Release Notes

Product: Scalar® 10K 300A.00007
Date: April 2005

Contents

Purpose of This Release

This release adds new features and enhancements, and it resolves issues found in previous releases of the Scalar 10K library. This document lists the new features, enhancements, known issues, resolved issues, and drive and auxiliary firmware compatible with the library. Visit www.adic.com for additional information about the Scalar 10K library.

New Features and Enhancements

This release of the Scalar 10K library includes the following new features and enhancements:

- **IBM 3592-J1A tape drive support**

    Single-aisle and dual-aisle libraries now support the native Fibre Channel version of the IBM® 3592-J1A tape drive. The 3592-J1A tape drive is enclosed in a drive sled designed specifically for the 3592-J1A, referred to as the 3592-J1A drive sled. Both re-writable cartridges (media IDs "JA" and "JJ") and Write Once Read Many (WORM) cartridges (media IDs "JR" and "JW") are supported. Libraries that contain 3592-J1A drives support mixed media configurations consisting of 3590 and LTO types only.

    The library has a new Drive Module (DM) specifically designed for 3592-J1A tape drives only. Other drives types are not supported in this DM, and other types of modules in the library do not support 3592-J1A tape drives. The 3592-J1A DM supports from 1 to 16 hot-swappable 3592-J1A tape drives.

The 3592-J1A tape drive supports logical serial number addressing. The library assigns a logical serial number to a 3592-J1A tape drive in a specific location. This is not the same serial number as the one that the manufacturer assigns to the physical tape drive itself. If a 3592-J1A tape drive is replaced by another 3592-J1A tape drive in the same library location, the logical serial number remains the same. From the host's perspective, the replacement drive is the same as the original one.

- **LTO-3 tape drive support**

  The library now supports the native FC version of the LTO-3 tape drive. The LTO-3 uses the standard Universal Drive Sled (UDS). The media ID for LTO-3 cartridges is "L3".

- **Gripper firmware improvements**

  Library software improves gripper teach and handling operations and supports brushless and brushed grippers.

- **Gripper serial number stored in EEPROM data format**

  LGR (gripper) cards now include the gripper serial number in Electrically-Erasable Programmable Read-Only Memory (EEPROM). In addition, library logs now include the gripper serial number.

- **Teach Tape feature for LTO linear storage**

  The new Teach Tape feature refines teach positions and improves Get and Put operations for LTO linear storage only. This feature should be used by ADIC service personnel only.

- **Auto-Reteach feature for storage, drives, and I/E station magazines**

  The new Auto-Reteach feature, when enabled, causes the library to periodically reteach itself when Get or Put operations against storage, tape drives, or I/E station magazines retry a certain number of times. This feature can be enabled or disabled only by ADIC service personnel.

- **Menu commands removed**

  Add was removed from the Teach menu, and the Learn, Manual Get, and Manual Put commands were removed from the Advanced menu because they were no longer needed.

- **TapeAlert information for LTO and 3592-J1A tape drives and media**

  The library now posts TapeAlert information in the Command and Error logs. TapeAlerts indicate specific faults with LTO or 3592-J1A tape drives or media. When a TapeAlert occurs to indicate that a 3592-J1A tape drive needs to be replaced, the library issues a SAC 9C. When a TapeAlert occurs to indicate that an LTO tape drive needs to be replaced, the library issues a SAC 96. All other TapeAlerts cause the library to issue SAC ED messages, which appear in the Command and Error logs. Some SAC EDs also generate operator intervention messages, which are displayed on the Operator Panel. Both SAC 9C and SAC ED are new for this release.

- **Weekly retry statistics added to Command and Error logs**

  A new section in the Command and Error logs provides weekly statistics about retry activity in the library.

- **Verification Tests**

  The library now provides a series of verification tests to confirm correct library installation. ADIC service personnel can run the verification tests from the Operator Panel. The Verification Test Log provides the results of individual verification tests.

- **Automatic calibration**

  The library will automatically calibrate (home) the accessor assembly with gripper and the Tower Modules (TMs).

- **Powering on a tape drive while varied off**

  A tape drive that is varied off can now be activated (power turned on) for servicing purposes.

- **Last SAC message stored before power cycle**

    The library now stores the last-occurring SAC and error code in non-volatile RAM (NVRAM). Upon request by the Remote Management Unit (RMU), the library sends the stored SAC and error code to the RMU.

Compatibility Matrix

See the following table for information about drive and auxiliary firmware compatibility with Scalar 10K Version 300A.00007. This information is current as of this product release. For the most current list of compatible firmware, contact the ADIC Technical Assistance Center (ATAC).

Table 1 Drive and Auxiliary Firmware Compatibility Matrix

Component	Firmware Version
RMU	192A.00001
Scalar DLC	2.5 + SP2
AMC	4.3
SNC	
SNC 3000	3.43.18
SNC 5100	4.45.16
Drive Types	
LTO-1	4561 (SCSI, FC)
LTO-2	53Y2 (SCSI, FC)
LTO-3	53S0
AIT-2	0200_CY10
AIT-3	0207_1002
DLT-8000	V80
SDLT 220	V82
SDLT 320	V82
3590 E1A / H1A / B1A	DOIF_26E
3592-J1A	D310_529

Note   The library assigns 12-character logical serial numbers to 3592-J1A tape drives. If you use IBM Tivoli[®] Storage Manager (TSM), install a version of the TSM device driver that is *later* than maintenance release 5.2.4.4 (for TSM 5.2) or *later* than 5.3.1.1 (for TSM 5.3) to ensure that TSM can properly identify 3592-J1A tape drives according to their 12-character logical serial numbers.

Known Issues

This release of Scalar 10K firmware has the following known issues:

Change Request Number	Service Request Number	Description	Workaround
33359	282830	On occasion, the vertical mounting of a 3590 tape drive might be higher than the vertical window expected by the library firmware to successfully scan for the drive fiducial. As a result, the library cannot teach the drive.	Manually adjust the vertical placement of the 3590 tape drive or the front bezel until the library can successfully teach the drive.
40518		When a Teach Current operation is performed for a DM, a drive teach failure can return an incorrect bay number to the Operator Panel.	Physically inspect the drive bay that the failure indicated or possibly the bay that is located immediately before. The bay that is identified by the failure might not exist.
41203		When using a data tape instead of a FUP tape to update a list of drives, the library correctly posts a "BAD FIRMWARE MEDIA" operator intervention message, but continues to the next drive in the list. The operation should fail and not continue.	No applicable workaround is available.
41301		After cleaning cartridges are ejected from drives, the View dialog (**Main Menu ▶ Setup ▶ Cleaning ▶ View**) continues to indicate a Valid status for the first cleaning cartridge rather than clearing the status.	Make sure that cleaning cartridges are inserted into the library by using the Insert Clean Tape command (**Main Menu ▶ Commands ▶ Insert/Eject ▶ Insert Clean Tape**). This operation physically inserts the cartridges and also inserts them into the library database. NOTE: Do not use **Main Menu ▶ Setup ▶ Cleaning ▶ Media** to peform this operation. This operation inserts the cartridges into the library database only.

Change Request Number	Service Request Number	Description	Workaround
41305		The usage count for the first cleaning cartridge increments when a second cleaning cartridge is used.	Make sure that cleaning cartridges are inserted into the library by using the Insert Clean Tape command (**Main Menu ▸ Commands ▸ Insert/Eject ▸ Insert Clean Tape**). This operation physically inserts the cartridges and also inserts them into the library database. NOTE: Do not use **Main Menu ▸ Setup ▸ Cleaning ▸ Media** to peform this operation. This operation inserts the cartridges into the library database only.
41329		The Management Information Base (MIB) walk produces 10 questionable results: • timeStamp.0 indicates a value that is too high • shutdownState.0 indicates a state that MIB does not define • serviceActionCode.0 indicates a SAC that does not exist • moverState.1 indicates a state that MIB does not define • moverScsiId.1 indicates a value that does not match the Library SCSI ID • moverPicks.1 indicates the number of moves rather than the number of gets • moverMailboxState.1 indicates that an I/E station is locked while another I/E station is closed • driveState.1 indicates an inappropriate value • driveClean.2 indicates a value that matches the SCSI log_sense 0x3d value • driveWorldWideName.1 indicates an inappropriate value	No applicable workaround is available.

Change Request Number	Service Request Number	Description	Workaround
42204		After Scalar DLC starts up and configures the library, it issues a "License has been expired!" notice. This notice should appear when the user logs in rather than after the physical and logical libraries are configured. In addition, Scalar DLC should accept license registration information the first time rather than requiring the user to enter it twice.	Enter the license registration information again.

Resolved Issues

This release of Scalar 10K firmware resolves the following issues:

Change Request Number	Service Request Number	Description
12683	329028 359108	When a SCSI command timeout occurred on the host, the library responded with a return status of Check Condition, but had no sense information. Commands that were subsequently issued, such as the TUR command, indicated that the library was Ready even when the aborted command continued to run. When the aborted command completed, a return status of Check Condition was set with a sense key of 0Bh and ASC/ASCQ of 0000h. In many circumstances, this could cause the library to hang. Also, the aborted SCSI command did not properly release the SCSI component. Resources were blocked too long or indefinitely when I/E station actions occurred and when the RMU was used to vary drives online or offline.
31054	265736 266554	Serial communications were lost between the Drive Control (LDC) card and LTO drives, which caused the library to issue SAC 96 error messages to the Operator Panel and required a re-sync recovery. Now, lost serial communications cause automatic drive reconfigurations with SAC 96 errors being issued when reconfigurations fail.
34359	263742	The last-occurring SAC and error code needs to be stored in non-volatile RAM (NVRAM) before power cycle occurs. Upon request by the Remote Management Unit (RMU), the library should send the stored SAC and error code to the RMU.
34605	263834 270574	Communications failure between the RMU and the library caused long delays between move operations.
40835	376150	During downloads of new images to auxiliary controllers, the setting of EEPROM-resident bank switching for all auxiliary controllers, including all failure modes, should be managed properly.

Change Request Number	Service Request Number	Description
40985	356358	Cycling power on a Tower Control (TCL) card did not generate the appropriate unit attention. Therefore, the Scalar DLC or host did not know that the inventory needed updating, and the cartridges in the TM were not recovered until the power was cycled on the Scalar DLC.
41635	374124	Additional recovery for stuck tapes in 3590 tape drives.

Documentation

The following documents are currently available for the Scalar 10K:

Document Number	Document Title
6-01023-01	Scalar 10K Unpacking Instructions
6-01337-01	Scalar 10K Planning Guide
6-00058-02	Scalar 10K Operator Guide
6-01338-01	Scalar 10K SCSI Reference Manual

Contacting ADIC

The contact information for the ADIC Technical Assistance Center (ATAC) is as follows:

ADIC Technical Assistance Center (ATAC) in the USA:	800-827-3822
ATAC in Europe or Japan:	00-800-9999-3822
For additional contact information:	www.adic.com/contact