: Follow the instructions only if there is no proper Initiator mode driver(s) present in the system. When everything works, there is no need to re-install the drivers manually.

1. Make sure that you have a manufacturer disk with the appropriate software driver for your adapter, or you have downloaded this driver from the manufacturer's web-site to the temporary folder. ADIC also offers the required drivers at the `<%Scalar DLC Install_CD%>\Drivers\Initiator` folder.
2. *During* setup/startup, the Win2000 system opens Found New Hardware wizard. Follow the wizard steps. Specify a driver location (disk or temporary folder) so that the system can install it.
3. *After* Win2000 startup, right-click on **My Computer** desktop icon.
4. Select **Manage > Device Manager**.
5. Locate the *Other Devices* group and the SCSI adapter.
6. Open the properties for the required device.
7. Select the *Driver* tab and press **Update Driver**.
8. Follow the Upgrade Device Driver Wizard steps. Specify a driver location (disk or temporary folder) so that the system can update it.
9. Repeat the steps above for each SCSI and FibreChannel adapter that is not properly configured by the system.
10. Re-start the PC if it is required.

Then the Target mode drivers can be installed.

PCI Slot Troubles

In some cases, the SCSI Adapter installed in the PCI slot operates improperly or does not operate at all. The main symptoms are:

- Windows hangs on starting or works slowly

- the installed SCSI Target driver does not start
- the driver is installed but the Management GUI does not see the Target port
- the logical library visible from the initiator side is unstable (bus errors, target disappears, and so forth.)

This situation is sometimes encountered when the PC has more than one used PCI slot, and the SCSI card that should operate in Target mode is installed in this slot.

The problem can be solved by swapping the SCSI Target Adapter with another PCI card in an occupied slot.

The last way is to temporary remove any unused PCI devices to avoid possible problems with the system interrupts.

SNC Troubles

If the SCSI Clients do use SNC as an interface between Initiator (client) and Target (Scalar DLC) host, and the command is sent when the Scalar DLC is down, the Target objects mapped on SNC will disappear so the client cannot send the commands later even after the Scalar DLC software is up again.

This is the SNC mapping trouble. To fix this situation, either execute the 'ScsiRescan' issue from client side or reboot the SNC. If the Scalar DLC is up, the targets will be re-mapped.

Client Applications

Some client interfaces have certain limitations concerning the names of used objects, for example, some DAS-based applications do not understand the mailbox name for **Insert** command other than **Ixx** (xx means any two alphanumeric characters). To avoid such problems, be sure that the objects created and configured via the Scalar DLC Management GUI are named in accordance with the Table 9-2.

NOTE: In the Table 9-2, “a” means “alpha” (A-Z), “n” means “numeric” (0-9).

Table 9-2 Object name limitations

Object	Management GUI	DAS	ROBAR	SCSI
Host	40 an, a first	40 an, a first	An	None
Logical library	30 an, a first	None (absent)	None (absent)	None
Partition	30 an, a first	None (absent)	None (absent)	None
Client	80 an, a first	80 an, a first	80 an, a first	None
Scratch pool	30 an, a first	9 an, a first	None (absent)	None
Clean pool	30 an, a first	9 an, a first	Paa	None
Data cartridge, volser	30 an	12 an (6 recommended)	6 an	None

Table 9-2 Object name limitations

Object	Management GUI	DAS	ROBAR	SCSI
Cleaning cartridge, volser	30 an	12 an (CL + 4 an recommended)	CL + 4 an	None
Mailbox area, eject	30 an, a first	3 an, Enn recommended	Enn	None
Mailbox area, insert	30 an, a first	3 an, Inn recommended	Inn	None
Drive	40 an, a first	9 an, a first	Dnn	None

Legato Networker

If Legato Networker is executed from a Solaris, follow the step below:

Step 1 Add the following four lines to the `/etc/rc2.d/S95` file:

- DAS_CLIENT=*clientname*; export DAS_CLIENT (*clientname* is a name of DAS client (e.g. *Client1*) representing the client application; refer to *DAS Client* on page 645).
- DAS_SERVER=*servername*; export DAS_SERVER (*servername* is a name of Scalar DLC PC (e.g. *computer*), shown in the *Scalar DLC Management GUI* on page 33).
- ACI_MEDIA_TYPE=*mediatype*; export ACI_MEDIA_TYPE (*mediatype* is an ACI media type (e.g. ACI_DECDLT) used by client application; use the value that corresponds the media present in the logical library configured by Scalar DLC; refer to *Install and Upgrade Manua*l, *Install DAS Client* section).
- DAS_MEDIUM=*mediatype*; export DAS_MEDIUM (*mediatype* is the a DAS media type (e.g. DECDLT) used by client application; use the value that corresponds the media present in the logical library configured by Scalar DLC; refer to *Media Types* on page A28).

HP Omniback

When using Omniback, follow the step below:

Step 1 Add the following entries to the *omnirc* file.

- DAS_CLIENT=OMNIBACK_C1
- DAS_SERVER=*localhost* where the *localhost* is the host name of the machine executing Scalar DLC (shown in the Management GUI in a broad black line)

DASADMIN

Configuring a drive to a client/logical library does not allocate the drive.

Step 1 DASADMIN must be executed from the client side before the client can access the drive.

Example: *$dasadmin allocd DRIVE UP dasclent*

DAS Client cannot connect to the Scalar DLC server host.

Step 1 Be sure the DAS client is configured to work from client host with server host. Refer to *DAS Client* on page 645 and to *Install and Upgrade Manua*l, *Install DAS Client* section.

Step 2 Be sure there is no firewall between the client and server host. If there is, make sure the DAS client connection is firewall-based and the DAS/ACI Firewall software is installed and configured. Refer to *Install and Upgrade Manua*l, *Install DAS Client* section.

Error Codes

Refer to Table 9-3 for the Error Codes used with the ATAC Calls Tab.

Table 9-3 Scalar DLC Error Codes

Error Code	Description
0	No error
200	Not Defined
201	Not Defined
202	RPC problem
203	Not Defined
204	Unable to Recover
205	The robot is not ready (or switched off logically)
206	Request link failure
207	Invalid robot number
208	Invalid arguments
209	Invalid client name
210	Invalid request id
211	The request was canceled
212	General software failure
213	Invalid pool name in scr_info
214	The cartridge is in use
215	The accessor couldn't put a cartridge - inventory destination cell
216	The accessor couldn't get a cartridge - inventory source cell
217	General hardware problem
218	Physical problem with cartridge
219	Physical problem with drive
220	Unrecoverable hardware problem - offline the library (not implemented)
221	The accessor couldn't put a cartridge and rejected it to I/E station - inventory destination cells, update I/E station cells
222	The source cell is empty - update source cell, retry
223	The destination cell is full - update destination cell, retry
224	The door was opened and closed - do a complete inventory, retry
225	The insert/eject station was opened and closed - update I/E station cells, retry

Table 9-3 Scalar DLC Error Codes

Error Code	Description
226	Unexpected hardware failure - retry
227	Invalid volser
228	Invalid drive name
229	The drive is in use
230	Scalar DLC is not active
231	Invalid area name
232	The dynamic area became full, insertion stopped
233	The drive is allocated by another client
234	The cartridge is not mounted
235	The cartridge belongs to another pool
236	The drive is in cleaning
237	Invalid pool name
238	The area is full (occurs during ejecting)
239	The drive is allocated exclusively by another client
240	One (or more) coordinate is wrong
241	The area is empty
242	Barcode read error
243	The client is not authorized to make this request
244	No drive available to do generic mount
245	No volser is allocated for the client
246	Media type doesn't match the volser
247	Library needs teaching
248	Library is becoming ready
249	Nothing to eject
250	Open configuration failed
251	Close configuration failed
252	Create configuration key failed
253	Delete configuration failed
254	Query configuration value failed
255	Update configuration value failed
256	Out of memory
257	Invalid user name or password
258	Invalid user
259	Invalid client type
260	User can't rename himself
261	Supervisor can't create object
262	Supervisor can't update object
263	Supervisor can't remove object
264	Supervisor can't start object
265	Supervisor can't stop object

Table 9-3 Scalar DLC Error Codes

Error Code	Description
266	Search for client in database failed
267	List client in database failed
268	Create client failed in database
269	Get client failed in database
270	Update client failed in database
271	Remove client failed in database
272	Listing of mailboxes has failed in database
273	Creating of mailbox failed in database
274	Assigning volser to mailbox failed
275	List cartridge failed in database
276	Get cartridge failed in database
277	Get property of cartridge failed in database
278	Create destination failed in NS
279	List destination failed in NS
280	Remove destination failed in NS
281	Requested logical library not found
282	List element failed in database
283	Get element failed in database
284	Get element properties failed in database
285	Assign cartridge to element failed in database
286	Internal error
287	Object is not ready
288	Initialization of request failed
289	Can't query object interface
290	Getting of mailbox failed in database
291	List physical libraries failed in database
292	Get physical library property failed in database
293	List partition failed in database
294	Get partition failed in database
295	Create partition failed in database
296	Mapping of virtual elements to physical failed in database
297	List media pool failed in database
298	Get media pool failed in database
299	Create media pool failed in database
300	Remove cartridge from media pool failed in database
301	Add cartridge to media pool failed in database
302	List service actions failed in database
303	List of logical libraries failed in database
304	Create logical library failed in database
305	Create library failed in database

Table 9-3 Scalar DLC Error Codes

Error Code	Description
306	Get property of logical library failed in database
307	Search of notification failed in NS
308	Load history failed in NS
309	Unknown type of notification
310	Acknowledging of notification failed in NS
311	Invalid action type
312	Get template failed in NS
313	Create template failed in NS
314	List template failed in NS
315	Remove template failed in NS
316	Get list of rules failed in NS
317	Get rule's properties failed in NS
318	Create new rule failed in database
319	Remove rule failed in database
320	List ticket failed in SCM
321	List ticket states failed in SCM
322	List ticket states entries failed in SCM
323	Get ticket context value failed in SCM
324	Add ticket state failed in SCM
325	Add ticket state value failed in SCM
326	Mark the ticket state as deleted failed in SCM
327	Context value not found in SCM
328	Find all libraries failed in configuration module
329	The volser requested is not in the client assigned volser range
330	Deletion of mailbox has failed
331	Deletion of logical library has failed
332	Deletion of physical library has failed
333	Deletion of partition has failed
334	Deletion of media pool in library has failed
335	Impossible to remove or change user level of last admin
336	This item already exists
337	Impossible to create ticket
338	The volser is allocated by another client
339	The library contains mailboxes
340	The library contains pools
341	The library contains partitions
342	Updating of mailbox has failed
343	Getting pool properties has failed
344	Updating pool has failed
345	Updating partition has failed

Table 9-3 Scalar DLC Error Codes

Error Code	Description
346	Operation has failed
347	One or more clients use this library
348	Impossible to get dump
349	Impossible to get data
350	Insertion of cartridge has failed
351	Exporting to alias has failed
352	Initialization of element status has failed
353	Mount has failed
354	Dismount of cartridge has failed
355	Dismount of drive has failed
356	Control of library has failed
357	Query of library status has failed
358	Invalid destination for move operation
359	Element is not inventoried

Utilities and Applicaiton Notes

This section contains important information about utilities and licensing.The following sections describes the additional Scalar DLC software tools.

Database Utility

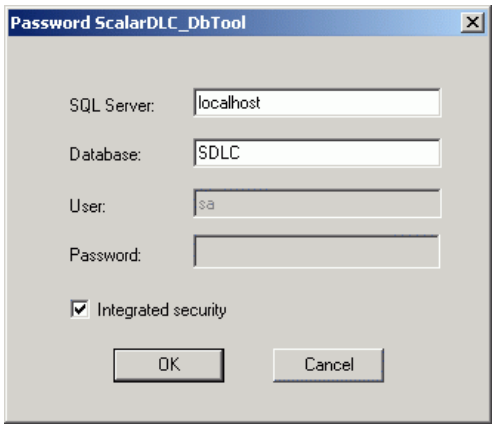
To launch the tool, right-click on Scalar DLC status icon, or launch a shortcut: **Start > Programs > ADIC Distributed Library Controller > Scalar DLC DB Tool.**

This tool can execute a backup, a compact or a restore of a database, as well as create schedules for the backup and compact jobs. For the database tool, the dialogs are identified in the following list:

- Log On dialog
- Main Dialog
  - Backup
  - Compact
  - Restore
  - Schedule Dialog (for backup and compact jobs)

See Figure A-1 for an illustration of the Log On dialog.

Figure A-1 Log On Dialog



Refer to Table A-1 for the areas within the Log On dialog.

Table A-1 Log On Areas

List	Operation	Description
SQL Server	Enter	The SQL server name.
Database	Enter	The database name, ‘SDLC’ by default.
User	Supplied	SQL user with the admin rights (disabled for the trusted connection).
	Enter	

Table A-1 Log On Areas

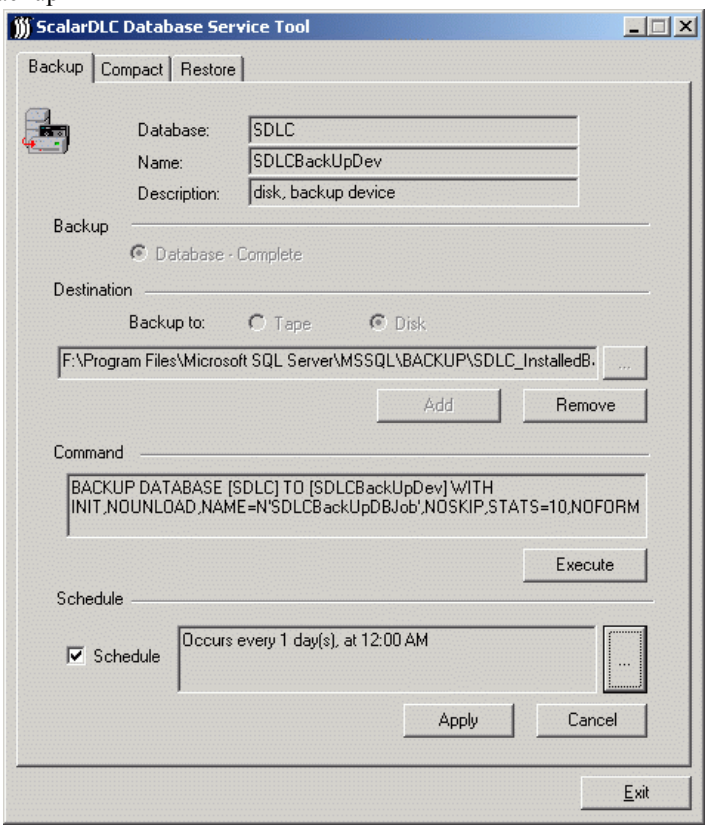
List	Operation	Description
Password	Supplied	SQL user password (disabled for the trusted connection).
	Enter	
Integrated security	Check	The user tries to access the database via trusted connection.
	Not check	The SQL Server admin name & password are to be specified.
OK	Click	Login.
Cancel	Click	Clear the dialog and end the process.

NOTE: The user must have administrative rights on a PC to log on the SQL database via the trusted connection.

Database Backup

After the password is accepted and verified, the *Backup* dialog appears. See Figure A-2.

Figure A-2 Database Backup

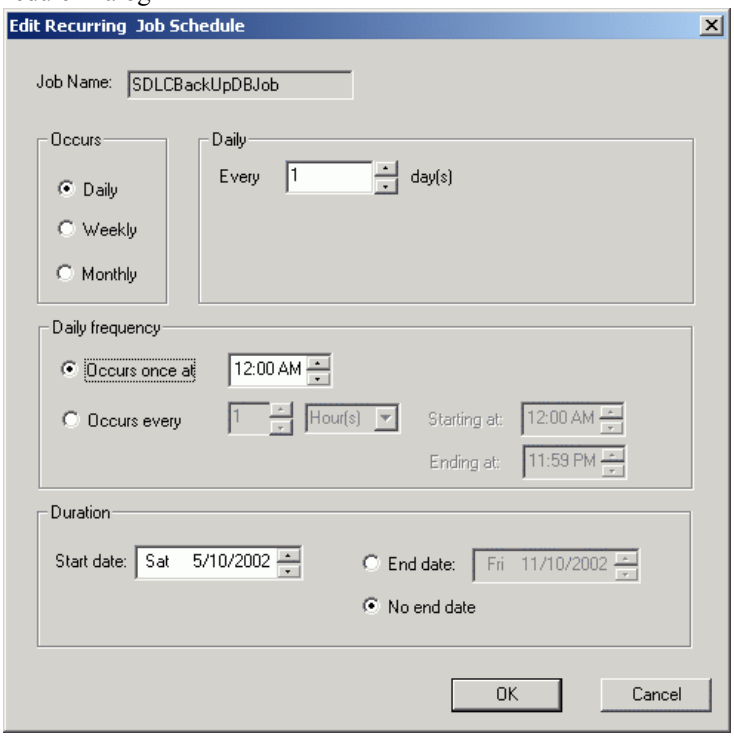


Refer to Table A-2 on page A3 for the areas within the Database Backup dialog.

Table A-2 Database Backup

List	Operation	Description
Database	Supplied	The original database name.
Name	Supplied	The database name. This entry default adds `BackupDev` to the end of the original name. This entry is disabled for the compact process.
Description	Supplied	The SQL user name.
Backup	Click	Indicates a backup procedure.
Tape	Select	Backup to a tape (not available in current realization).
Disk	Select	Backup to a disk.
Add	Click	Add the file if it does not exist. This button works in conjunction with browsing for a file.
Remove	Click	Remove the backup source.
Command	Supplied	The command associated with the backup.
Execute	Click	Cause immediate execution of the command.
Schedule	Check	Schedule the backup task. See Figure A-3.
Apply	Click	Accept the input.
Cancel	Click	Clear the dialog.
Exit	Click	Exit the dialog without applying the changes.

Figure A-3 Backup Schedule Dialog



Refer to Table A-3 on page A4 for the areas within the dialog.

Table A-3 Backup Schedule

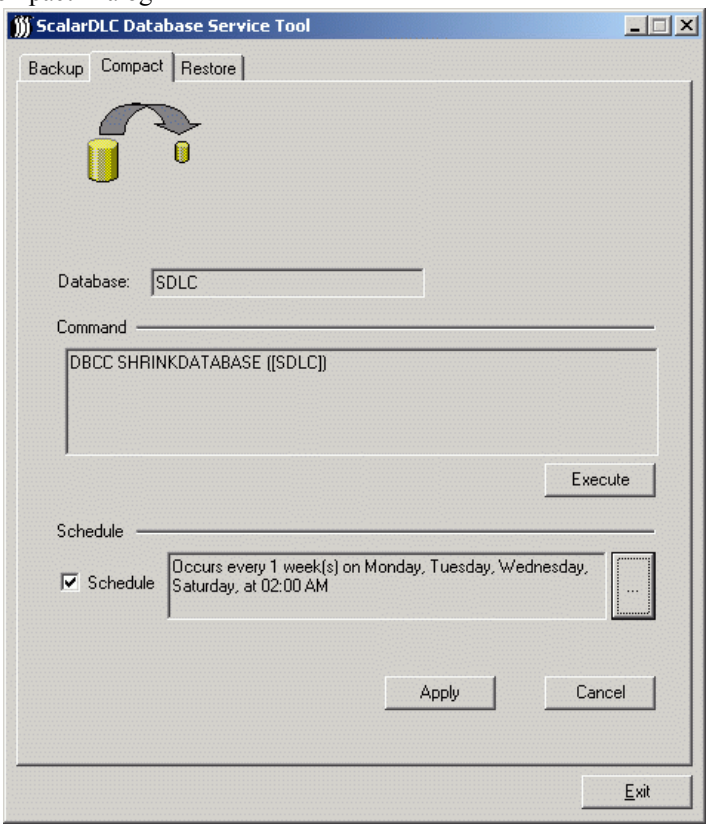
List	Operation	Description
Job Name	Supplied	The original database name for *Backup*.
Occurs	Select	A daily backup.
		A weekly backup.
		A monthly backup. Choose this button to select and set either the day or period of time.
Daily/ Weekly/ Monthly	Select	*Daily* specifies the job execution days.
		Weekly specifies how often (in weeks) and the day for job execution.
		Monthly specifies how often each month or the exact day of each month.
Daily Frequency	Click	The single time or period of occurrence.
Duration	Click	The start and end date. The end date can be left unspecified.
OK	Click	Accept the input and exit.
Cancel	Click	Clear the dialog and exit.

Database Compact

This feature reduces the Scalar DLC database file size to save the disk space and increase the database usability. The Compact Database comment can be executed only when the Scalar DLC software is stopped. Any attempt to execute the operation when the Scalar DLC software is working displays an error message.

See **Figure A-4 on page A5** for an illustration of the dialog.

Figure A-4 Database Compact Dialog

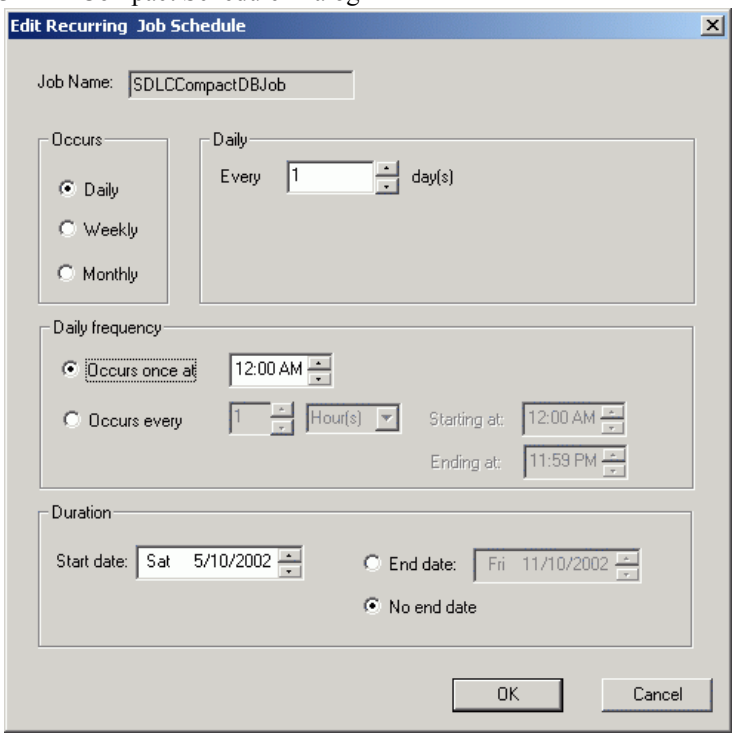


Refer to Table A-4 for the areas within the Database Compact dialog.

Table A-4 Database Compact

List	Operation	Description
Database	Supplied	The original database name.
Command	Supplied	The command associated with the compact.
Execute	Click	Immediate execution of the command.
Schedule	Check	Schedule the task. See Figure A-5 on page A6.
Apply	Click	Accept the input.
Cancel	Click	Clear the dialog.
Exit	Click	Close the dialog without saving the input.

Figure A-5 Compact Schedule Dialog



Refer to Table A-5 for the areas within the dialog.

Table A-5 Compact Schedule

List	Operation	Description
Job Name	Supplied	The original database name.
Occurs	Select	A daily compact.
		A weekly compact.
		A monthly compact. Choose this button to select and set either the day or period of time.
Daily/ Weekly/ Monthly	Select	*Daily* specifies the job execution days.
		Weekly specifies how often (in weeks) and the day for job execution.
		Monthly specifies how often each month or the exact day of each month.
Daily Frequency	Click	Establish either the single time or period of occurrence.
Duration	Click	Set the start and end date. The end date can be left unspecified.
OK	Click	Accept the input and exit.
Cancel	Click	Clear the dialog and exits.

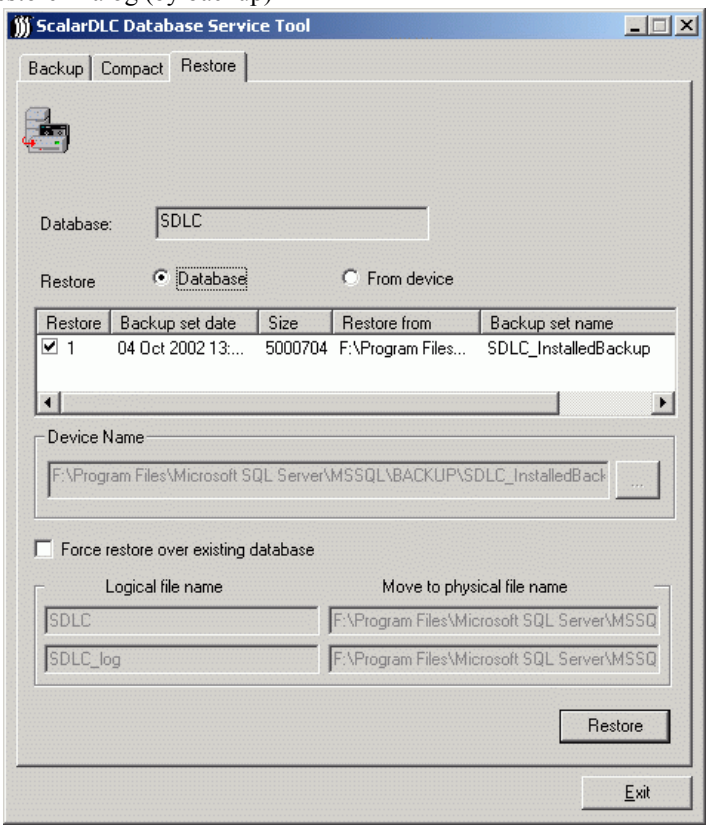
NOTE: The user should schedule two backup and compact jobs at different times so that they do not overlap and will not conflict with each other.

Database Restore

This feature imports the Scalar DLC database contents either from the regular backup (databases) or external file (disk). The Restore Database command can be executed only when the Scalar DLC software is stopped. Any attempt to execute the operation when the Scalar DLC software is working displays an error message.

See Figure A-6 and Figure A-7 on page A8 for an illustrations of the dialog.

Figure A-6 Database Restore Dialog (by backup)



Refer to Table A-6 for the areas within the Database Restore dialog.

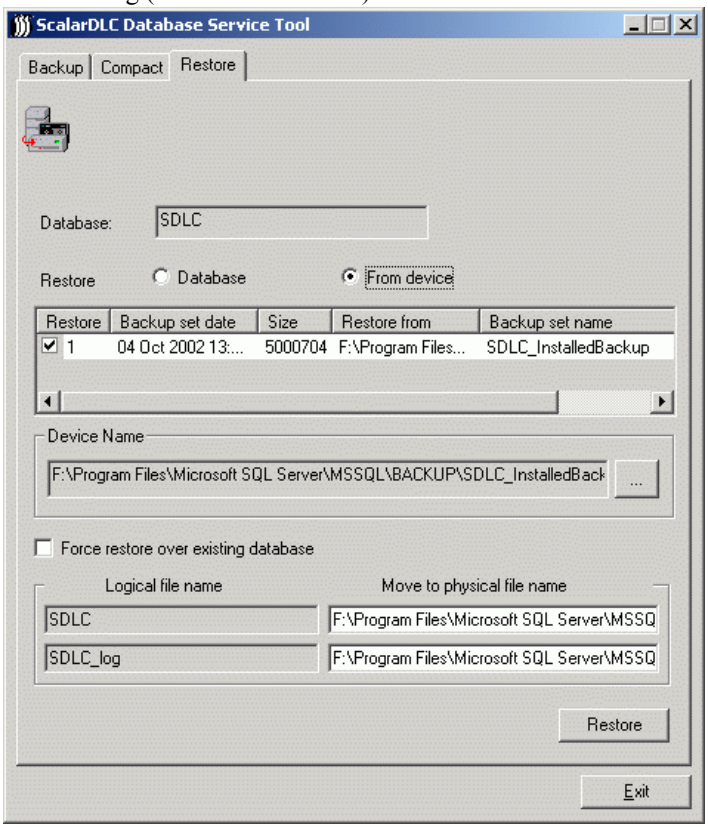
Table A-6 Database Restore

List	Operation	Description
Database	Supplied	The original database name.
Restore	Select	*Database* is for restoring database by backup. See Figure A-6.
		From Device is for restoring database from file. See Figure A-7 on page A8.
Restore	Check	Restores backup copy number (available only for *Database* selection).
Backup set date	Supplied	Backup set date & time.
Size	Supplied	Database size.
Restore from	Supplied	The path to the backup set database.

Table A-6 Database Restore

List	Operation	Description
Backup set name	Supplied	The backup set name.
Device Name	Supplied	The device name is shown here when *From device* is selected.
Device Name: ...	Click	Allows to select the device (file) to restore database from. Available for *From device* selection only.
Force restore over existing database	Check	Do not ask if the database is still exist.
Logical file name	Supplied	Shows the path to the existing database files.
Move to physical file name	Supplied	For the *Database* selection, these fields are not editable.
	Enter	For the *From device* selection, these fields are editable and the file to restore can be entered manually.
Restore	Click	Accept the input and restore the database.
Exit	Click	Close the dialog.

Figure A-7 Database Restore Dialog (restore from device)



Log Viewer Utility

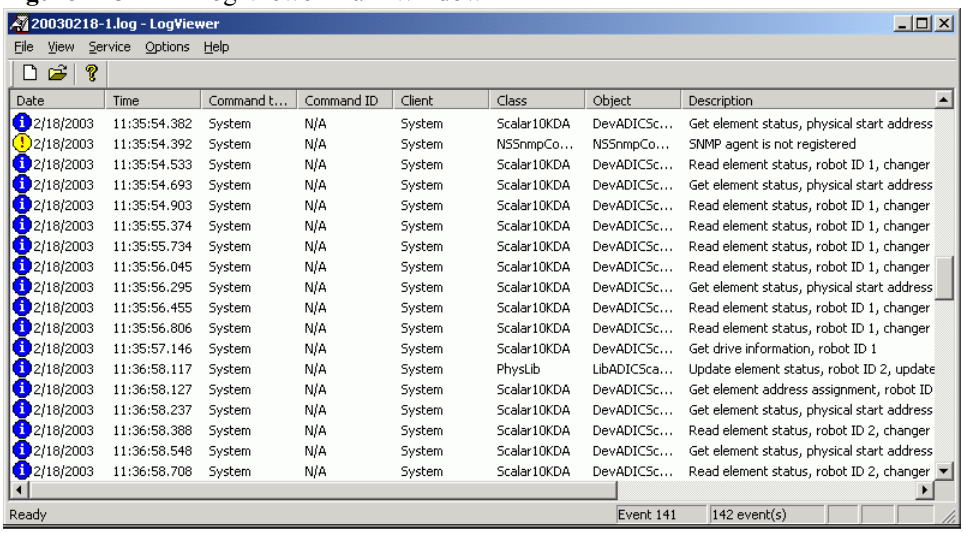
To launch the tool, right-click on the Scalar DLC status icon and select **Tools > Log Viewer**.

This tool is designed to view the logs of Scalar DLC software operations if an error situation has appeared and the error content is needed.

When an error occurs, find it in the log (for example, filter to show only errors), look by the command ID in what object the first error has appear, see the error description and error content by the code. See where and when the error appears and check the states of appropriate logical and physical libraries, robots, and so forth, in the appropriate period of time. Analyze command type, object, and client fields.

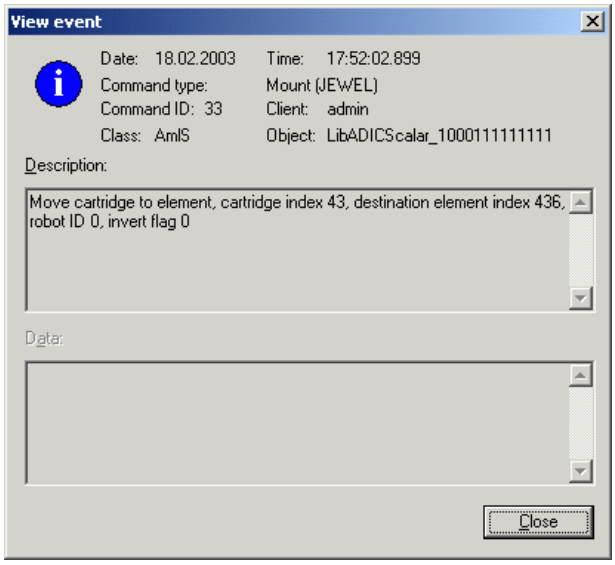
In some cases however the log itself does not contain enough information to reproduce the problem. The client database may be required (**Start > Programs > ADIC Distributed Library Controller > Scalar DLC DB Tool**, select Backup tab and save it to a location (see Figure A-2 on page A2) and send the file via email). See Figure A-8.

Figure A-8 Log Viewer Main Window



Double-clicking on the log message shows the event context. See Figure A-9 on page A10.

Figure A-9 View Event



Refer to Table A-7 for event type descriptions.

Table A-7 Log Viewer Icons

Icon	Name	Description
	Normal	Informational messages. They usually contain the description of successfully executed operation.
	Warning	Warning messages. Something is not working at it should; however, there is no danger. The Scalar DLC functions are enabled and the operation has finished successfully.
	Error	Error messages. They usually contain the description of the operation that has been canceled because of error. The error code and description are also contained if they are known.
	Critical failure	Critical error messages associated with an error condition that could cause a software or system failure. An immediate action may be required.

Refer to Table A-8 for Log Viewer menu descriptions.

Table A-8 Log Viewer Menu Operations

Menu operation	Description
File	Typical log-file operations: current, open, exit.
View	Viewer options: show current event context, show toolbar, show status bar, refresh.

Table A-8 Log Viewer Menu Operations

Menu operation	Description
Service	Logger services: result description, as indicated by Figure A-10, search, as shown in Figure A-11, search next, Goto event, as shown in Figure A-12.
Options	Logging options, as shown in Figure A-13, filtering options as shown in Figure A-14 on page A12.
Help	Log Viewer current version.

Figure A-10 Result Description

Enter the error number (e.g. 0x00000005) and press **Lookup** to see the error content (Access is denied).

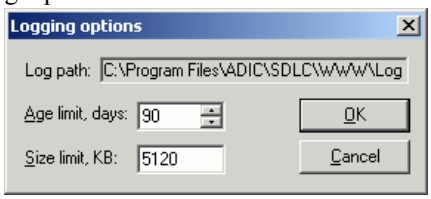
Figure A-11 Search

Typical search engine. Enter the string to find, specify options and press **Search**.

Figure A-12 Goto Event

The Goto event pane allows user to jump on event with the specified number.

Figure A-13 Logging Options



Refer to Table A-9 for the Logging options pane descriptions.

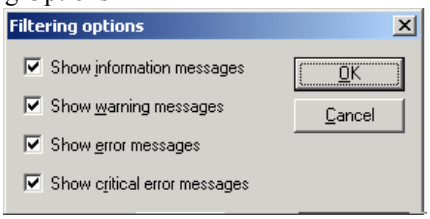
Table A-9 Logging Options

List	Operation	Description
Log path	Supplied	The log file path.
Age limit, days	Enter	The age limit in days. Natural numbers allowed only. All the log files older than the age limit will be removed automatically at midnight. ‘0’ means ‘no age limit’.

Table A-9 Logging Options

List	Operation	Description
Size limit, KB	Enter	The size limit in KB. Natural numbers are allowed only. If the log file size exceeds the size limit, the new log file is created for current session. ‘0’ means ‘no size limit’.
OK	Click	Save the options and exit this pane.
Cancel	Click	Close the pane without saving the changed options.

Figure A-14 Filtering Options



Refer to Table A-10 for the filtering options pane descriptions.

Table A-10 Filtering Options

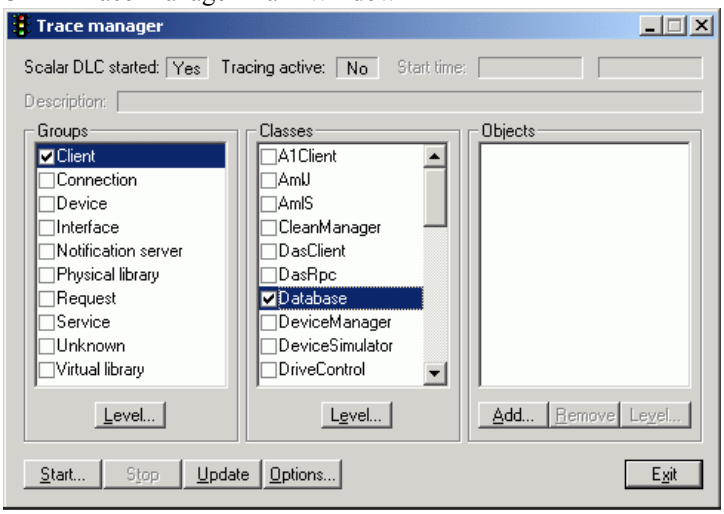
List	Operation	Description
Show information messages	Check	Normal messages are shown.
Show warning messages	Check	Warning messages are shown.
Show error messages	Check	Error messages are shown.
Show critical error messages	Check	Critical error messages are shown.
OK	Click	Save the options and exit this pane.
Cancel	Click	Close the pane without saving the changed options.

Trace Manager Utility

To launch the tool, right-click on Scalar DLC status icon.

Trace Manager tool is designed for tracing the execution of Scalar DLC software objects. See **Figure A-15 on page A13**.

Figure A-15 Trace Manager Main Window



Refer to Table A-11 for the details.

Table A-11 Trace Manager Main Window

List	Operation	Description
Scalar DLC started	Supplied	Shows 'Yes' if the Scalar DLC supervisor is started, 'No' if it is stopped.
Tracing Active	Supplied	Shows 'Yes' if the Tracing process is started, 'No' if it is not.
Start time	Supplied	Shows the start time and current time for the Tracing process.
Description	Supplied	Shows the description of current tracing process.
Groups	Check	The object groups list. If the selected group is checked, the button **Level** becomes active.
Level	Click	Choose the sensibility level for the tracing current group. See Figure A-16 on page A14.
Classes	Check	The object classes list. If the selected class is checked, the **Level** button becomes active.
Level	Click	Choose the sensibility level for the tracing current class. See Figure A-17 on page A14.
Objects	Check	The objects list. If the selected object is checked, the **Level** button becomes active.
Add	Click	Adds the objects for tracing. See Figure A-18 on page A14.
Remove	Click	Removes the objects from tracing list.
Level	Click	Chooses the sensibility level for the tracing current object. See Figure A-20 on page A15.
Start	Click	Start the tracing. See Figure A-21 on page A16.
Stop	Click	Stop the tracing.
Update	Click	Save the current trace manager options as default.

Table A-11 Trace Manager Main Window

List	Operation	Description
Options	Click	Show the trace manager options pane. See Figure A-22 on page A16.
Exit	Click	Close the pane without saving the changed options.

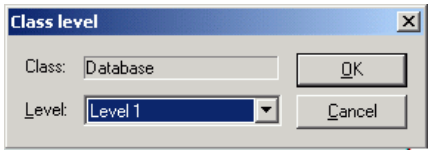
Figure A-16 Group Level

Refer to Table A-12 for the details.

Table A-12 Group Level

List	Operation	Description
Group	Supplied	Group name.
Level	Select	The sensibility level where one is minimum and five is maximum.
OK	Click	Save the options and exit this pane.
Cancel	Click	Close the pane without saving the changed options.

Figure A-17 Class Level

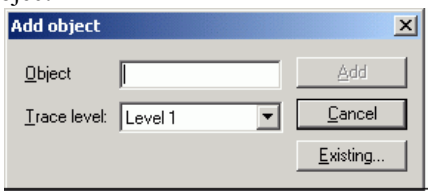


Refer to Table A-13 for the details.

Table A-13 Class Level

List	Operation	Description
Class	Supplied	Class name.
Level	Select	The sensibility level (1 is minimum and 5 is maximum).
OK	Click	Saves the options and exit this pane.
Cancel	Click	Closes the pane without saving the changed options.

Figure A-18 Add Object

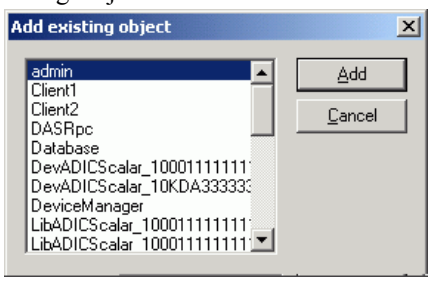


Refer to Table A-14 on page A15 for the details.

Table A-14 Add Object

List	Operation	Description
Object	Enter	Object name.
Trace level	Select	The sensibility level (1 is minimum and 5 is maximum).
Add	Click	Add object and close the pane.
Cancel	Click	Close the pane without adding object.
Existing	Click	Choose the existing object to trace. See Figure A-19.

Figure A-19 Add Existing Object

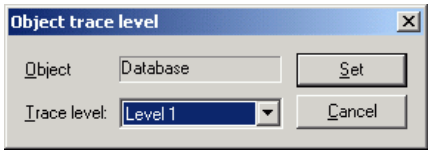


Refer to Table A-15 for the details.

Table A-15 Add Existing Object

List	Operation	Description
Object list	Select	The objects to add.
OK	Click	Add the selected object.
Cancel	Click	Close the pane without adding the object.

Figure A-20 Object Level

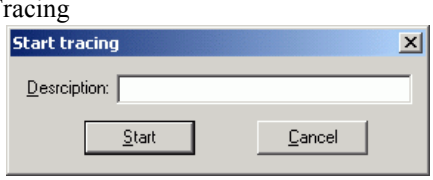


Refer to Table A-16 for the details.

Table A-16 Object Level

List	Operation	Description
Object	Supplied	Object name.
Level	Select	The sensibility level (1 is minimum and 5 is maximum).
Set	Click	Save the options and exit this pane.
Cancel	Click	Close the pane without saving the changed options.

Figure A-21 Start Tracing

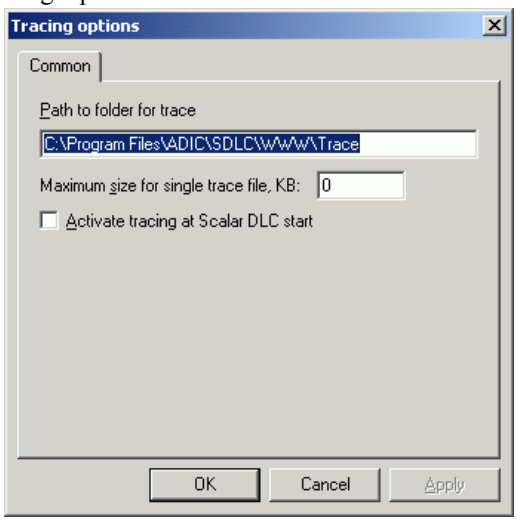


Refer to Table A-17 for the details.

Table A-17 Start Tracing

List	Operation	Description
Description	Enter	The tracing description should be entered here.
Start	Click	Start the tracing process.
Cancel	Click	Close the pane without starting the tracing.

Figure A-22 Tracing Options



Refer to Table A-18 for the details.

Table A-18 Tracing Options

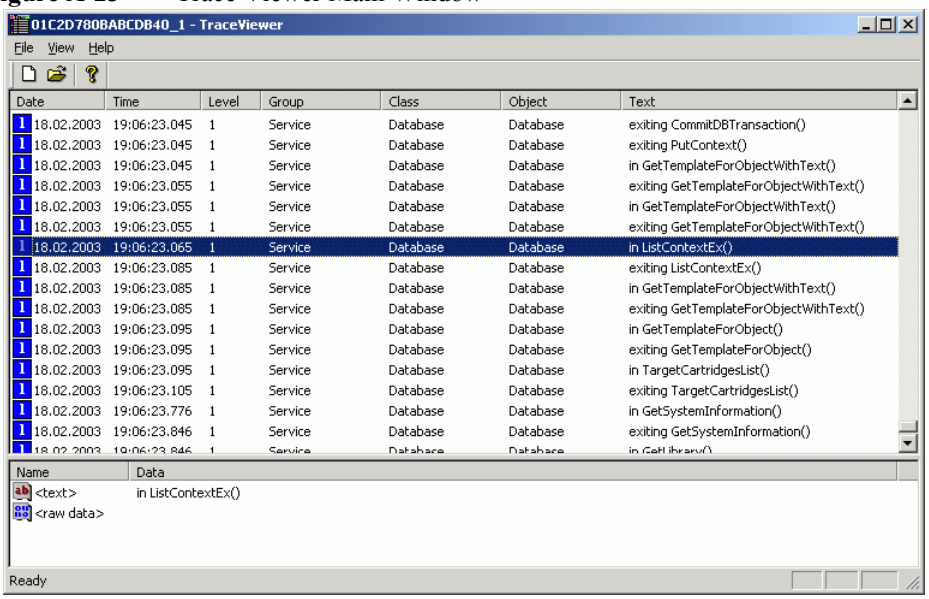
List	Operation	Description
Path to folder for trace	Enter	A trace path. `..\ADIC\SDLC\WWW\Trace` is the default path.
Maximum size for single trace file, KB	Enter	The size limit in KB is shown here. Natural numbers are allowed only. If the trace file size exceeds the size limit, the new trace file is created for current session. ‘0’ means ‘no size limit’.
Activate tracing at Scalar DLC start	Check	Check if the tracing should start automatically when Scalar DLC supervisor starts.
OK	Click	Save options and close the pane.
Cancel	Click	Close the pane without saving options.
Apply	Click	Set the current tracing options as default.

Trace Viewer Utility

To launch the tool, right-click on Scalar DLC status icon.

The Trace Viewer tool is designed for viewing the trace files generated by *Trace Manager Utility* on page A12 during execution of the Scalar DLC software. See Figure A-23.

Figure A-23 Trace Viewer Main Window



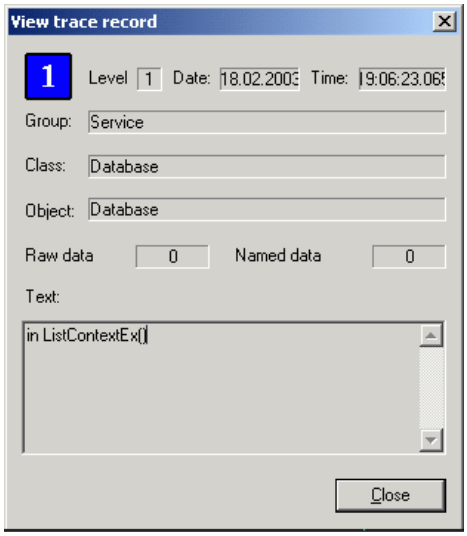
Refer to Table A-19 for the Trace Viewer menu descriptions.

Table A-19 Trace Viewer Menu Operations

Menu operation	Description
File	Typical trace-file operations: current, open, exit.
View	Viewer options: show current record context using <Enter> (see Figure A-24 on page A18), show toolbar, show status bar, refresh using <F5>.
Help	Trace Viewer current version.

Double-clicking on the trace record allows a user to see the trace in a more detailed form. See Figure A-24 on page A18.

Figure A-24 View Trace Record



Refer to Table A-20 for the details.

Table A-20 View Trace Record

List	Operation	Description
Level	Supplied	The sensibility level needed to trace the event. The level is also shown inside the color icon.
Date	Supplied	Record date.
Time	Supplied	Record time.
Group	Supplied	Group name.
Class	Supplied	Class name.
Object	Supplied	Object name.
Raw data	Supplied	The binary record data.
Named data	Supplied	The text record data.
Text	Supplied	Record text.
Close	Click	Close the pane.

SCSI Target Port Utility

To launch the tool, right-click on Scalar DLC status icon. See Figure A-25 on page A19.

The Scalar DLC SCSI Target Port Tool is designed for monitoring and operating the system SCSI Target ports. If the SCSI port is working in Target mode and the user wants to use it as Initiator, the port must be disabled as Target before it can be enabled as Initiator. This operation is executed via the SCSI Target Port Tool.

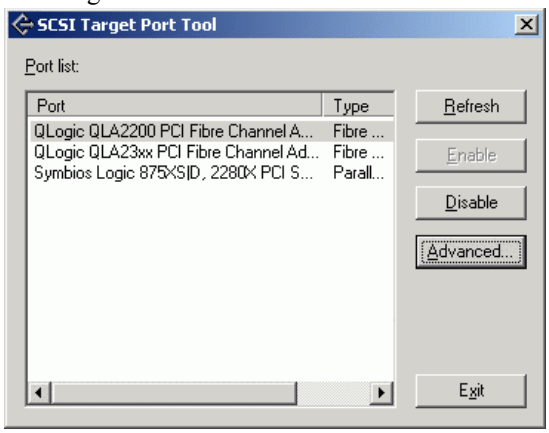
Right after the Scalar DLC software and the Target drivers are installed, the SCSI Target ports can be disabled. To make them operational, enable the ports via the SCSI Target Port tool.

CAUTION: **Enable ONLY the ports that should operate in Target mode. The exact knowledge is required. An attempt to use the initiator port as a target may cause a system crash (for example, if the hard disk is connected to the adapter, its port must work in Initiator mode.**

NOTE: ADIC does not recommend using two adapters of the same model in different operation modes (Initiator and Target). Otherwise, it is quite possible to make a mistake and enable an initiator as a target.

After disabling the SCSI Target Port launch the Device Manager and enable the SCSI port as an Initiator. Afterwards, the system may ask for restart. Enabling of SCSI port as a Target can be done via the SCSI Target Port tool (a reboot may be required).

Figure A-25 SCSI Target Port Tool

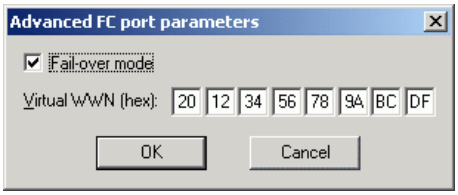


Refer to Table A-21 for the details.

Table A-21 SCSI Target Port Tool

List	Operation	Description
Port list	Select	*Port* is the port full name.
		Type is a port type.
		Status is a port status (enabled/disabled).
Refresh	Click	Refresh the port list.
Enable	Click	Enable the disabled SCSI Target port.
Disable	Click	Disable the enabled SCSI Target port.
Advanced	Click	Advanced port parameters (only for Fiber Channel ports). See Figure A-26 on page A20.
Exit	Click	Close the SCSI Target Port Tool.

Figure A-26 Advanced Port Parameters



Refer to Table A-22 for the details.

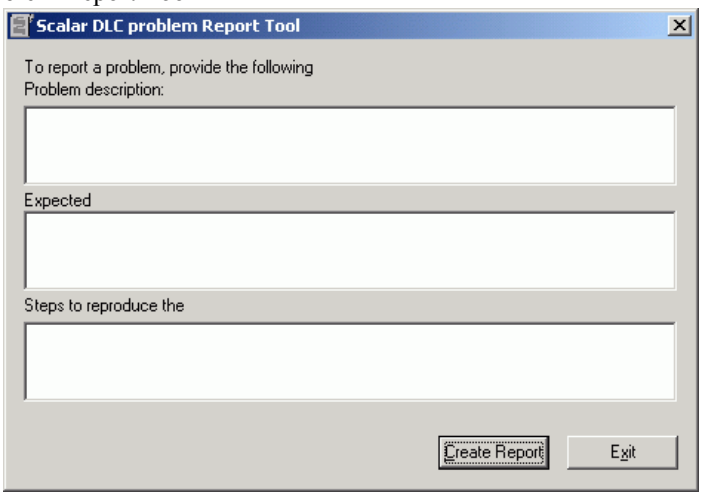
Table A-22 Advanced Port Parameters

Parameter	Operation	Description
Fail-over mode	Check	Must be checked if the Scalar DLC Cluster solution has been installed.
Virtual WWN	Enter	Virtual world-wide name to see the port from outside.
OK	Click	Update and exit.
Cancel	Click	Exit without update.

Problem Report Utility

To start the Report Tool a shortcut: **Start > Programs > ADIC Distributed Library Controller > Scalar DLC Problem Report Tool.** See Figure A-27.

Figure A-27 Problem Report Tool



Describe the problem step-by step. Clarify what has been expected and what should be done to reproduce the problem. Then press **Create Report** to save the report file on disk; the report file will include the entered description, the system register, and so forth.

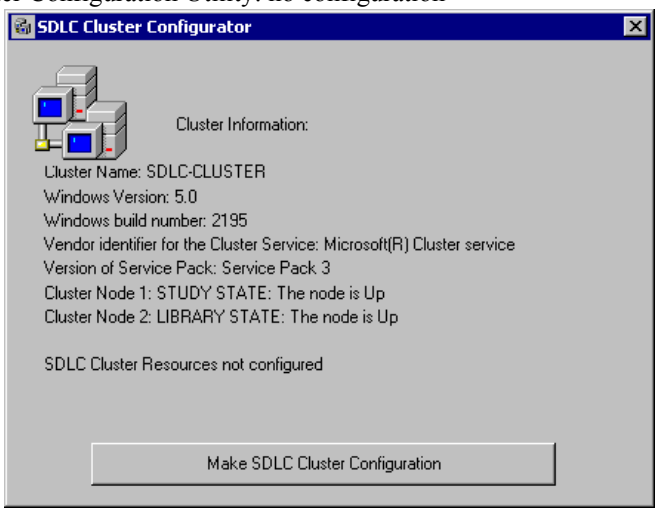
After the report file is saved, it is possible to email it to the ADIC customer support.

Cluster Configurator Utility

This tool should be used only for the Scalar DLC installed as a cluster solution.

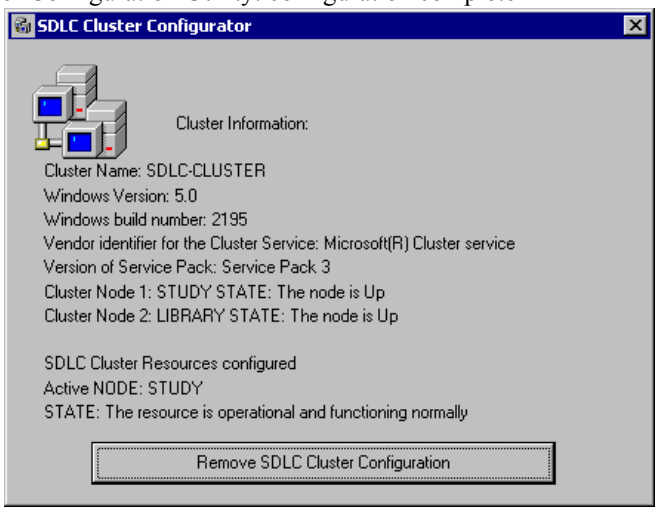
Right after the Scalar DLC software is installed on both cluster nodes launch the cluster configurator tool. It can be found on the Scalar DLC Installation CD by the following path: `Scalar_DLC\Cluster\SDLC_ClusterConfig.exe`. See Figure A-28.

Figure A-28 Cluster Configuration Utility: no configuration



Press **Make SDLC Cluster Configuration** to configure Scalar DLC software for a cluster mode. When the configuration completes, the pop-up “Configuration created successfully“ window opens. Press **OK** to return to the SDLC Cluster Configurator (see Figure A-29).

Figure A-29 Cluster Configuration Utility: configuration complete



The **Remove SDLC Cluster Configuration** button should be used ONLY to re-configure Scalar DLC software from cluster to basic (non-cluster) mode. If that happened on a cluster, the Scalar DLC failover solution will not function. However, the Scalar DLC itself will work in a basic mode (as if it has been installed on standalone PC).

Scalar DLC Software Licensing

The Scalar DLC software will run for a “grace period” of 30 days after installation without a license. Thereafter, a license key is required or the software stops running. This key should be obtained in advance - before the 30-days trial period expires - by contacting ATAC.

To request a license, contact ADIC by either email or fax.

- Send the license request by email from the license application module.
- Print the license request text file, license.lic, and fax the file to ATAC at 1.303.792.0056.

Standard License

Refer to *Obtaining License* to request a Scalar DLC license.

The license request can be sent either by email or fax. For a fax, the file is located at `<%SystemDrive%>\Program Files\ADIC\SDLC\docs\license.lic`.

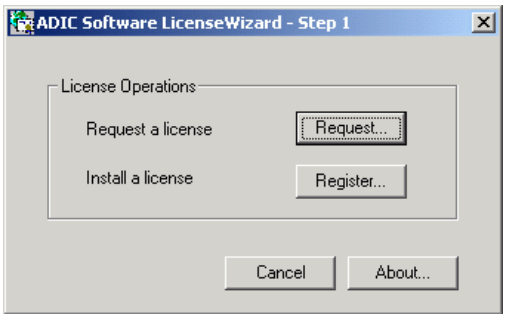
Once the license request is received and is validated by ADIC, a license string is sent back to the sender to be entered into Scalar DLC software.

Refer to *Installing License* on page A25 for registering the Scalar DLC license.

Obtaining License

The Scalar DLC license request can be resolved in one of two ways. During the installation process, execute the ADIC Licensing application and click **Request**. See Figure A-30. The Licensing dialog is also available through **Start > Programs > ADIC Distributed Library Controller > ADIC Licensing.**

Figure A-30 Licensing Dialog



Refer to Table A-23 for a definition of the areas of the Licensing dialog.

Table A-23 Licensing Dialog

List	Operation	Description
Request	Click	Request a license string. See Figure A-31.
Register	Click	Install the license string. See Figure A-35 on page A26.
Cancel	Click	Clear the dialog and exit.
About	Click	Provide a brief description of the license.

At the first step of License request process the user has to choose the license request file. See Figure A-31.

Figure A-31 License Request File

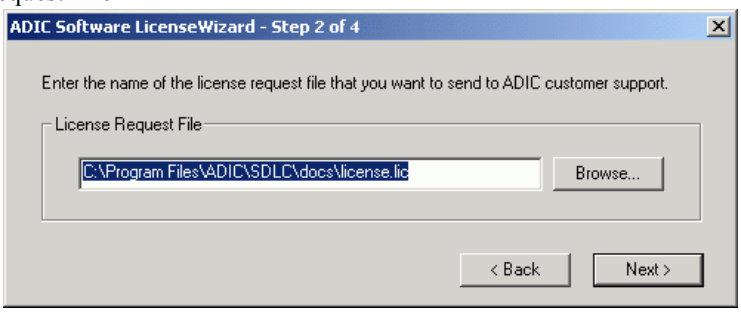


Table A-24 identifies the areas of this dialog.

Table A-24 Licensing Request File

List	Operation	Description
License Request File	Enter	The license request file name and path. The default file is `<%SystemDrive%>\Program Files\ADIC\SDLC\docs\license.lic`
Browse	Click	Browse for the licence request file.
Back	Click	Return to the previous dialog
Next	Click	Open the next dialog pane.

The next step is the Licensing Review. See Figure A-32.

Figure A-32 Licensing Review

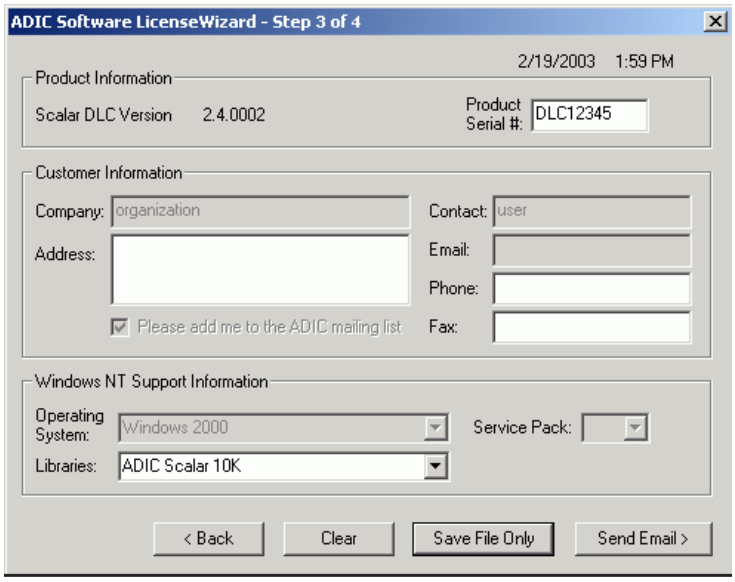


Table A-25 identifies the areas of this dialog. Editable fields are shown with a white background, and non-editable fields are shown in gray.

Table A-25 Licensing Review

List	Operation	Description
Product Information	Supplied	Scalar DLC version is shown here.
Product Serial #	Enter	Scalar DLC serial number. It is obtained from the Scalar DLC Database, but the user may still edit it.
Customer Information	Supplied	Customer information obtained from Scalar DLC Database is shown here.
Company	Supplied	Company name.
Address	Supplied	Company address.
Contact	Supplied	Contact person.
Email	Supplied	Contact email address.
Phone	Supplied	Contact phone number.
Fax	Supplied	Contact fax number.
Please add me to the ADIC mailing list	Supplied	Add user to the ADIC mailing list.
Windows NT Support Information	Supplied	Windows NT/2000 Support Information is shown here.
Operating System	Supplied	Operating system version.
Service Pack	Supplied	Service pack currently installed.
Libraries	Supplied	Licensed ADIC libraries.
Back	Click	Return to the previous dialog.
Clear	Click	Clear all editable fields.
Save File Only	Click	Save license request to file and exit. See Figure A-34 on page A25.
Send Email	Click	Send license request to ADIC via email. See Figure A-33.

CAUTION: **Changing the editable fields is possible, but not recommended.**

Figure A-33 Send License via Email

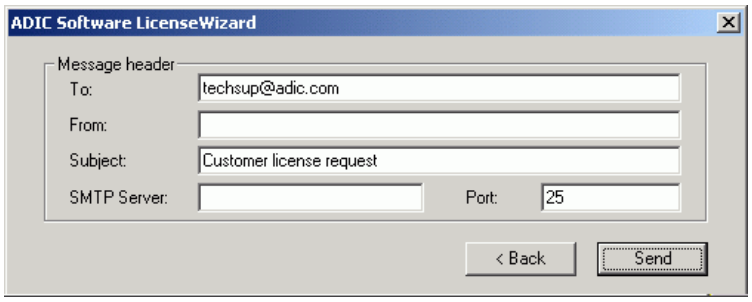


Table A-26 identifies the areas of this dialog.

Table A-26 Send License via Email

List	Operation	Description
Message header	Supplied	Email parameters for sending email are to be set up here.
To	Enter	Email receiver must be set up here. *ADIC technical support* is the default.
From	Enter	Sender email is shown here. Contact email is the default.
Subject	Enter	Email subject is shown here. *Customer license request* is the default.
SMTP server	Enter	SMTP server name must be specified here.
Port	Enter	SMTP port must be specified here.
Back	Click	Return to the previous dialog
Send	Click	Send email and finish. See Figure A-34.

NOTE: Changing the default editable field is possible, but not recommended.

Figure A-34 Licensing Before Installation

Installing License

After obtaining the License string from ADIC Technical support, perform the following:

Step 1 Launch ADIC Licensing through **Start > Programs > ADIC Distributed Library Controller > ADIC Licensing**. See Figure A-30 on page A22.

Step 2 Press **Register**. The Register wizard starts. See Figure A-35 on page A26.

Step 3 Follow the steps as they are described.

Figure A-35 Authorization String

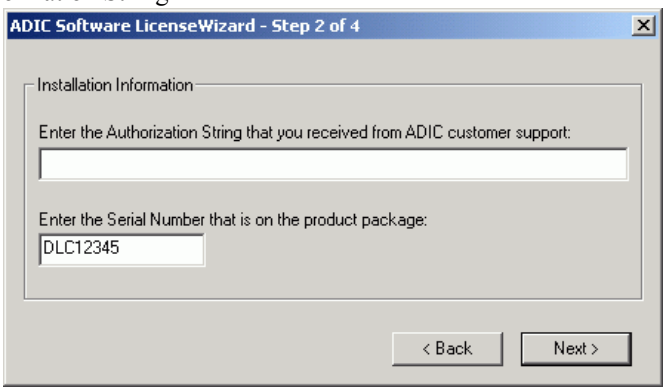
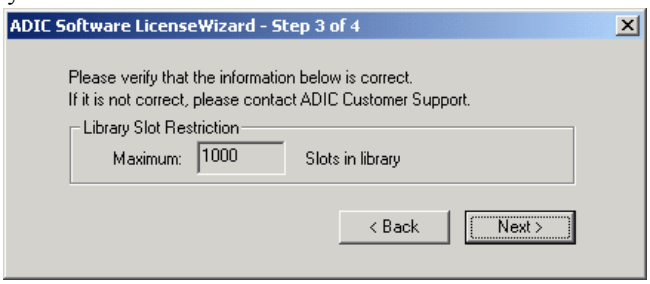


Table A-27 identifies the areas of this dialog.

Table A-27 Authorization String

List	Operation	Description
Authorization string	Enter	The authorization string must be entered here.
Serial number	Enter	The Scalar DLC serial number must be entered here.
Back	Click	Return to the previous dialog.
Next	Click	Open the next dialog pane. See Figure A-36.

Figure A-36 Library Slot Restriction



NOTE: Although the typical ADIC license covers all library slots (unlimited access), there are cases when only part of the library can be accessed by the client.

Table A-28 identifies the areas of this dialog.

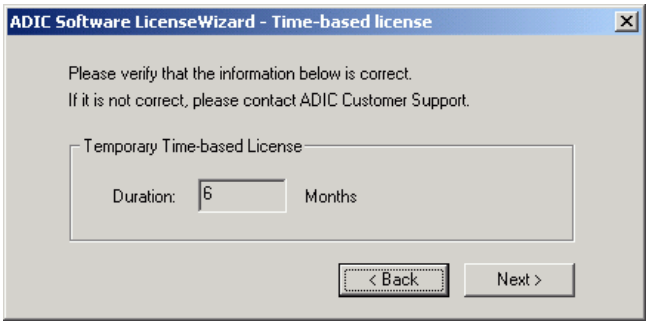
Table A-28 Library Slot Restriction

List	Operation	Description
Library Slot Restriction	Supplied	The library slot availability declared by the license. If the license does not cover all slots of the physical device, the storage elements above the specified value will not be accessible.
Back	Click	Return to the previous dialog.

Table A-28 Library Slot Restriction

List	Operation	Description
Next	Click	Open the next dialog pane. See Figure A-37.

Figure A-37 Time-based License



NOTE: Although the typical ADIC license is permanent, sometimes it is only time-based. This means that after the specified period of time, the Scalar DLC software will not function unless a new license is installed.

Table A-29 identifies the areas of this dialog.

Table A-29 Time-based License

List	Operation	Description
Duration	Supplied	The Scalar DLC software duration period (months).
Back	Click	Return to the previous dialog.
Next	Click	Open the next dialog pane. See Figure A-38.

Figure A-38 Finishing License

Table A-30 identifies the areas of this dialog.

Table A-30 Finishing License

List	Operation	Description
Back	Click	Return to the previous dialog.
Abort	Click	Exit the program without installing the license.
Finish	Click	Install the license and exit the program.

NOTE: When the license is installed, the tape device must be online. Otherwise, the license will not be applied.

Cluster License

Although there is no special license wizard for Scalar DLC Cluster solution, there is a special sequence to install the license for the cluster.

Step 1 Start Scalar DLC software on Node1. Request the license. Refer to *Obtaining License* on page A22.

Step 2 Change the active node to Node2. Request the license here, too. Refer to *Obtaining License* on page A22.

Step 3 Send both license requests to ADIC Customer support. There will be two different authorization string returned (string1 and string2).

Step 4 Register the license on Node1 with the string1. Refer to *Installing License* on page A25.

Step 5 Register the license on Node2 with the string2. Refer to *Installing License* on page A25.

Application Notes

Media Types

Refer to Table A-31 for a list of supported media types.

NOTE: The media marked by an ampersand (&) are supported by AML devices (AML/J, AML/2, and AML/E). The media marked by an asterisk (*) are supported by the Scalar 1000 library. The media marked by plus (+) are supported by the Scalar 10K library.

Table A-31 Media Types

Type	Description	Scalar DLC Type	DAS Type	Media Domain	AMU Type
3480 (&*)	0.5” tape (different length available)	3480	3480	Half-inch	C0
3490 (&)	0.5” tape (different length available)	3480	3480	Half-inch	C0
3490E (&*)	0.5” tape (different length available)	3490E	3480	Half-inch	C0

Table A-31 Media Types

Type	Description	Scalar DLC Type	DAS Type	Media Domain	AMU Type
NCTP (&*)	0.5” tape (Philip new compatible tape product)	NCTP	3480	Half-inch	C0
STK-Eagle (&)	0.5” tape (STK-Eagle)	STK-Eagle	3480	Half-inch	C0
SD-3 (&)	0.5” tape (STK-Redwood)	SD-3	3480	Half-inch	C0
DLT Compac Tape III (&*)	Digital Linear Tape	DLT III	DECDLT	DLT	C1
DLT Compac Tape IV (&*+)	Digital Linear Tape	DLT IV	DECDLT	DLT	C1
DLT Compac Tape III XT (&*)	Digital Linear Tape	DLT IIIXT	DECDLT	DLT	C1
Super DLT (&*+)	Digital Linear Tape	SDLT	DECDLT	DLT	C1
3590 (&*)	0.5” tape (NTP - New Tape Product)	3590	3590	Half-inch	C2
3590E (&*+)	0.5” tape 3590 Condor, double capacity	3590E	3590	Half-inch	C2
LTO 1 (&*+)	Ultrium LTO L1	LTO	LTO	LTO	C3
LTO 2 (&*+)	Ultrium LTO L2	LTO 2	LTO	LTO	C3
CD-Caddy (&)	CD with enclosure	CD-Caddy	CD	CD	C6
OD-R (&)	Optical disk 5.5”	OD-Reflection	OD-Thin	OD-Thin	O0
OD-512 (&)	Optical disk 5.5”	OD-512	OD-Thick	OD-Thick	O1
VHS (&)	Video Home Service	VHS	VHS	VHS	V0
S-VHS (&)	Super-Video Home Service	VHS	VHS	VHS	V0
8MM (&)	8mm tape (different length available)	8mm	8MM	8mm	V1
8MM-54M (&)	8mm tape 54 minutes	8mm	8MM	8mm	V1
8MM-112M (&)	8mm tape 112 minutes	8mm	8MM	8mm	V1
8MM-160M (&)	8mm tape 160 minutes	8mm	8MM	8mm	V1
SONY AIT (&*+)	8mm tape (different length available)	AIT	8MM	8mm	V1

Table A-31 Media Types

Type	Description	Scalar DLC Type	DAS Type	Media Domain	AMU Type
SONY AIT3 (&*+)	8mm tape (different length available)	AIT	8MM	8mm	V1
4MM-60M (&)	Digital Autio Tape (DAT)	DAT 4mm (DDS)	4MM	4mm	V2
4MM-90M (&)	Digital Autio Tape (DAT)	DAT 4mm (DDS)	4MM	4mm	V2
4MM-120M (&)	Digital Autio Tape (DAT)	DAT 4mm (DDS)	4MM	4mm	V2
4MM-125M (&)	Digital Autio Tape (DAT)	DAT 4mm (DDS)	4MM	4mm	V2
D1-S (&)	D1 small tape	D2 small	D2	D2	V3
D2-S (&)	D2 small tape	D2 small	D2	D2	V3
D1-M (&)	D1 medium tape	D2 medium	D2	D2	V4
D2-S (&)	D2 medium tape	D2 medium	D2	D2	V4
DTF-S (&)	Digital Tape Format, Small Tape	DTF small	DTF	DTF	V6
DTF-L (&)	Digital Tape Format, Large Tape	DTF large	DTF	DTF	V7
BetaCAM - Small (&)	Analog tape format	BetaCAM small	BETACAM	BetaCAM	V8
Digital BetaCAM - Small (&)	Digital Tape Format (like DTF-S)	BetaCAM small	BETACAM	BetaCAM	V8
BetaCAM - Large (&)	Analog tape format	BetaCAM large	BETACAML	BetaCAM	V9
Digital BetaCAM - Large (&)	Digital Tape Format (like DTF-M)	BetaCAM large	BETACAML	BetaCAM	V9
DVC-PRO/ Large (&)	DVD Large	DVC-PRO/ Large	DVCL	DVC-PRO	VB
DVC-PRO/ Medium (&)	DVD Medium	DVC-PRO/ Medium	DVCM	DVC-PRO	VB

Drive Types

Refer to Table A-32 on page A31 for the drive types supported by Scalar DLC software.

NOTE: The drives marked by an ampersand (&) are supported by AML devices (AML/J, AML/2, and AML/E). The drives marked by an asterisk (*) are supported by the Scalar 1000 library. The drives marked by plus (+) are supported by the Scalar 10K library.

Table A-32 Drive Types

Scalar DLC Type	DAS Type	Loaded Media	AMU Type
HP LTO Drive [a]	LTO Drive	LTO	D1
IBM LTO-1 (&*+)	LTO Drive	LTO	D1
IBM LTO-1 FC (+)	LTO Drive	LTO	D1
IBM LTO-2 SCSI (&*+)	LTO Drive	LTO LTO 2	D1
IBM LTO-2 FC (+)	LTO Drive	LTO LTO 2	D1
Hitachi xx80 (*)	Hitachi xx80	3480	D2
Hitachi xx90 (*)	Hitachi xx90	3480 3490E	D3
STK Eagle (*)	STK Eagle	STK-Eagle	D4
BetaCAM Drive (*)	BetaCAM	BetaCAM small BetaCAM large	D5
IBM/SNI 3x80 with ACL (*)	IBM xx80 with ACL	3480	D7
IBM/SNI 3x80 with flap (*)	IBM xx80 with flap	3480	D8
IBM/SNI 3x90 with ACL (*)	IBM xx90 with ACL	3480 3490E	D9
D2 drive (*)	D2 drive (ER90, and so forth)	D2 small D2 medium	DA
8mm tape drive (1) (*)	8mm Drive	8mm	DC
Sony SDX 700-C (&*+)	AIT3 drive	8mm AIT	DC
DVC-PRO (*)	DVC-PRO	DVC-PRO/Large DVC-PRO/Medium	DD
DLT drive (high profile) (*)	DLT (High Profile)	DLT IV DLT III DLT IIIXT	DE
4mm DDS drive (*)	4mm Drive	DAT 4mm (DDS)	DF
Quantum DLT 4000 (&*)	DLT (Low Profile)	DLT IV DLT III DLT IIIXT	DG
Quantum DLT 7000 (&*)	DLT (Low Profile)	DLT IV DLT III DLT IIIXT	DG
OD-512 drive (1) (*)	OD512 drive	OD-512	DH

Table A-32 Drive Types

Scalar DLC Type	DAS Type	Loaded Media	AMU Type
8mm tape drive (2) (*)	8mm drive	8mm	DI
IBM 3995 jukebox (*)	IBM3995 Jukebox	OD-512	DJ
STK 4480 (*)	STK 4480	3490E	DK
STK 4490/9490 (*)	STK 4490/9490	3490E	DL
STK SD-3 (*)	STK SD-3	SD-3	DL
Sony SDX 310 (&*+)	AIT drive	8mm AIT	DM
Sony SDX 500 (&*+)	AIT2 drive	8mm AIT	DM
IBM 3590 (&*+)	IBM 3590 (Magstar)	3590 3590E	DN
OD-Reflection drive (*)	OD Reflection drive	OD-Reflection	DO
OD-512 drive (*)	OD-512 drive	OD-512	DP
NCTP (&*)	Philips LMS (3490)	NCTP	DQ
Philips 3490/ADIC 8610 (&*)	Philips LMS (3490)	3480 3490E	DQ
Quantum SDLT 220 (&*+)	DLT (Low Profile)	DLT IV SDLT	DR
Quantum SDLT 320 (*+)	DLT (Low Profile)	DLT IV SDLT	DR
STK Twinpeak 4890 / SNI 3588-GL (*)	STK 4890 Twinpeak /SNI 3588-GL	3490E	DS
VHS drive (*)	VHS drive	VHS	DV
CD-ROM Drive (*)	CD-ROM drive	CD-Caddy	DW
DTF Drive (*)	DTF Drive	DTF small DTF large	DX
Fujitsu M8100 (Diana-4) (*)	Fujitsu M8100 Diana-4	3590 3590E	DZ

a. The drive is currently supported only by Scalar 100 DELL OEM series.

DAS Guide

This section provides an overview of the DAS Client software that is a part of Scalar DLC software product.

System Description

DAS Client software runs as an application under Windows NT, Unix, Windows 9x, and so forth. This is a client software product designed to provide shared access to a member of the ADIC library family by up to 50 separate clients who run from entirely separate platforms while using various media in the library system. The DAS software makes it possible for backup, document management or HSM applications to have direct access to the media in the library systems.

The library system is controlled by the Scalar DLC software. The data from the applications is sent directly to the drives. The DAS software supports a wide variety of UNIX systems, Windows NT, and Windows 2000. Connection to other operating systems such as MVS, VM or Tandem has been made across another interface of the Scalar DLC.

The client software consists of a library of functions and an administration program *(dasadmi*n).The software is available for various platforms. A new client requires the standard TCP/IP functions with ONC Remote Procedure Calls (RPC) support and an ANSI C compiler. The applications access the open interface (ACI).

Each client can be assigned specific access privileges to the library:

- Basic, extended, or all Functions
- Drives
- Volume Serial Number (Volsers)
- Ranges of the I/O units
- Scratch pools

Commands Overview

DAS administrator commands can be divided into four areas:

- Media management
- DAS management
- Client management
- Scratch pool management

Media Management

- Mount and dismount
- Change sides on the optical disk in the drive
- Insert and eject

- Inventory
- View the available media
- View the media status
- View the logical ranges for insert/eject
- Catalog or remove foreign media
- Clean the drive
- Insert and eject the cleaning cartridge

DAS Management

- Delete command
- View outstanding commands
- Send message
- Activate and deactivate barcode reading for mount, move and eject from DAS
- Shutdown DAS
- Shutdown Scalar DLC

Client Management

- Reserve/release a drive for a client
- Reserve/release a volser for a client
- Modify access privileges for a client
- Modify execution parameters

Scratch Pool Management

- Add volser to the scratch pool
- Remove volser from the scratch pool
- Get volser from the scratch pool
- View scratch pool information

Starting DAS Client Software

From WinNT or Win2000, launch **Start > Programs > ADIC Distributed Library Controller > Scalar DLC DAS-Client**. The *dasadmin* starts immediately.

However, the *dasadmin.exe* program can be launched manually as well.

NOTE: If the DAS Administration Utility has been installed under the firewall connection, the main executable file is *dasadmin_fw.exe*, not *dasadmin.exe*.

DAS Commands

NOTE: The dasadmin application provides a brief help by entering the *-h* option.

DAS commands are divided into:

- Client management
- Media management
- DAS management
- Scratch management

All these commands are called from *dasadmin*.

NOTE: Unsupported DAS commands are marked with an asterisk (*). Refer to *Unsupported DAS Commands* on page B41 for the details.

Refer to Table B-1 for the Client Management commands.

Table B-1 Client Management Commands

Command	Explanation
allocd	drive reservation for a client.
allocv	volser reservation for a client.
listd	displays drive assignment for up to 16 drives.
listd2	displays drive assignment for up to 250 drives.
listd3	displays drive assignment for up to 250 drives.
listd4	displays drive assignment for up to 380 drives.
listf	displays foreign volsers.
listv	displays volser reservations.
scap (*)	temporarily modifies access privileges.
scop (*)	temporarily modifies the working parameters.
scop2 (*)	temporarily modifies the working parameters.
show	displays current access privileges and operating parameters.
show2	displays current access privileges and operating parameters.

Refer to Table B-2 on page B4 for the Media Management commands.

Table B-2 Media Management Commands

Command	Explanation
carry	moves volser from one slot to another.
catf	catalogs foreign media.
cellinfo	displays information about devices and cartridges in the system.
clean	cleans drive.
dismount	removes a medium from a drive and returns it to its home position.
eif_conf	returns an information of logical ranges configured in the insert/eject area.
eif_info	returns an information of logical ranges configured in the insert/eject area.
eject	ejects a limited number of media from the library.
eject2	ejects media from the library.
eject3	ejects media from the library.
ejectcl	ejects used cleaning media from the library.
ejectcom	ejects media from the library completely.
flip	flips the optical disk in the drive.
getvolsertodrive	displays the configured assignment of volsers to drives.
getvoltoside	displays information on the association of volsers to an optical disk.
insert	inserts a few cartridges in the library.
insert2	inserts many cartridges, including cleaning cartridges, in the library.
inventory	checks and corrects the whole library system database.
mount	loads medium into a drive.
partinventory	checks and corrects part of the library system database.
qvolsrange	displays the volser from the Scalar DLC database for a specified range.
rmf	removes foreign media from the catalog.
typelist	shows all drives or specific drives by type
unload	operates the buttons on the drive (for example, **unload** button) by the robotics.
view	displays information from the database relating to a volser.
view2	displays information from the database relating to a volserrange.
volserinventory	checks and corrects part of the library system database.

Refer to **Table B-3 on page B5** for the DAS Management commands

.

Table B-3 DAS Management Commands

Command	Explanation
barcode	activates/deactivates the library barcode reader for the mount, carry, and eject commands.
cancel	deletes a command from the command queue.
email	sends the message via email.
killamu (*)	terminates Scalar DLC software.
list	displays the DAS command queue.
list2	displays the advanced DAS command queue.
pausedas	turns dasadmin to a passive state.
pausedrive	logically turns a tape drive disable/enable.
qversion	displays the DAS and ACI version.
robhome	makes the library system inactive.
robstat	makes the library system active or queries status.
shutdown (*)	shuts down the DAS software.
snmp	sends the message via SNMP.
switch (*)	switches between active and passive DAS for dual DAS.

Refer to Table B-4 for the Scratch Management commands.

Table B-4 Scratch Management Commands

Command	Explanation
scr_get	displays the next available scratch volser from the scratch pool.
scr_info	displays information relating to the scratch pool.
scr_insert	inserts a cartridge and adds it to the scratch pool.
scr_mount	places the next available scratch cartridge in the drive.
scr_set	adds cartridges in the library system to the scratch pool.
scr_unset	changes cartridge status from scratch to unscratch.

NOTE: The configuration of scratch pools, clean pools, insert/eject areas, and client properties should be executed via the Scalar DLC Management GUI.

Reserve Drive (allocd)

The **allocd** command changes the reservation status of a drive for a client.

```
dasadmin allocd drive UP|EXUP|FUP|DOWN|FDOWN client
dasadmin all drive UP|EXUP|FUP|DOWN|FDOWN client
```

Refer to Table B-5 on page B6 for a list and an explanation of the parameters for the **allocd** command.

Table B-5 Parameters for the Allocd Command

Parameter	Explanation	
drive	drive whose status is to be changed.	
UP, FUP, EXUP, DOWN, FDOWN	new reservation status.	
	UP	normal reservation of empty drive.
	FUP	reserve a drive even if it is already reserved by another client or occupied.
	EXUP	exclusive reservation, can only be undone by the client himself or by DAS_SUPERVISOR.
	DOWN	remove the normal status of a reservation from empty drive.
	FDOWN	remove reservation even if the drive is reserved by another client or occupied.
client	name	change reservation status for the client.
	SHARED_ACCESS	change reservation status for all clients.

This function is used in the management of drives with shared usage. Only one client can use a drive at a time. Mount and dismount commands issued by other clients are rejected. A drive must be released by its previous user before another client can normally use it.

NOTE: The drive can only be put in the DOWN status by FDOWN if the drive is occupied.

Also, refer to *Display Drive Assignment (listd3)* on page B-21.

Reserve Volsers (allocv)

The **allocv** command reserves the specified volser(s) for a client.

```
dasadmin allocv volserrange UP client
dasadmin allocv DOWN client
```

Refer to Table B-6 for a list and an explanation of the parameters for the **allocv** command.

Table B-6 Parameters for the Allocv Command

Parameter	Explanation	
volserrange	range of volsers to be reserved.	
UP, DOWN	new reservation status.	
	UP	reserves the specified volser/volsers.
	DOWN	removes the reservation of all volsers for the client.
client	name of client under which the reservation is to be made.	

NOTE: Only the client himself or the DAS-SUPERVISOR can release the reserved volser.

Activate Barcode Reader (barcode)

The **barcode** command activates or deactivates the barcode reader of the specified robotic controller for carry, mount, and eject commands, but only for those commands sent by the DAS to the Scalar DLC.

```
dasadmin barcode robotnumber ON|OFF
```

Barcode reading remains active for inventory and insertion even when barcode reading is deactivated.

Refer to Table B-7 for a list and an explanation of the parameters for the **barcode** command.

Table B-7 Parameters for the Barcode Command

Parameter	Explanation	
robotnumber	number (R1 or R2) of the robotic controller whose barcode reader is to be manipulated.	
action	ON	activate barcode reader.
	OFF	deactivate barcode reader.

This command does take effect only on the performance because the device does not check the cartridge barcode before executing the **carry**, **mount**, and **eject** operation.

Also refer to *Move a Medium to the Slot (carry)*, *Eject Media (eject3)* on page B12, and *Load a Medium in Drive (mount)* on page B26.

Cancel Command (cancel)

The **cancel** command deletes commands from the DAS command queue.

```
dasadmin cancel request-id
dasadmin can request-id
```

Refer to Table B-8 for an explanation of the parameter for the **cancel** command.

Table B-8 Parameter for the Cancel Command

Parameter	Explanation
request-id	DAS sequence number (displayed using the **list2** and **list** commands). Refer to *Display All Active Commands (list2)* on page B17.

Move a Medium to the Slot (carry)

The **carry** command moves medium from one slot to another and re-assigns the medium home position in Scalar DLC database if necessary.

```
dasadmin carry sourcecoor targetcoor [volser]
```

Refer to Table B-9 for a list and an explanation of the parameters for the **carry** command.

Table B-9 Parameters for the Carry Command

Parameter	Explanation
sourcecoor	logical coordinate in the library the volser is to be moved from, for example, T104320908.
targetcoor	logical coordinate in the library the volser is to be moved to, for example, T105010310.
volser	the volser that should be moved. If the *sourcecoor* contain volser other than specified, the command fails.

In some cases, the **carry** command works similar to the other media move commands. The details are described in Table B-10.

Table B-10 Details for the Carry Command

Source slot	Target slot	Analog	Medium home position	Medium state
Storage	Storage	none	Changes to target slot	Stored
Storage	I/E	none	Remains unchanged	Stored
Storage	Drive	Mount	Remains unchanged	Mounted
I/E	Storage	Insert	Changes to target slot	Stored
I/E	I/E	none	Remains unchanged	Stored
I/E	Drive	Mount	Remains unchanged	Mounted
Drive	Storage	Dismount	Changes to target slot	Stored
Drive	I/E	Dismount	Remains unchanged	Stored
Drive	Drive	none	Remains unchanged	Mounted

Also refer to *Retrieve a Medium from the Drive (dismount)* on page B10, *Eject Media (eject3)* on page B12, *Insert Media (insert2)* on page B16, and *Load a Medium in Drive (mount)* on page B26.

Catalog Foreign Volume (catf)

NOTE: The Scalar DLC software has no special operations with the foreign media because every cartridge placed in the I/O is found by a library after the inventory command is executed, and then it is considered as a normal cartridge. The commands *Catalog Foreign Volume (catf)*, *Display Foreign Volser (listf)* on page B25, and *Remove a Foreign Medium (rmf)* on page B30 are supported only for compatibility reasons.

The **catf** command creates the association between the symbolic volser and the slot in the I/O unit.

```
dasadmin catf [-t media-type] volser coordinate
```

Refer to Table B-11 for a list and an explanation of the parameters for the **catf** command.

Table B-11 Parameters for the Catf Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volser	symbolic volser to be assigned to the cartridge in the foreign cartridge range in the I/O unit. A **mount** command is now possible for this volser.
coordinate	10-digit logical coordinate in the I/O unit locating the cartridge, for example, E101020310.

Place the foreign media in the foreign range of the I/O unit. Now set up an assignment to a symbolic volser using the dasadmin **catf** command (not required as a barcode on the cartridge and may already exist as a volser in the database).

Place the cartridge in the drive using th**e mount** command and the symbolic volser. Remove the cartridge from the I/O unit after use and remove the symbolic volser from the catalog using the **rmf** command.

Also refer to *Remove a Foreign Medium (rmf)* on page B30.

Get Device Information (cellinfo)

The **cellinfo** command displays information about devices and cartridges in the system.

```
dasadmin cellinfo  device [ mediatype [ attributes ] ]
dasadmin ci device [ mediatype [ attributes ] ]
```

Refer to Table B-12 for a list and an explanation of the parameters for the **cellinfo** command.

Table B-12 Parameters for the CellInfo Command

Parameter	Explanation	
Device	S	storage
	ST	towers
	SL	lineardevices
	P	all problemboxes
	D	all drives
	E	all eject areas (logical ranges)
	I	all insert areas (logical ranges)
	Exx	the ejectarea "xx" (for example, "E01")
	Ixx	the insertarea "xx" (for example, "I01")
	STxx	the tower “xx“ (for example, “T01“)
	SLxx	the lineardevice “xx”
mediatype	Elements media type. Refer to *Media Types* on page A28.	

Table B-12 Parameters for the CellInfo Command

Parameter	Explanation	
attributes	Slot attributes value:	
	O	occupied ("Occupied" or "Temp Here" attribute)
	Y	marked empty ("Empty" or "Initial" or "Temp Away")
	M	mounted ("Mounted" or "In Jukebox")
	J	ejected
	U	undefined
	E	truly empty ("Marked empty" or "Total Ejected")
	““	all slots

NOTE: `cellinfo ST` is not fully supported in the current version of the Scalar DLC software because the library firmware (Scalar 10K) cannot recognize the presence of the tower during the library configuration.

Drive Cleaning (clean)

The **clean** command triggers a single drive cleaning operation in the specified drive.

```
dasadmin clean drive
```

Refer to Table B-13 for an explanation of the parameter for the **clean** command.

Table B-13 Parameter for the Clean Command

Parameter	Explanation
drive	drive to be cleaned immediately.

The Scalar DLC software manages the cleaning cartridge and controls the amount of time spent by the cleaning cartridge in the drive. The Scalar DLC clean manager must be configured already (that can be only done in Scalar DLC Management GUI, via Drive Properties pane).

NOTE: Clean the drives only when they need to be cleaned. Unnecessary cleaning damages the drives.

Also, refer to *Insert Media (insert2)* on page B16 and *Eject Cleaning Media (ejectcl)* on page B14.

Retrieve a Medium from the Drive (dismount)

The **dismount** command retrieves a medium from the drive and returns it to its original position (home position) in the library.

```
dasadmin dismount [-t media-type] volser | -d drive
dasadmin dism [-t media-type] volser | -d drive
```

Refer to Table B-14 on page B11 for a list and an explanation of the parameters for the **dismount** command.

Table B-14 Parameters for the Dismount Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volser	volser for the medium to be returned from the drive to the home position.
drive	alternative parameter for the drive from which the medium is to be removed.

The **dismount** command will not function if the medium has not been unloaded from the drive.

NOTE: The number of retries can be configured in the Scalar DLC Management GUI, via the Drive properties pane.

Also refer to *Load a Medium in Drive (mount)* on page B26 and *Move a Medium to the Slot (carry)* on page B7.

View the Logical Ranges Configuration (eif_conf)

The **eif_conf** command shows the currently configured logical ranges in the I/O unit.

```
dasadmin eif_conf
```

The command returns all the insert/eject areas that are configured for the client in a logical library.

Display Logical Ranges in EIF (eif_info)

The **eif_info** command provides information about logical ranges (in EIFs).

```
dasadmin eif_info [areaname]
dasadmin ei [areaname]
```

Refer to Table B-15 for an explanation of the parameter for the **eif_info** command.

Table B-15 Parameters for the Eif_info Command

Parameter	Explanation
areaname	Specific logical range

```
dasadmin eif_info E01

Name E01
             MediaType = 3480    TotalSlots 30 FreeSlots 29 UndefSlots 0
             MediaType = OD-Thin TotalSlots 48 FreeSlots 48 UndefSlots 0
             MediaType = VHS     TotalSlots 8  FreeSlots 8  UndefSlots 0
             MediaType = BETACAM TotalSlots 16 FreeSlots 16 UndefSlots 0
```

Eject Media (eject3)

The **eject3** command causes the specified volser(s) to be placed in the I/O unit of the library system.

```
dasadmin eject3 [-c] [-t media-type] volserrange area
dasadmin ej3 [-c] [-t media-type] volserrange area
```

Refer to Table B-16 for a list and an explanation of the parameters for the **eject3** command.

Table B-16 Parameters for the Eject3 Command

Parameter	Explanation
-c	complete eject option (the volser lost its home position in the Scalar DLC database and becomes 'unloaded').
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volserrange	range of volsers to be ejected, for example, 000001 - 000815 or 00001A, 00002A.
area	logical range in the I/O unit for ejection, for example, E07.

NOTE: Although the *media-type* parameter is present in the command syntax, the current software realization does not take it into account. That means all cartridges in the range will be ejected.

The appropriate message displays in the Scalar DLC log if the I/O unit is full. Ejection continues automatically once the I/O unit has been cleared and closed.

With the environment variable DAS_EJECTAREAFULL=1 the command will be canceled (with the message *EAREAFULL*), if the eject area is full.

Eject Media (eject2)

The **eject2** command causes the specified volser(s) to be placed in the I/O unit of the library system.

```
dasadmin eject2 [-c] [-t media-type] volserrange area
dasadmin ej2 [-c] [-t media-type] volserrange area
```

NOTE: The command can only display up to 100 volsers when ejecting. Therefore, use the **eject3** command. For compatibility reasons, the **eject2** command continues to be supported.

Refer to Table B-17 for a list and an explanation of the parameters for the **eject2** command.

Table B-17 Parameters for the Eject2 Command

Parameter	Explanation
-c	complete eject option (the volser lost its home position in the Scalar DLC database and becomes 'unloaded').

Table B-17 Parameters for the Eject2 Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volserrange	range of volsers to be ejected, for example, 000001 - 000815 or 00001A, 00002A.
area	logical range in the I/O unit for ejection, for example, E07

NOTE: Although the *media-type* parameter is present in the command syntax, the current software realization does not take it into account. That means all cartridges in the range will be ejected.

The appropriate message displays in the Scalar DLC log if the I/O unit is full. Ejection continues automatically once the I/O unit has been cleared and closed.

With the environment variable DAS_EJECTAREAFULL=1 the command will be canceled (with the message *EAREAFULL*), if the eject area is full.

Eject Media (eject)

The **eject** command causes the specified volser to be placed in the I/O unit of the library system.

```
dasadmin eject [-c] [-t media-type] volserrange area
dasadmin ej [-c] [-t media-type] volserrange area
```

NOTE: The command can display only a small number of volsers when ejecting. Therefore, use the **eject3** command. For compatibility reasons, the **eject** command continues to be supported.

Refer to Table B-18 for a list and an explanation of the parameters for the **eject** command.

Table B-18 Parameters for the Eject Command

Parameter	Explanation
-c	complete eject option (the volser lost its home position in the Scalar DLC database and becomes ‘unloaded’).
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volserrange	range of volsers to be ejected, for example, 000001 - 000815 or 00001A, 00002A.
area	logical range in the I/O unit for ejection, for example, E07.

NOTE: Although the *media-type* parameter is present in the command syntax, the current software realization does not take it into account. That means all cartridges in the range will be ejected.

The appropriate message displays in the Scalar DLC log if the I/O unit is full. Ejection continues automatically once the I/O unit has been cleared and closed.

With the environment variable DAS_EJECTAREAFULL=1 the command will be canceled (with the message *EAREAFULL*), if the eject area is full.

Eject Cleaning Media (ejectcl)

The **ejectcl** command causes the Scalar DLC Clean Manager to eject all used cleaning media in the specified clean pool.

```
dasadmin ejectcl cleanpool area
```

Refer to Table B-19 for a list and an explanation of the parameters for the **ejectcl** command.

Table B-19 Parameters for the Ejectcl Command

Parameter	Explanation
cleanpool	name for assigning cleaning media for the Clean Manager, for example, P04.
area	logical range in the I/O unit for ejection, for example, E07.

The appropriate message displays in the Scalar DLC log if the I/O unit is full. Ejection continues automatically once the I/O unit has been cleared and closed.

With the environment variable DAS_EJECTAREAFULL=1 the command will be canceled (with the message *EAREAFULL*), if the eject area is full.

Eject Media Complete (ejectcom)

The **ejectcom** command places the specified volser(s) in the I/O unit of the library system and unload them.

```
dasadmin ejectcom [-t media-type] volserrange area
```

NOTE: This command has the same effect as **eject3** with the -c option.

Refer to Table B-20 for a list and an explanation of the parameters for the **ejectcom** command.

Table B-20 Parameters for the Ejectcom Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volserrange	range of volsers to be ejected, for example, 000001 - 000815 or 00001A, 00002A.
area	logical range in the I/O unit for ejection, for example, E07

NOTE: Although the *media-type* parameter is present in the command syntax, the current software realization does not take it into account. That means all cartridges in the range will be ejected.

The appropriate message displays in the AMU log if the I/O unit is full. Ejection continues automatically once the I/O unit has been cleared and closed.

With the environment variable DAS_EJECTAREAFULL=1 the command will be canceled (with the message *EAREAFULL*), if the eject area is full.

Also refer to *Eject Media (eject3)* on page B12.

Send Email Message (email)

The **email** command sends email message.

```
dasadmin email address message
dasadmin email address @file_message
```

Refer to Table B-21 for a list and an explanation of the parameters for the **email** command.

Table B-21 Parameters for the Email Command

Parameter	Explanation
address	email address the message should be sent to.
message	the message text.
file_message	the file that contains a message to be sent. If the file is not in the same folder with *dasadmin.exe*, the filename among with the complete path should be in double quotes.

Also refer to *Send SNMP Message (snmp)* on page B36.

Flip Optical Disk in the Drive (flip)

The **flip** command turns an optical disk over so that the reverse side can be read or written to.

```
dasadmin flip drive
```

Refer to Table B-22 for an explanation of the parameter for the **flip** command.

Table B-22 Parameter for the Flip Command

Parameter	Explanation
drive	drive where the disk must be flipped, for example, Drive1.

Display Volsers Assigned to Drive (getvolsertodrive)

The **getvolsertodrive** command displays a list of all volsers assigned to the drive.

```
dasadmin getvolsertodrive [drive]
```

The assignment is configured in Scalar DLC Management GUI, via Cartridge Properties pane. Refer to *Cartridge* on page 68.

Refer to Table B-23 for an explanation of the parameter for the **getvolsertodrive** command.

Table B-23 Parameters for the Getvolsertodrive Command

Parameter	Explanation
drive	drive whose volsers are to be displayed, for example, Drive1.

Display Volsers of the Optical Disk (getvoltoside)

The **getvoltoside** command displays both volsers for an optical disk.

```
dasadmin getvoltoside volser
```

Refer to Table B-24 for an explanation of the parameter for the **getvotoside** command.

Table B-24 Parameters for the Getvoltoside Command

Parameter	Explanation
volser	one of the volsers for the optical disk, the associated sides of which are to be displayed, for example, OD001A.

Insert Media (insert2)

The **insert2** command causes the Scalar DLC to place all media in the specified insertion range in slots in the library. The volsers of the inserted media appear.

```
dasadmin insert2 -n area
dasadmin insert2 -c area cleanpool
```

Refer to Table B-25 for a list and an explanation of the parameters for the **insert2** command.

Table B-25 Parameters for the Insert2 Command

Parameter	Explanation
-n	normal insertion (data media).
-c	inserts cleaning media.
area	logical range in the I/O unit for ejection, for example, E07.
cleanpool	name for assigning cleaning media for the Clean Manager, for example, P04.

The output of the **insert2** command indicates which volser(s) were successfully inserted and which, if any, were not.

Also refer to *Move a Medium to the Slot (carry)* on page B7.

Insert Media (insert)

The **insert** command causes the Scalar DLC to place all media in the specified insertion range at slots in the library. The volsers of the inserted media appear.

```
dasadmin insert area
dasadmin in area
```

Refer to Table B-26 for an explanation of the parameter for the **insert** command.

Table B-26 Parameter for the Insert Command

Parameter	Explanation
area	logical range in the I/O unit for insertion, for example, E07.

NOTE: Use the **insert2** command instead of this command. This command experiences difficulties with large I/O units with long volsers (16-digit) since the buffer for displaying the inserted volser is restricted. For compatibility reasons, the **insert** command continues to be supported.

Initialize Library Elements (inventory)

The **inventory** command causes the library system to compare all slots (towers and racks) with the entries in the Scalar DLC database and update the database if any variance found.

```
dasadmin inventory
```

If the volser found in the occupied slot has a valid home position in the Scalar DLC database, the old home position is saved. If the volser home position is invalid or volser has no home position, the **inventory** command assigns to it a new home position in the first free storage slot of the appropriate type. The volsers with an attribute ‘ejected’ or ‘unloaded’ changes their state to ‘stored’. The volsers not found in the library after **inventory** change their state to ‘offline’. The problem box is not inventoried.

NOTE: The inventory function is intended for testing and startup. An error function appears only in the Scalar DLC log during operation and not be returned to the calling process.

Also refer to *Initialize Element Range (partinventory)* on page B27 and *Display All Active Commands (list2).*

Display All Active Commands (list2)

The **list** command displays all commands in the DAS command queue. The commands for one client only appear.

```
dasadmin list2 client
```

Refer to Table B-27 for an explanation of the parameter for the **list2** command.

Table B-27 Parameters for the List2 Command

Parameter	Explanation
client	client for which the active commands are to be displayed.

```
dasadmin list2 CLIENT
list2 for client: CLIENT successful
client = CLIENT
```

```
            request = 1
            individ_no = 0
            type = PINV
            StartCoord = LW01010101
            EndCoord = LW01020101
client = CLIENT
            request = 7
            individ_no = 0
            type = MONT
            volser = 100001
            drive = Drive1
client = CLIENT
            request = 9
            individ_no = 0
            type = EJEC
            areaname = E01
            volserrange = 100002-100005
client = CLIENT
            request = 12
            individ_no = 0
            type = SETS
            volser = 100004
            poolname = Pool2
```

Refer to Table B-28 for an explanation of the return status associated with the **list2** command.

Table B-28 Explanation of Returned Status for List2 Command

Display	Explanation	
client	client for which the active commands are to be displayed.	
request	sequence number of the DAS commands.	
individ_no	not used.	
type	MONT	**mount** command.
	KEEP	**dismount** command.
	INVT	**insert** command.
	MOVE	**eject** command.
	PINV	**inventory/partinventory** command.
	SHUT	Scalar DLC shut down (**killamu**).
	INCL	Insert Clean.
	EJCL	Eject Clean.
	BACO	Barcode on/off.
	CLDR	**clean** command.
	EJEC	**eject2** command.
	VINV	**volserinventory** command.
	SETS	**scratch_set** command.
	GETS	**scratch_get** command.
	FLIP	**flip** command.
volser	medium used in the operation (mont, keep, move, ejec, sets, gets).	

Table B-28 Explanation of Returned Status for List2 Command

Display	Explanation
drive	drive used in the operation (mont, keep, cldr, flip).
areaname	insert/eject area used in the operation (invt, move, incl, ejcl, ejec).
poolname	pool used in the operation (incl, ejcl, sets, gets).
volserrange	media used in the operation (invt, move, ejec, vinv).
startcoord	start coordinate used in the operation (pinv).
endcoord	end coordinate used in the operation (pinv).

NOTE: The *volser*, *drive*, *areaname*, *poolname*, *volserrange*, *startcoord*, *endcoord* parameters are new in the **list2** command.

Also refer to *Cancel Command (cancel)* on page B7.

Display All Active Commands (list)

The **list** command displays all commands in the DAS command queue. The commands for one client only appear.

```
dasadmin list client
```

Refer to Table B-29 for an explanation of the parameter for the **list** command.

Table B-29 Parameters for the List Command

Parameter	Explanation
client	client for which the active commands are to be displayed.

```
dasadmin list CLIENT

list for client: CLIENT successful
client = CLIENT
            request = 1
            individ_no = 0
            type = PINV
client = CLIENT
            request = 7
            individ_no = 0
            type = MONT
```

Refer to Table B-30 for an explanation of the return status associated with the **list** command.

Table B-30 Explanation of Returned Status for List Command

Display	Explanation
client	client for which the active commands are to be displayed.
request	sequence number of the DAS commands
individ_no	not used

Table B-30 Explanation of Returned Status for List Command

Display	Explanation	
type	MONT	mount command
	KEEP	dismount command
	INVT	insert command
	MOVE	eject command
	PINV	inventory command
	SHUT	Scalar DLC shut down (killamu)
	INCL	Insert Clean
	EJCL	Eject Clean
	BACO	Barcode on/off

NOTE: This command is supported for compatibility reasons. It is limited to only a small number of commands. Use the **list2** command instead.

Display Drive Assignment (listd4)

The **listd4** command displays the current drive assignment and status of reservations by the clients. If the drive is not specified, all drives assigned for the client appear. All drives (maximum of 380) appear if a client is not specified.

```
dasadmin listd4 [clientname] [-d drivename]
dasadmin ld4 [clientname] [-d drivename]
```

Refer to Table B-31 for a list and an explanation of the parameters for the **listd4** command.

Table B-31 Parameters for the Listd4 Command

Parameter	Explanation
clientname	client for which the reserved drives are to be displayed.
drivename	drive that should be displayed.

```
dasadmin listd4 Client -d Drive1

listd4 for client: successful

drive: Drive1
amu drive: 01
st: UP
type: 2
sysid:
client: CLIENT
volser:
cleaning 0
clean_count: 0
mount: 0
keep: 0
SerialNumber: CX701M24
```

Refer to Table B-32 for an explanation of the return status associated with the **listd4** command.

Table B-32 Explanation of Returned Status for Listd4 Command

Display	Explanation	
drive	drive name in DAS.	
amu drive	drive number in DAS.	
st	reservation status of the drive.	
type	drive type.	
sysid	not used.	
client	client which has reserved the drive.	
volser	volser, if the drive is currently occupied.	
mount	if a volser is displayed, and mount=1 and keep=0 then the drive is logically occupied but the mount is not physically complete.	
	if a volser is displayed, and mount=0 and keep=0, then the drive is logically occupied and mount is physically complete.	
keep	if a volser is not displayed, and mount=0 and keep=1, then the drive is logically empty but the keep may not be physically complete.	
	if a volser is not displayed, and mount=0 and keep=0 then the drive is logically empty and the keep is physically complete.	
cleaning	current cleaning activity:	
	0	drive is not being cleaned.
	1	cleaning medium is located in the drive.
clean_count	number of mount commands until the next drive clean.	
serial number	drive serial number.	

NOTE: Use this command instead of **listd3**, **listd2**, and **listd**. For compatibility reasons, the **listd3**, **listd2**, and **listd** commands still are supported.

NOTE: The *serial number* parameters is new in the listd4 command.

Display Drive Assignment (listd3)

The **listd3** command displays the current drive assignment and status of reservations by the clients. If the drive is not specified, all drives assigned for the client appear. All drives (maximum of 250) appear if a client is not specified.

```
dasadmin listd3 [clientname] [-d drivename]
dasadmin ld3 [clientname] [-d drivename]
```

Refer to Table B-33 for a list and an explanation of the parameters for the **listd3** command.

Table B-33 Parameters for the Listd3 Command

Parameter	Explanation
clientname	client for which the reserved drives are to be displayed.
drivename	drive that should be displayed.

```
dasadmin listd3 Client

listd3 for client: successful

drive: Drive1
amu drive: 01
st: UP
type: 2
sysid:
client: CLIENT
volser:
mount: 0
keep: 0
cleaning 0
clean_count: 0

drive: OD512
amu drive: 02
st: UP
type: H
sysid:
client: CLIENT
volser: OD0001
mount: 0
keep: 0
cleaning 0
clean_count: 6
```

Refer to Table B-34 for an explanation of the return status associated with the **listd3** command.

Table B-34 Explanation of Returned Status for Listd3 Command

Display	Explanation
drive	drive name in DAS.
amu drive	drive number in DAS.
st	reservation status of the drive.
type	drive type.
sysid	not used.
client	client which has reserved the drive.
volser	volser, if the drive is currently occupied.

Table B-34 Explanation of Returned Status for Listd3 Command

Display	Explanation	
mount	if a volser is displayed, and mount=1 and keep=0 then the drive is logically occupied but the mount is not physically complete.	
	if a volser is displayed, and mount=0 and keep=0, then the drive is logically occupied and mount is physically complete.	
keep	if a volser is not displayed, and mount=0 and keep=1, then the drive is logically empty but the keep may not be physically complete.	
	if a volser is not displayed, and mount=0 and keep=0 then the drive is logically empty and the keep is physically complete.	
cleaning	current cleaning activity:	
	0	drive is not being cleaned.
	1	cleaning medium is located in the drive.
clean_count	number of mount commands until the next drive clean.	

NOTE: Use the **listd4** command instead of this one. For compatibility reasons, the **listd3**, **listd2**, and **listd** commands still are supported.

NOTE: The *mount* and *keep* parameters are new in the **listd3** command.

Display Drive Assignment (listd2)

The **listd2** command displays the current drive assignment and status of reservations by the clients. If the drive is not specified, all drives assigned for the client appear. All drives (maximum of 250) appear if a client is not specified.

```
dasadmin listd2 [clientname] [-d drivename]
dasadmin ld2 [clientname] [-d drivename]
```

Refer to Table B-35 for a list and an explanation of the parameters for the **listd2** command.

Table B-35 Parameters for the Listd2 Command

Parameter	Explanation
clientname	client for which the reserved drives are to be displayed.
drivename	drive that should be displayed.

```
dasadmin listd2 Client

listd2 for client: successful

drive dlt01 amu drive: 01 st: DOWN type: E sysid: client: volser: cleaning
0 clean_count: 0

drive: vhs01 amu drive: 02 st: DOWN type: V sysid: client: volser: cleaning
0 clean_count: 0
```

Refer to Table B-36 for an explanation of the return status associated with the **listd2** command.

Table B-36 Explanation of Returned Status for Listd2 Command

Display	Explanation	
drive	drive name in DAS.	
amu drive	drive number in DAS.	
st	reservation status of the drive.	
type	drive type.	
sysid	not used.	
client	client which has reserved the drive.	
volser	volser, if the drive is currently occupied.	
cleaning	current cleaning activity:	
	0	drive is not being cleaned.
	1	cleaning medium is located in the drive.
clean_count	number of mount commands until the next drive clean.	

NOTE: Use the **listd4** command instead of this one. For compatibility reasons, the **listd3**, **listd2**, and **listd** commands still are supported.

Display Drive Assignment (listd)

The **listd** command displays the current drive assignment and status of reservations by the clients. If the drive is not specified, all drives assigned for the client appear. All drives (maximum of 15) appear if a client is not specified.

```
dasadmin listd [clientname] [-d drivename]
dasadmin ld [clientname] [-d drivename]
```

Refer to Table B-37 for a list and an explanation of the parameters for the **listd** command.

Table B-37 Parameters for the Listd Command

Parameter	Explanation
clientname	client for which the reserved drives are to be displayed.
drivename	drive that should be displayed.

```
listd for client: successful

drive dlt01 amu drive: 01 st: DOWN type: E sysid: client: volser: cleaning
0 clean_count: 0

drive: vhs01 amu drive: 02 st: DOWN type: V sysid: client: volser: cleaning
0 clean_count: 0
```

Refer to Table B-38 for an explanation of the return status associated with the **listd** command.

Table B-38 Explanation of Returned Status for Listd Command

Display	Explanation	
drive	drive name in DAS.	
amu drive	drive number in DAS.	
st	reservation status of the drive.	
type	drive type.	
sysid	not used.	
client	client which has reserved the drive.	
volser	volser, if the drive is currently occupied.	
cleaning	current cleaning activity:.	
	0	drive is not being cleaned
	1	cleaning medium is located in the drive
clean_count	number of mount commands until the next drive clean.	

NOTE: Use the listd4 command instead of this one. For compatibility reasons, the listd3, listd2, and listd command still are supported.

NOTE: The maximum number of drives displayed is 15.

Display Foreign Volser (listf)

NOTE: The Scalar DLC software has no special operations with the foreign media because every cartridge placed in the I/O is found by a library after the inventory command is executed, and then it is considered as a normal cartridge. The commands *Catalog Foreign Volume (catf)*, *Display Foreign Volser (listf)*, and *Remove a Foreign Medium (rmf)* are supported only for compatibility reasons.

The **listf** command displays the information about foreign volsers. All foreign volsers appear (up to 300) if no volser is specified.

```
dasadmin listf [volser]
dasadmin lf [volser]
```

Refer to Table B-39 for an explanation of the parameter for the **listf** command.

Table B-39 Parameter for the Listf Command

Parameter	Explanation
volser	the foreign volser that should be displayed.

```
dasadmin listf 000026
```

```
volser = 000026
coordinate = L801010302
media = 3480
attrib = M
```

Refer to Table B-40 for an explanation of the return status associated with the **listf** command.

Table B-40 Returned Status for Listf Command Explanation

Display	Explanation	
volser	queried volser (search criterion in the Scalar DLC database).	
coordinate	10-digit logical coordinate specifying the slot.	
media	volser media type. Refer to *Media Types* on page A28.	
attrib	current status of the slot (attributes):	
	O	occupied (slot occupied, medium is in its home position).
	E	ejected (slot empty, medium has been placed in the I/O unit).
	M	mounted (slot empty, medium has been placed in a drive).
	I	initial (attribute not used).
	J	in jukebox (slot empty, optical disk has been placed in the jukebox).
	R	reverse mounted (slot empty, optical disk has been placed in a drive).
	Y	empty (slot empty, no medium defined for the slot).
	U	undefined (special attribute, used by HACC/MVS).
	T	temp here (slot occupied, medium in the problem box).
	A	temp away (medium temporarily not at the specified coordinates).

Display Volser Reservation (listv)

The **listv** command displays all reserved volsers for the client. All reserved volsers for all clients appear if no client is specified.

```
dasadmin listv [client]
dasadmin lv [client]
```

Refer to Table B-41 for an explanation of the parameter for the **listv** command.

Table B-41 Parameter for the Listv Command

Parameter	Explanation
client	client for which the reserved volsers are to be displayed.

Load a Medium in Drive (mount)

The **mount** command places the medium with the specified volser in a drive. The drive can be specified or will be selected by DAS provided:

- it is suitable for the media type

- it is reserved for the executing client **(allocd**)
- it is assigned to the volser (**getvolsertodrive**)
- it has the least number of uses *(Use Count* Scalar DLC database value).

```
dasadmin mount [-t media-type] volser [drive]
dasadmin mo [-t media-type] volser [drive]
```

Refer to Table B-42 for a list and an explanation of the parameters for the **mount** command.

Table B-42 Parameters for the Mount Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volser	volser for the medium to be placed in a drive (also symbolic volsers for foreign mount).
drive	name of the drive (Scalar DLC description) for the **mount** command. The parameter can be omitted if the reservation or media type make the drive clear or if the drive with the least use is to be used.

Also refer to *Retrieve a Medium from the Drive (dismount)* on page B10 and *Move a Medium to the Slot (carry)* on page B7.

Initialize Element Range (partinventory)

The **partinventory** command causes the library system to compare the specified slots (towers and racks) with the entries in the Scalar DLC database and to update the database in the event of any variances.

```
dasadmin PartInventory [sourcecoor] [targetcoor]
dasadmin pinvt [sourcecoor] [targetcoor]
```

Refer to Table B-43 for a list and an explanation of the parameters for the **partinventory** command.

Table B-43 Parameters for the PartInventory Command

Parameter	Explanation
sourcecoor	logical coordinates in the library at which the inventory is to begin, for example, T104320908.
targetcoor	last slot in the inventory, for example, T105010310. This slot must be in the same components (storage tower, rack, and so forth) as those specified in *sourcecoo*r.

Also refer to *Initialize Library Elements (inventory)* on page B17.

Pause DAS Communication (pausedas)

The **pausedas** command will pause the DAS Communication (all current commands in the queue will be finished and new commands start to queue only, without execution). The robot will stay in active state and can start move by command from configured hosts (for example, ROBAR or HACC/MVS), clean request from DCI drive or inventory request from closed EIF.

All commands sent by DAS clients will not be transmitted to robot but will be accumulated in the queue up to aci_pause_das ("OFF") function enquire.

```
dasadmin pausedas action
```

NOTE: This command may be executed only by the clients with the set “pause_das” option.

Refer to Table B-44 for a list and an explanation of the parameters for the **pausedas** command.

Table B-44 Parameters for the Pausedas Command

Parameter	Explanation	
action	ON	pause DAS
	OFF	return DAS to the normal mode

Disable Robot Access to Drive (pausedrive)

The **pausedrive** command enables or disables robot access to the specified drive. It can be used for maintenance purposes.

```
dasadmin pausedrive drive action [-force]
```

All functions which will try to use the disabled drive will fail, the drive will be concerned invalid.

NOTE: This command may be executed only by the clients with the set “pause_drive” option.

Refer to Table B-45 for a list and an explanation of the parameters for the **pausedrive** command.

Table B-45 Parameters for the Pausedrive Command

Parameter	Explanation	
drive	the drive name to disable/enable, for example, Drive1	
action	ON	disable drive
	OFF	enable drive
-force	allows to disable an occupied drive	

Query the Software Version (qversion)

The **qversion** command displays the version of:

- DAS software (Scalar DLC server)
- ACI software (on the local platform)

```
dasadmin qversion
```

The current Scalar DLC DAS-Client software installation supplies DAS ver. 3.11 and ACI ver. 3.11.

Query the Volser Ranges in the Library (qvolsrange)

The **qvolsrange** command causes the Scalar DLC database query for a specified volser range.

```
dasadmin qvolsrange beginvolser endvolser [client]
```

Refer to Table B-46 for a list and an explanation of the parameters for the **qvolsrange** command.

Table B-46 Parameters for the Qvolsrange Command

Parameter	Explanation
beginvolser	first volser in the range to be displayed. Enter “” to obtain a less precisely specified query.
endvolser	last volser in the range to be displayed. Enter “” to obtain a less precisely specified query.
endvolser	number of volsers to be displayed.
client	optional parameter to specify the volsers for a client other than the local one.

```
dasadmin qvolsrange 000018 999999 5
```

```
next volser 000368
count 5
more data
volser 000018 media 3480 attrib Occupied
volser 000025 media 3480 attrib Occupied
volser 000026 media 3480 attrib Mounted
volser 000079 media 3480 attrib Occupied
volser 000083 media 3480 attrib Occupied
```

Refer to Table B-47 for an explanation of the return status associated with the **qvolsrange** command.

Table B-47 Returned Status for Qvolsrange Command Explanation

Display	Explanation
next volser	next volser belonging to the range which cannot be displayed at present.
count	number of volser to be displayed.
more data	not all volsers are represented by the specified range.
volser	1- to 16-digit volume serial number.
media	media type belonging to the volser, for example, 3480. Refer to *Media Types* on page A28.

Table B-47 Returned Status for Qvolsrange Command Explanation

Display	Explanation
attrib	attributes belonging to the volser: • Occupied • Mounted • Ejected • Empty • Reverse Side Mounted • In Jukebox • Initial • Temp Here • TempAway • Undefined (all other Scalar DLC database attributes)

To request a complete list of a client's defined volser range, do not specify a *beginvolser* or *endvolse*r, but enter an empty string in double quotes.

```
dasadmin qvolsrange "" count client
```

Remove a Foreign Medium (rmf)

NOTE: The Scalar DLC software has no special operations with the foreign media because every cartridge placed in the I/O is found by a library after the inventory command is executed, and then it is considered as a normal cartridge. The commands *Catalog Foreign Volume (catf)*, *Display Foreign Volser (listf)*, and *Remove a Foreign Medium (rmf)* are supported only for compatibility reasons.

The **rmf** command removes a link between a symbolic volser and a slot in the I/O unit.

```
dasadmin rmf [-t media-type] volser coordinate
```

Refer to Table B-48 for a list and an explanation of the parameters for the **rmf** command.

Table B-48 Parameters for the Rmf Command

Parameter	Explanation
media-type	media type, for example, 3590. Refer to *Media Types* on page A28.
volser	symbolic volser to be assigned to the cartridge in the foreign cartridge range in the I/O unit. A mount command is now possible for this volser.
coordinate	10-digit logical coordinate in the I/O unit locating the cartridge, for example, E101020310.

Also refer to *Catalog Foreign Volume (catf)* on page B8.

Deactivate Robotic Controller in the library (robhome)

The robhome command moves the robotic controller to its home position and sets its status to *inactive*. All further commands from all other host systems to this robotic controller are acknowledged negatively (Scalar DLC message: *The desired robot is not available <1138>*). The robotic controller can be reset to *active* using the robstat command.

```
dasadmin robhome robotnumber
```

Refer to Table B-49 for an explanation of the parameter for the **robhome** command.

Table B-49 Parameter for the Robhome Command

Parameter	Explanation
robotnumber	number (R1 or R2) of the robotic controller to be set to inactive.

Activate Robotic Controller in the Library (robstat)

The **robstat** command can either change the status of the robot (online/offline) or display the actual status on the screen.

```
dasadmin robstat [robotnumber] action
```

Refer to Table B-50 for a list and an explanation of the parameters for the **robstat** command.

Table B-50 Parameters for the Robstat Command

Parameter	Explanation	
robotnumber	number (R1 or R2) of the robotic controller to be set to inactive.	
action	STAR T	sets the robotic controller defined by the robot number to active.
	STAT	queries the status of the robotic controller.

Next Scratch Medium (scr_get)

The **scr_get** command queries the next available scratch medium and sets it to unscratch.

```
dasadmin scr_get [poolname] [-t media-type]
```

Refer to Table B-51 for a list and an explanation of the parameters for the **scr_get** command.

Table B-51 Parameters for the Scr_get Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database from which the scratch medium is to be taken.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.

NOTE: The *media-type* parameter must always be set. This is the required parameter.

Scratch Pool Information (scr_info)

The **scr_info** command provides information on the current stock of scratch media in the scratch pools.

```
dasadmin scr_info [poolname] [-t media-type]
```

Information on the default scratch pool can be obtained by specifying the media type without the pool name.

Refer to Table B-52 for a list and an explanation of the parameters for the **scr_info** command.

Table B-52 Parameters for the Scr_info Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.

NOTE: The media-type parameter must always be set. This is the required parameter.

Insert Scratch Media (scr_insert)

The **scr_insert** command inserts the media from the insertion range of the media specified and sets them to scratch in the Scalar DLC database **(insert** and **scr_set** commands).

```
dasadmin scr_insert [-p poolname] [-t media-type] area
```

NOTE: Data stored on media may be lost. This command automatically sets all media, without a confirmation prompt, inserted in the library system in the insertion range specified to scratch media. The data on the data medium is overwritten by the next scratch mount command.

Refer to Table B-53 on page B32 for a list and an explanation of the parameters for the **scr_insert** command.

Table B-53 Parameters for the Scr_insert Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database from which the scratch medium is to be taken.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.
area	logical range in the I/O unit for insertion, for example, E07.

NOTE: The *media-type* must be set always, this is the required parameter.

NOTE: The media-type parameter must always be set. This is the required parameter.

Execute Scratch Mount (scr_mount)

The **scr_mount** command places a scratch medium from the specified pool (pool name or default) into the specified drive **(scr_get** and **mount** commands).

```
dasadmin scr_mount [-p poolname] [-t media-type] [drive]
```

Refer to Table B-54 for a list and an explanation of the parameters for the **scr_mount** command.

Table B-54 Parameters for the Scr_mount Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database from which the scratch medium is to be taken.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.
drive	name of the drive (Scalar DLC description) for the **mount** command. The parameter can be omitted if the reservation or media type makes the drive clear or if the drive with the least use is to be used.

NOTE: The media-type parameter must always be set. This is the required parameter.

Add Medium to the Scratch Pool (scr_set)

The **scr_set** command adds a volser to a scratch pool in the Scalar DLC database. This makes scratch media available for subsequent **scr_get** and **scr_mount** commands.

```
dasadmin scr_set [poolname] [-t media-type] volser
```

NOTE: Data stored on media may be lost. This command automatically sets the specified medium as a scratch medium without a confirmation prompt. The data on the data medium is overwritten by the next scratch mount command.

Refer to Table B-55 for a list and an explanation of the parameters for the **scr_set** command.

Table B-55 Parameters for the Scr_set Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database to which the scratch medium is to be added.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.

Table B-55 Parameters for the Scr_set Command

Parameter	Explanation
volser	volser for the medium to become the scratch medium.

NOTE: The media-type parameter must always be set. This is the required parameter.

This will be created in the Scalar DLC database if the specified pool name does not exist. The default scratch pool name will be used, for example, DEFAULTV1, if no scratch pool name is specified.

NOTE: This command will be rejected with the message EOTHERPOOL if the medium already exists in another scratch pool.

Add Media to the Scratch Pool (scr_set_range)

The **scr_set_range** command adds a volserrange to a scratch pool in the Scalar DLC database. This makes scratch media available for subsequent **scr_get** and **scr_mount** commands.

```
dasadmin scr_set_range [poolname] [-t media-type] volserrange
```

NOTE: Data stored on media may be lost. This command automatically sets the specified medium as a scratch medium without a confirmation prompt. The data on the data medium is overwritten by the next scratch mount command.

Refer to Table B-56 for a list and an explanation of the parameters for the **scr_set_range** command.

Table B-56 Parameters for the Scr_set_range Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database to which the scratch medium is to be added.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.
volserrange	volserrange to become the scratch media.

NOTE: The media-type parameter must always be set. This is the required parameter.

This will be created in the Scalar DLC database if the specified pool name does not exist. The default scratch pool name will be used, for example, DEFAULTV1, if no scratch pool name is specified.

NOTE: This command will be rejected with the message EOTHERPOOL if the medium already exists in another scratch pool.

Remove Medium from Scratch Pool (scr_unset)

The **scr_unset** command sets the medium specified by the volser to *unscratch* in the Scalar DLC database and removes the volser from the scratch pool. A scratch pool will be deleted when the last volser has been removed from the scratch pool.

```
dasadmin scr_unset [poolname] [-t media-type] volser
```

Refer to Table B-57 for a list and an explanation of the parameters for the **scr_unset** command.

Table B-57 Parameters for the Scr_unset Command

Parameter	Explanation
poolname	specification of the pool name in the Scalar DLC database from which the scratch medium is to be removed.
media-type	required scratch medium media type, for example, 3590. Refer to *Media Types* on page A28.
volser	volser for the medium to unscratch.

NOTE: The media-type parameter must always be set. This is the required parameter.

Display Client Parameters (show2)

The **show2** command displays either the access privileges of a client or its operating parameters.

```
dasadmin show2 [-op | -ac] client
```

Refer to Table B-58 for a list and an explanation of the parameters for the **show2** command.

Table B-58 Parameters for the Show2 Command

Option	Explanation
-op	displays the operating parameters of the client
-ac	displays the access privileges of the client
client	client for which the current parameters are to be displayed

```
dasadmin show2 Client6

client: Client6 operational parameters:
      ip_address: 127.0.0.1
      option     "complete access" status is ENABLED
      option     "avc"             status is ENABLED
      option     "dismount"        status is ENABLED
      option     "insert_wait"     status is ENABLED
      option     "clean_wait"      status is ENABLED
      permission "pause_das"       status is DISABLED
```

```
      permission "pause_drive"     status is DISABLED
access parameters for client: Client6
   volser-ranges:                ALL
   drive-ranges:                 ALL
```

Display Client Parameters (show)

The **show** command displays either the access privileges of a client or its operating parameters.

```
dasadmin show [-op | -ac] client
```

NOTE: Use the **show2** command instead of this command. For compatibility reasons, the show command still is supported.

Refer to Table B-59 for a list and an explanation of the parameters for the **show** command.

Table B-59 Parameters for the Show Command

Option	Explanation
-op	displays the operating parameters of the client
-ac	displays the access privileges of the client
client	client for which the current parameters are to be displayed

Also refer to *Display Client Parameters (show2)* on page B35.

Send SNMP Message (snmp)

The **snmp** command sends SNMP message.

```
dasadmin snmp message
dasadmin snmp @file_message
```

Refer to Table B-60 for a list and an explanation of the parameters for the **snmp** command.

Table B-60 Parameters for the Snmp Command

Parameter	Explanation
message	the message text.
file_message	the file that contains a message to sent to. If the file is not in the same folder with *dasadmin.exe*, the filename among with the complete path should be in double quotes.

NOTE: Because of SNMP interface properties, this command is not working completely.

Also refer to *Send Email Message (email)* on page B15.

Display Drives by Media Type (typelist)

The **typelist** command shows all drives or specific drives with matching media type.

```
dasadmin typelist [ media-type ]
```

Refer to Table B-61 for an explanation of the parameter for the **typelist** command.

Table B-61 Parameter for the Typelist Command

Parameter	Explanation
media-type	required media type, for example, 3590. Refer to *Media Types* on page A28 and *Drive Types* on page A30.

Operate Drive Buttons (unload)

The **unload** command causes the robotic controller to operate one or two buttons on the drive. Which buttons and how many buttons are operated is determined by the robotic controller configuration in the library.

```
dasadmin unload drive
```

Refer to Table B-62 for an explanation of the parameter for the **unload** command.

Table B-62 Parameter for the Unload Command

Parameter	Explanation
drive	name of the drive for the **unload** command

NOTE: The unload operation is supported by all drives in the Scalar 1000 and Scalar 10K libraries, but only by LTO drives and DLT Low Profile drives in the AML devices.

Obtain Information on a Volser Range (view2)

The **view2** command displays current information for the specified volser range from the Scalar DLC database.

```
dasadmin view2 begin [end [cnt [mediatype [attr [client]]]]]
```

Refer to Table B-63 for a list and an explanation of the parameters for the **view2** command.

Table B-63 Parameters for the View2 Command

Parameter	Explanation
begin	first volser in the range to be displayed
end	last volser in the range to be displayed
cnt	maximum number of volsers to be displayed (default 1000)
media-type	required media type, for example, 3590. Refer to *Media Types* on page A28.

Table B-63 Parameters for the View2 Command

Parameter	Explanation	
attr	Slot attributes value:	
	O	occupied ("Occupied" or "Temp Here" attribute)
	Y	marked empty ("Empty" or "Initial" or "Temp Away")
	M	mounted ("Mounted" or "In Jukebox")
	J	ejected
	U	undefined
	E	truly empty ("Marked empty" or "Total Ejected")
	""	all slots
client	optional parameter to show the volsers for a client other than the local one	

```
dasadmin view2 100001 100011 3
next volser 100004
count 3
more data
            volser = 100001  coordinate = T301010101    media = 3480
                             type = A                   attrib = M
                             use count = 1              crash count = 0
            volser = 100002  coordinate = T301010102    media = 3480
                             type = A                   attrib = O
                             use count = 0              crash count = 0
            volser = 100003  coordinate = T301010103    media = 3480
                             type = A                   attrib = O
                             use count  = 0             crash count = 0
```

Refer to Table B-64 for an explanation of the return status associated with the **view2** command.

Table B-64 Returned Status for View2 Command Explanation

Display	Explanation	
volser	queried volser (search criterion in the database)	
type	type of slot (coordinate in the archive)	
	A	Dynamic (dynamic storage locations in the library system)
	S	storage (dynamic storage locations in the library system)
	N	clean (cleaning media storage locations)

Table B-64 Returned Status for View2 Command Explanation

Display	Explanation	
attrib	current status of the slot (attributes)	
	O	occupied (slot occupied, medium is in its home position)
	E	ejected (slot empty, medium has been placed in the I/O unit)
	M	mounted (slot empty, medium has been placed in a drive)
	I	initial (attribute not used)
	J	in jukebox (slot empty, optical disk has been placed in the jukebox)
	R	reverse side mounted (slot empty, optical disk has been placed in a drive)
	Y	empty (slot empty, no medium defined for the slot)
	U	undefined (special attribute, used by HACC/MVS)
	T	temp here (slot occupied, medium in the problem box)
	A	temp away (medium temporarily not at the specified coordinates)
coordinate	10-digit logical coordinate specifying the slot	
media	media type, for example, 3590. Refer to *Media Types* on page A28.	
use count	number of accesses to the slot (not volser) by the robotic controller	
crash count	not used	

Obtain Information on a Volser (view)

The **view** command displays current information for one volser from the Scalar DLC database.

```
dasadmin view [-t media-type] volser
```

Refer to Table B-65 for a list and an explanation of the parameters for the **view** command.

Table B-65 Parameters for the View Command

Parameter	Explanation
media-type	volser media type, for example, 3590. Refer to *Media Types* on page A28.
volser	volser for the medium to view.

```
dasadmin view 000026
```

```
volser = 000026
type = A attrib = M
coordinate = L801010303
Use Count = 8740
Crash Count = 0
```

Refer to Table B-66 for an explanation of the return status associated with the **view** command.

Table B-66 Returned Status for View Command Explanation

Display	Explanation	
volser	queried volser (search criterion in the database).	
type	type of slot (coordinate in the archive):	
	A	Dynamic (dynamic storage locations in the library system).
	S	storage (dynamic storage locations in the library system).
	N	clean (cleaning media storage locations).
attrib	current status of the slot (attributes):	
	O	occupied (slot occupied, medium is in its home position).
	E	ejected (slot empty, medium has been placed in the I/O unit).
	M	mounted (slot empty, medium has been placed in a drive).
	I	initial (attribute not used).
	J	in jukebox (slot empty, optical disk has been placed in the jukebox).
	R	reverse side mounted (slot empty, optical disk has been placed in a drive).
	Y	empty (slot empty, no medium defined for the slot).
	U	undefined (special attribute, used by HACC/MVS).
	T	temp here (slot occupied, medium in the problem box).
	A	temp away (medium temporarily not at the specified coordinates).
coordinate	10-digit logical coordinate specifying the slot.	
media	media type, for example, 3590. Refer to *Media Types* on page A28.	
use count	number of accesses to the slot (not volser) by the robotic controller.	
crash count	not used.	

Initialize Volser (volserinventory)

The **volserinventory** command causes the library system to execute inventory-by-volser operation. Technically, that is the same as **view** and **partinventory** commands executed sequentially.

```
dasadmin VolserInventory volser
dasadmin vinvt volser
dasadmin volinv volser
```

Refer to Table B-67 for an explanation of the parameter for the **volserinventory** command.

Table B-67 Parameters for the VolserInventory Command

Parameter	Explanation
volser	volser to be inventoried.

Also refer to *Obtain Information on a Volser (view)* on page B39 and *Initialize Element Range (partinventory)* on page B27.

Unsupported DAS Commands

Although the Scalar DLC software is designed to support all of the current DAS functionality, the following commands are not supported and are rejected by the Scalar DLC:

- KillAMU
- Scap
- Scop
- Scop2
- Shutdown
- Switch

An error code is generated to inform the user that a command has been rejected.

SCSI Guide

This section provides a brief overview for the Scalar 1000 and Scalar 10K Medium Changer Small Computer System Interface (SCSI) protocol, including supported commands and messages.

Installation and Configuration

Step 1 Install the Scalar DLC software with the SCSI support on the server PC. Install the required drivers for the target mode. Refer to *Install and Upgrade Manual, Install Scalar DLC software and Install SCSI and Fibre Channel Target Drivers* sections. The server PC requires a restart.

Step 2 Enable appropriate SCSI target ports via the SCSI Target Port tool. Refer to *SCSI Target Port Utility* on page A18. The server PC may ask for a restart.

Step 3 Start the Management GUI. Refer to *Scalar DLC Management GUI* on page 33. Create at least one Target object. Refer to *SCSI Target Tab* on page 666 and *Create Target* on page 670. The created target is *not active*.

Step 4 Create the library configuration that the client requires. Refer to **Configuration on page 31**. Create additional mailboxes and clean/scratch pools if necessary. Refer to *Create Pool* on page 620 and *Create Mailbox* on page 621.

Step 5 Create a SCSI client based on the created Target and assign it to the created library. Refer to *Create SCSI Client* on page 660. The Target becomes *active*.

Step 6 Install the client application on the client PC and configure it to work with the appropriate Target.

Step 7 Now, the Scalar DLC software is ready to accept commands from a SCSI client.

Associated Documents

For details of the SCSI operations refer to:

- SCSI Reference Manual for the Scalar 10K library.
- SCSI Reference Manual for the Scalar 1000 library.

The SCSI client should use the document that describes the data format used by his software target application. Refer to *Target* on page 669 for the details.

General Characteristics

The Scalar 1000 components are:

- Control Module (CM) - a single cabinet containing an Insert/Eject station, storage cells, and tape drives. The CM uses one or two SCSI ports to connect to a SCSI host.
- Expansion Module (EM) - a single cabinet that is added to a CM to provide additional storage cells and tape drives. The Scalar 1000 can have up to three EM's.

- Operator panel - displays status and provides command entry.
- Accessor - a device that moves cartridges to and from the Insert/Eject station, storage cells, and tape drives.
- Barcode scanner - reads cartridge barcode labels to identify library volumes.

The Scalar 10K components are:

- Control Module (CM) - a cabinet that attaches to the AM. It contains storage cells, tape drives, and the library Operator LCD Panel that displays library status and provides a command entry point. The CM uses one or two SCSI ports to attach SCSI hosts.
- Accessor Module (AM) - a cabinet that contains four rack locations (Control Module, Insert/Eject stations, Tower Module, or Storage Cells), and the Accessor. Each AM can have an Expansion Module added.
- Expansion Module (EM) - a cabinet that is added to an AM or to another EM to provide additional storage cell configurations and attachment capabilities for DMs and TMs. The Scalar 10K can have up to three EM's.
- Accessor - located in the AM, it is a device that moves cartridges to and from Insert/Eject stations, storage cells, or tape drives.
- Barcode scanner - located in the AM, it is a device that teaches the system configuration, and reads cartridge barcode labels to identify library volumes.
- Drive Module (DM) - a cabinet that attaches to an AM or an EM. It contains a maximum of 48 drives.
- Tower Module (TM) - a cabinet that attaches to an AM or an EM. It contains rotating storage locations.

There are four Scalar 1000 and Scalar 10K modes of operation:

- ADIC native mode,
- EXABYTE compatibility mode,
- STK compatibility mode,
- EMASS compatibility mode.

NOTE: The mode of operation determines how the library responds to the SCSI INQUIRY command.

The Scalar 1000 and Scalar 10K supports half inch, NCTP, DLT/SDLT, LTO, and 8mm tape cartridges. For the Scalar 1000 library, a storage cell cartridge capacity ranges from 118 cells in the CM and up to 1182 cells with additional EMs. For the Scalar 10K library, a storage cell cartridge capacity ranges from 700 cells in the CM to 15938 cells with additional EMs, DM, and TMs. Total capacities are dependent on the media type configurations.

SCSI Bus

A SCSI Bus is a shared resource that provides a pathway for exchanges between one or more hosts and their peripheral devices. A SCSI bus can be Single Ended, Differential, or Low Voltage Differential and must be terminated at both ends.

SCSI bus components are:

- SCSI initiator (host)
- SCSI target (peripheral)
- Cable connecting host and peripheral
- Bus terminators

Consider the computer system as the host and the Scalar 1000 and Scalar 10K as the peripheral.

Initiator Operation

The SCSI bus adapter card in a host computer is the initiator of SCSI operations. The host initiates commands and messages or sends data to the target. The initiator also receives messages, data, and status from the target.

Target Operation

The Scalar 1000 and Scalar 10K library target respond to control information or data from the host. The library does not:

- Generate unsolicited interrupts to the host
- Initiate its own SCSI commands
- Assert bus resets

Element Addressing

The host references source and target designations with element addresses within the library. Each element within the library has a unique address. The element addresses are established according to the firmware version of the library.

The Scalar 1000 has two firmware versions:

- Firmware below Version 3.0
- Firmware Version 3.0

The addressing scheme of the Scalar 1000 depends on the firmware version that is used.

The Scalar 10K SCSI addressing scheme is:

- One Cartridge Accessor exists. Its assigned address is always 1h.
- The I/E station locations are addressed continuously from top to bottom, station by station.
- Tape drive locations are addressed from lower left to upper right, rack by rack.
- Storage element locations are addressed from the top left to lower right, column by column, rack by rack.

SCSI Communications

Scalar 1000 and Scalar 10K communications are implemented across the SCSI bus. The following paragraphs discuss the bus phases.

Bus Phases

The Scalar 1000 and Scalar 10K conforms to the bus state transition table of the SCSI-2 standard, *Phase Sequence*s. Bus phases determine the type of information and direction on the interface as shown in Table C-1.

Table C-1 Bus Phases

Phase	Description
Bus Free	The Bus Free phase indicates that the bus is idle.
Arbitration	The Arbitration phase allows devices to compete for bus access.
Selection	The Selection phase allows the host initiator to select the target destination for communication.
Reselection	The Reselection phase allows the target to reconnect to the host initiator after a disconnect.
Transfer	The library supports asynchronous data transfer phases with differential and single ended communications. Odd parity is generated during all information transfer phases from the library. Parity is checked during all information transfer phases to the library. Parity checking can be disabled. Information Transfer phases are: • The Message In/Message Out phases manage the physical path between the host initiator and target destination. Message In is a message to the host initiator, Message Out is a message to the target destination. • Command Out phase is a command from the host initiator to the target destination. • Data In/Data Out phase is either data sent from the target to the host initiator (Data In) or data sent from the host initiator to the target destination (Data Out). • Status In is a target status byte response to a host-initiated command.

SCSI Message System

The SCSI message system (Message In/Message Out) allows communication between an initiator and a target for the purpose of physical path management.

The messages shown in Table C-2 on page C5 are supported.

Table C-2 Supported SCSI Messages

Description	Code	Direction
COMMAND COMPLETE	00h	In
SAVE DATA POINTERS	02h	In
RESTORE POINTERS	03h	In
DISCONNECT	04h	In
INITIATOR DETECTED ERROR	05h	Out
ABORT	06h	Out
MESSAGE REJECT	07h	Both
NO-OP	08h	Out
MESSAGE PARITY ERROR	09h	Out
BUS DEVICE RESET	0Ch	Out
IDENTIFY	80h or C0h	Both

COMMAND COMPLETE (OOh)

The COMMAND COMPLETE message is sent from a target to an initiator to indicate that the execution of a command is complete and valid status has been sent to the initiator.

SAVE DATA POINSTERS (02h)

The SAVE DATA POINTERS message is issued before every disconnect message following a Data In or Data Out phase. The message is not sent when disconnecting after a Command Descriptor Block (CDB) that did not transfer data.

RESTORE POINTERS (03h)

The RESTORE POINTERS message is sent from a target to direct the initiator to continue sending data.

DISCONNECT (04h)

The DISCONNECT message is sent by a target to inform an initiator that the present data transfer will be suspended. The target will reselect the initiator at a later time to continue the current operation.

INITIATOR DETECTED ERROR (05h)

The INITIATOR DETECTED ERROR message is sent from an initiator to inform a target that an error has occurred. This allows the target to retry the operation.

ABORT (06h)

The ABORT message is sent from the initiator to the target to clear the current or pending operation. The target goes directly to the BUS FREE phase after successful receipt of this message.

MESSAGE REJECT (07h)

The MESSAGE REJECT message is sent from the initiator or target to indicate that the last message received was inappropriate or not implemented.

NO-OP (08h)

The NO-OP message is sent from the initiator to inform the target that no message is valid in response to the target request for a message.

MESSAGE PARITY ERROR (09h)

The MESSAGE PARITY ERROR message is sent from the initiator to the target to indicate that one or more bytes in the last message received contained a parity error.

BUS DEVICE RESET (0Ch)

The BUS DEVICE RESET message is sent from an initiator to clear all commands, data, and status at the target. When the target recognizes this message, it aborts the command currently being executed, proceeds to the BUS FREE state, and executes a hard reset.

IDENTIFY (80H or C0h)

The IDENTIFY messages are sent either by the initiator or by the target to establish (or re-establish) the logical connection path between an initiator and target for a particular logical unit. The Scalar 1000 and Scalar 10K libraries only support a logical unit of 0.

SCSI Commands

Device Commands

Table C-3 on page C7 shows the SCSI medium changer commands that are supported by the Scalar 1000 and Scalar 10K libraries.

Table C-3 Supported SCSI Commands

Opcode	Command
07h	INITIALIZE ELEMENT STATUS
E7h	INITIALIZE ELEMENT STATUS WITH RANGE
12h	INQUIRY
4Ch	LOG SELECT
4Dh	LOG SENSE
15h	MODE SELECT
1Ah	MODE SENSE
A5h	MOVE MEDIUM
2Bh	POSITION TO ELEMENT
1Eh	PREVENT/ALLOW MEDIUM REMOVAL
3Ch	READ BUFFER
B8h	READ ELEMENT STATUS
1Ch	RECEIVE DIAGNOSTIC RESULTS
17h	RELEASE
03h	REQUEST SENSE
B5h	REQUEST VOLUME ELEMENT ADDRESS
16h	RESERVE
01h	RE-ZERO
1Dh	SEND DIAGNOSTIC
B6h	SEND VOLUME TAG
00h	TEST UNIT READY
3Bh	WRITE BUFFER

SCSI Command Format

The SCSI command format adheres to the SCSI-2 standard. Table C-4 describes the CDB fields that are common to all commands.

Table C-4 SCSI Command Format

Command	Description
Logical Unit Number	The library has a single Logical Unit Number (LUN). The library always appears as LUN 0. If the LUN is specified in the IDENTIFY message, the LUN field in the CDB is ignored by the library.
Reserved	The word Reserved or Rsvd refers to a field defined by the SCSI standard as 0. The library checks the field for 0. If the field is not 0, the library returns Check Condition status with a sense key of Illegal Request.

Table C-4 SCSI Command Format

Command	Description
Control Byte	The vendor unique portion of the Control Byte is defined in the specific command.
Not Implemented	This description indicates that the field is a SCSI standard but is not supported by the library.

SCSI Command Status Byte

Both the Scalar 1000 and Scalar 10K enter the status phase once per command, unless a retry is requested by the initiator. Table C-5 describes the library return status bytes.

Table C-5 Status Bytes

Status	Value	Description
Good	00h	The library successfully completed the command.
Check Condition	02h	An error condition occurred during command processing. The REQUEST SENSE command responds with detailed error information.
Busy	08h	The target is busy. This status is returned when the device is unable to accept a command from an otherwise acceptable initiator. The initiator should reissue the command at a later time.
Reservation Conflict	18h	This status is returned by the library when a SCSI initiator attempts to access the library after it is reserved by another initiator with a RESERVE command.

SCSI Operations

The following sections detail Scalar 1000 and Scalar 10K SCSI communication behavior.

Parity Checking

To enable parity checking on information received by the library, set the parity bit on the Parity Page of the MODE SELECT command.

Disconnection

The library disconnects from the SCSI bus whenever a command requires a lengthy time to complete. The library receives permission to disconnect from the initiator. The initiator grants permission by:

- Selecting the library with the Attention signal.
- Sending an Identify message with the DiscPriv bit set to 1.

Once the command processing completes, the library reselects the initiator and sends the Identify message.

Resetting the Library

The library is reset by a Power-On Reset (POR) or a SCSI Device Reset.

Power-On Behavior

- The library goes to the Bus Free phase.
- The checksum of the flash EEPROM is validated.
- All library parameters are loaded with either saved or default values.
- A Power On SelfTest is performed.
- The library responds to the SCSI bus within 10 seconds of power on.

SCSI Device Reset Behavior

- The library goes to the Bus Free phase.
- All library parameters are returned to their saved or default values.
- A Self Test is performed.
- The library responds to the SCSI bus within 250 milliseconds.

Other SCSI Functionality

Unit Attention Condition

Unit Attentions are reported under the following circumstances:

- Reset occurred.
- A firmware (microcode) update completes.
- A library door closes.
- The Insert/Eject station closes.
- Another initiator changes the Mode Parameters.
- Another initiator changes the Log Parameters.

ROBAR Guide

The ROBAR (ROBotic ARchive) software works with the Scalar DLC via the specific ROBAR interface. The ROBAR Client software is a flexible tool that works under various operating systems (Unix-based, Win9x, WinNT, Win2000, and so forth). The ROBAR interface was one of the first methods to operate the Automated Media Libraries (AML) and still remains very useful.

The ROBAR Client works with the server part of the Scalar DLC software. Before the connection between the ROBAR Client and Scalar DLC can be established, the ROBAR Client object must be created and configured.

Installation and Configuration

Step 1 Install the Scalar DLC software with the ROBAR Client support on the server PC. Refer to *Install and Upgrade Manual, Install Scalar DLC software* section (either a Complete installation or a Custom installation with the ROBAR support selected). The server PC requires a restart.

Step 2 Start the Management GUI. Refer to *Scalar DLC Management GUI* on page 33. Create the library configuration that the client requires. Refer to *Configuration* on page 310. Create additional mailboxes and clean pools if necessary. Refer to *Create Pool* on page 620 and *Create Mailbox* on page 621.

Step 3 Configure ROBAR interface to work with an appropriate port. Refer to *ROBAR* on page 661.

Step 4 Create a ROBAR client and assign it to the created library. Refer to *Create ROBAR Client* on page 664.

Step 5 Install the client application on the client PC and configure it to work with the appropriate server, client, and port.

Now, the Scalar DLC software is ready to accept commands from ROBAR Client.

ROBAR Commands

Table D-1 shows the ROBAR Commands. The commands not supported in current version of Scalar DLC software marked with asterisk (*).

Table D-1 ROBAR Commands

Command	Description
ACOM	Checks the communication to the Scalar DLC software and get information about the library status.
AOFF	Programs end of the Scalar DLC software.
AUTO	Switches from manual or test mode to the automatic mode.
BOF	Switches the barcode reading for the sending host off.
BON	Switches the barcode reading for the sending host on.
CLM	Clean manager status and configuration command.

Table D-1 ROBAR Commands

Command	Description
CLU	Closes the flap on a drive.
DL	Changes a archive catalog entry.
EJ	Ejects data cartridges - temporary.
EJT	Ejects data cartridges - complete.
EJTC	Ejects complete - used cleaning cartridges.
FLIP	Toggles the side of a Optical Disk in an Optical Disk drive.
IN	Inserts data cartridges by a logical range.
INC	Verifies the archive with the database by a given coordinate.
INSC	Inserts clean cartridges by a logical range.
INV	Inventory of a given volser.
IVK	Inventory of a given coordinate range.
IVV	Inventory of a given volser.
KE	Moves a cartridge from drive to the home position.
KEC	Moves a cartridge from drive to a given position.
LJB	Moves a cartridge to the I/O area of a integrated Jukebox.
MAN	Switches from automatic mode to the manual or test mode.
MO	Moves a cartridge to a drive from archive or the Insert/Eject unit.
MOCL	Initiates a drive cleaning.
MV	Moves a cartridge from archive or Insert/Eject unit to a coordinate in the archive or insert/eject unit.
ROPO	Moves the robot to the given coordinate.
ROSA	Displays and change the library status to online.
ROSO	Moves the robot to a park position and set the status to not ready.
SCH	Sends the information of the first occupied compartment to the requester.
SIN	Stops the running insert command.
SIVK	Stops the running inventory command.
SWIT (*)	Toggles the library status passive-active.
UJB	Unloads the I/O unit of a integrated Jukebox.
ULC	Displays a archive catalog entry by a given coordinate.
ULK	Displays a archive catalog entry by a given coordinate.
ULU	Performs the robot to press button(s) on the drive.
ULV	Displays a archive catalog entry by a given volser.
UPC	Changes the archive catalog entry by a given coordinate.
UPK	Changes the archive catalog entry by a given coordinate.
UPV	Changes the archive catalog entry by a given volser.
VI	Inserts the first available Cartridge in the Insert area to the archive.
VICC	Inserts the cartridge from a given coordinate to a given target coordinate.

NOTE: The configuration of clean pools and insert/eject areas should be executed via the Scalar DLC Management GUI.

ROBAR Command Format

The command is a string that contains:

- Start symbol (<)
- Command header
- Command
- Command parameters
- End symbol (>)

The standard command is a single command with a single answer. There are also block commands possible with one command, some data messages, and one answer.

Also, in some special situations, Scalar DLC will distributed a notification in this command format to all partners using the ROBAR command format.

Command Header

The command header contains the following fields:

- Receiver
- Sender
- Telegram type
- Request ID

Table D-2 shows the details.

Table D-2 Command Header format

Field	Length	Value/Description		Example
Receiver	2	Name of the Receiver of the telegram.		H01
		Hx	Requester from type "Host".	
		M1	"Major HACC" only after a "Sign of Life" from Host type "HACC/MVS".	
Sender	2	A1, A2	External name of the Scalar DLC host.	A1
		Vx	Virtual host name (for VTLS) This command will only be routed to the VAMU (CentricStor).	
Telegram type	2	A00	Standard command.	A00
		Vxx	Message for the VAMU.	

Table D-2 Command Header format

Field	Length	Value/Description		Example
Request ID	Comma + 4	0 - ZZZZ	Sequence identifier from the command originator. Notification starts with the Prefix A.	,M085

Command Structure

The command itself contains the following fields:

- Command header
- Command
- Acknowledge
- Returned code
- System
- Robot
- Device
- Volser
- Status
- 1st param
- 2nd param
- Time stamp
- Orig. Host ID
- Orig. Request ID

Table D-3 shows the details.

Table D-3 Command format

Field	Length	Value/Description		Example
Command header	9	Command header with information about sender and requester (refer to *Command Header* on page D3).		A1H5A00, M875
Command	4	Name of the command or NTFY for an asynchronous notification.		A01
Acknowledge	1	Message specific response:		P
		P	Positive (command successful)	
		N	Negative (command unsuccessful)	
		D	Data (message in a block command)	
		E	End (end of block command)	
		M	Asynchronous message ROBS	

Table D-3 Command format

Field	Length	Value/Description		Example
Return code	4	Error or Status message in the answer/ number of the notification.		N005
System	1 (2)	Library (if larger than 9, replaces the comma with the second digit of the system).		2
Robot	1	Robot number for a twin robot system (1 or 2).		1
Device	3	Dxx	Drive name.	D0R
		0xx		
		Ixx	Logical range of the Insert/Eject unit.	
		Exx		
		Pxx	Pool name.	
Volser	6	Volume serial number.		GR0815
Status	2	Coordinate/cartridge type (1st byte):		MB
		C	Cleaning cartridge.	
		M	Data cartridge.	
		O	Optical Disk.	
		0	Empty (Null).	
		Coordinate/cartridge status (2nd byte):		
		B	Occupied.	
		E	Ejected.	
		M	Mounted.	
		O	Optical disk mounted other side.	
		J	Optical disk in Jukebox.	
		L	Empty.	
		1/0	Barcode reading on/off.	
1st param	8	First parameter (mainly the source coordinate)		01010101
2nd param	8	Second parameter (mainly, the target coordinate)		00000Z01
Time stamp	9	Actual Day, hour, minute and seconds used for synchronization (ROSA)		26/211501
Orig. Host ID	2	Original Host ID in a HACC/MVS Major-Minor Complex		H7
Orig. Request ID	4	Original Host request ID in a HACC/MVS Major-Minor Complex		0815

The following example represents the typical ROBAR command.

```
<A1H5A00,0010,MO  , ,    ,1,2,D0R,GR0012, 1,02321810,        ,26/
211032,H1,0815>
```

Most ROBAR commands return an answer string that has the same structure as the command string. The answer string is returned whether the command is executed successfully or not.

ROBAR Coordinates

For all physical positions in the system, the Scalar DLC software provides a signification coordinate. With the help of this coordinate, the Scalar DLC can compute the physical position. These are LSCI coordinates (the Scalar DLC database contains a coordinate decoder and uses the LSCI coordinate system as well as SCSI coordinates, and others).

These coordinates consists of 8 characters or 4 character pairs. The first two characters signify the ‘name' or the number of the device. The second pair of characters signifies the column in which the position is located. The third pair of characters signifies the row of the position and the last two characters show the position in this row.

Additionally, for the Insert/Eject unit, Drives, Jukebox, and Problem box, the ROBAR interface uses special coordinates.

Refer to Table D-4 for the details.

Table D-4 ROBAR Coordinates

Area	Description	Example
Storage area	typical LSCI coordinate - device, column, row, position	01010101 (device 1, column 1, row 1, position 1)
Insert area	coordinate starts with 0001 followed by row and position	00010510 (row 5, slot 10)
Eject area	coordinate starts with 0002 followed by row and position	00020608 (row 6, slot 08)
Foreign Mount area	coordinate starts with 0003 followed by row and position	00030701 (row 7, slot 01)
Drive/ Jukebox	coordinate starts with 0000 followed by the drive address/name and 01	00000F01 (drive addr. 0F) 0000ZQ01 (drive name ZQ)
Problem box	coordinate starts with 000000 followed by number of the problem box	000000001 (problem box 1)

Index

Index