

eServer xSeries Tape Drive Support Help Guide v.1.5

When viewing the Removable Storage option under Windows Server 2000 or Windows Server 2003, and there is a red X on the tape drive, what could be causing this problem?

There are four reasons why this red X is present on the tape device:

1. The tape driver installed is NOT a Microsoft Driver Provider. This can be checked by selecting the tape drive properties from Device Manager. For Windows 2000\2003, select Tape Drives, right click the tape drive, select Properties and then the Driver tab. To correct this, load the latest Windows Server tape driver located on the IBM Tape Tools CD driver's folder.
2. In Windows 2000, if you right click the tape drive under Physical Locations and the option Enable Library is unchecked, this option should be checked. In Windows 2003, if you right click the tape drive under Libraries and the option Enable drive is unchecked, this option should be checked.
3. The tape drive is no longer installed in the server. Verify if this is true and if so, right click the drive and select delete.
4. A new tape drive was installed that has a different drive serial number. So now, there maybe more than one tape drive showing under Removable Storage. Simply right click the tape drive with the red X and delete.

How can my customer contact their OEM tape software support?

Veritas Backup Exec Software Support

US – 1.800.342.0652 or 407.357.7600

Worldwide - http://support.veritas.com/phonesup/phonesup_ddProduct_BEWNT.htm

BrightStor ARCserve Backup Support

US – 1.866.422.2774

Worldwide – http://supportconnectw.ca.com/public/ca_common_docs/support_dir.pdf

Tivoli Storage Management (TSM)

US – 1.800.426.7378

Worldwide - http://techsupport.services.ibm.com/guides/tivoli_contacts.html

How do I verify what type of tape drive is installed in the server?

Point the customer to this website:

<http://www-307.ibm.com/pc/support/site.wss/document.do?Indocid=MIGR-50646>

Click the option to install the automated content plug ins. When complete, click the option to “ Show my tape drive information.

How do I get verify if my tape devices are at the latest firmware?

Go to this website, match the tape drive being used and the latest firmware is recorded in the far right corner of the page. Some numbers are in hex code, so they may have to be translated to decimal.

<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>

For example: Below, the 4560 SDLT drive firmware is version 70 in decimal code. The last two digits (46) of the revision number is the hex code number (46).

4560Sv70.img	4560_SDLT320	4646
--------------	--------------	------

How can I download the latest IBM tape drivers?

Go to this website: <http://www-307.ibm.com/pc/support/site.wss/document.do?Indocid=TAPE-FILES>

How do I get the tape software drive serial number and what is the purpose?

Insert the IBM Tape Tools CD and press the option to capture the tape drive serial number. The purpose is to allow IBM to trace where the tape drive was sent to for future failure analysis.

How do I get the tape software name, version, and revision number?

From Veritas Backup Exec 8.x, 9.x, 10.x for Windows Server NT\2000\2003, go to Help, About Veritas. From BrightStor ARCserve for Windows Server NT\2000\2003, go to Help, About ARCserve.

What does the tape software knowledgebase say about the tape software error?

Veritas Backup Exec - http://seer.support.veritas.com/NAV_BAR/clustersearch.asp?
ARCserve/Brightstor - <http://supportconnect.ca.com/sc/kb/search.jsp>

What does the OS software knowledgebase say about the tape software error?

Microsoft - <http://support.microsoft.com/search/?adv=1>
Novell Netware - http://support.novell.com/search/kb_index.jsp
Linux* - <http://kbase.redhat.com/faq/>

* requires free registration

How can I check the status of a Veritas support case?

Go to this website using the customer's email address and the Veritas support case:

http://support.veritas.com/cases_ddProduct_.htm

How do I determine what Tape Drive\Library\Changer firmware level my customer is running if the IBM Tape Tools CD is not working properly?

Veritas Backup Exec 8.x, 9.x for Windows Server NT 4.0\2000\2003: In the Veritas Devices tab, right click the Tape Drive, go to Properties.

Veritas Backup Exec 8.x, 9.x for Novell Netware: On the console, load the following command: load sys:bkupexec\nlms\bediag.nlm. From a client machine, go to the SYS volume of the backup server, bkupexec folder, and view the BEDIAG.FAX file.

BrightStor ARCserve for Windows Server NT\2000\2003: Click on the Quick Access tab, then select Device Manager. Select your tape drive and then select the top View tab, and Properties.

BrightStor ARCserve for Novell Netware: On the client machine, go to the SYS folder of the backup server. Then go into the ARCserve.x folder and view the tape\$svr.log file.

Windows Server NT 4.0

1. Go to Control Panel
2. Select Tape Devices
3. Highlight the tape backup unit(TBU)
4. Click the Advanced tab
5. Click the Properties button

Windows Server NT 4.0\2000\2003

1. Right mouse click My Computer and select Manager
2. Under Storage, select Removable Storage
3. Select Physical Locations and right click the tape drive
4. Select the Device Information tab

Novell Netware

1. Restart your server and go into the Adaptec settings using the CNTRL+A option.
2. Under Options, select SCSI Disk Utilities
3. Select your tape drive and press enter

SCO OpenServer/Linux Redhat

1. From the console prompt, type: /SBIN/SDICONFIG -L (does not need to be caps)

This will yield what IDE and SCSI controllers are seen in SCO and will list the tape backup units identifier string. The last four characters of the tape backup unit identifier is the firmware level on the tape backup unit. Use the following methods to access and test the tape device:

```
tar cvf /dev/rmt/ctape1 <location or file>
tar tvf /dev/rmt/ctape1
tar xvf /dev/rmt/ctape1 <location or file>
```

How can I improve my customer's Tape Drive performance in addition to updating to the latest SCSI drivers?

Veritas Backup Exec 8.x. 9.x for Windows Server NT 4.0\2000\2003: Go to the Devices tab, right mouse click the tape drive, go to Properties, and select the Configuration tab.

Note: Default is 64K for Veritas. The benefit of using 1024KB size is for faster performance during backups.

BrightStor ARCserve for Windows Server NT 4.0\2000\2003, edit the following:

HKEY_LOCAL_MACHINE\SOFTWARE\Cheyenne\ARCserve\CurrentVersion\TapeEngine\DEVICE#
(where DEVICE# corresponds to the tape drive you want to change the block size)

Highlight DEVICE# select Edit Add Value, Value Name: DefaultBlockFactor

Data type: REG_DWORD click ok,

Data: 7 <-- Hex

0 = 512 (default)

1 = 1,024 (1K)

2 = 2,048 (2K)

3 = 4,096 (4K)

4 = 8,192 (8K)

5 = 16,384 (16K)

6 = 32,768 (32K)

7 = 65,536 (64K)

How can I capture the customer Operating System's event log?

Windows Server NT 4.0\2000\2003

Run the IBM DSA Report utility.

Portable Edition: <http://w3.pc.ibm.com/helpcenter/infotips/techinfo/MIGR-57313.html>

Installable Edition: <http://w3.pc.ibm.com/helpcenter/infotips/techinfo/MIGR-57313.html>

Novell Netware

1. Type LOAD CONFIG.NLM at the console. This will generate a CONFIG.TXT file written to SYS:SYSTEM.

If you don't have CONFIG.NLM on the server you can get it from <http://support.novell.com>.

How do I capture the tape job logs from the most common backup applications?

Windows Server NT 4.0\2000\2003 Native NTBackup Job Logs

Start the backup job. When it completes or fails, select the **Report** button

Open an explorer window and go to this path:

C:\Documents and Settings\Administrator\Local Settings\Application Data\Microsoft\Windows NT\NTBackup\data

Zip all of the contents into a single file and send them to the IBM technical representative.

Veritas Backup Exec 8.x, 9.x Job Logs

Open an explorer window and go to this path:

C:\Program Files\Veritas Backup Exec\Job\Data

Zip all of the contents into a single file and send them to the IBM technical representative.

BrightStor ARCserve 9.x, 10.x Job Logs

Open an explorer window and go to this path:

C:\Program Files\BrightStor\Data

Zip all of the contents into a single file and send them to the IBM technical representative.

How do I get an error dump file for my tape drive, autoloader or tape library?

IBM DLT, DLTVS, and SDLT Tape Drives Log Page 07 and FA Dump File

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

20/40GB DLT	P/N 09N4040
35/70GB DLT	P/N 04K0149
40/80GB DLT	P/N 00N7990
40/80GB DLTVS	P/N 59P6719
80/160GB DLTVS	P/N 59P6745
110/220GB SDLT*	P/N 00N8015
160/320GB SDLT*	P/N 59P6736

3502-108\314\R14 DLT 7000

3607-16X SDLT*

(Don't forget the 3607-16X Autoloader Log File also. See below)

1. Download the IBM Tape Tool CD from this website:

<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>

2. Open the Tools\Quantum\xTalk folder and run the DLTSage_xTalk_4018.exe for Windows to install the xTalk software.

3. Start the program and press Continue. The DLTsage xTalk Warning screen appears. Select the option to Run a Tape Drive Test, press Next, highlight the REPORTERLP7 and press Run.
4. Select Yes to the option of changing the current log file name to a text file.
5. Rename the file to logpage7-drive1 and press Save.
6. Go to this install path \Program Files\DLTSage\xTalk\Logs, copy the filename saved and send to IBM Support.
7. Secondly, click on the FA Dump button to gather the dump file. Save the *.gmz file as drive1dump and send the file to IBM Support.

IBM 8mm Mammoth Tape Drives Dump Logs

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

20/40GB 8mm Mammoth 1	P/N 01K1325
60/120GB 8mm Mammoth 2 (M2)	P/N 00N8017

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the \Tools\Exabyte\Monitor folder and run the M2Monitor.exe for Windows to install the Monitor software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
3. Open the Monitor software, select Write Dump, Analyze Dump and save the file dump.

IBM DDS (Certance) Log File

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

20/40GB DDS4	P/N 00N7991
36/72GB DDS5	P/N 71P9145
120/240GB DDS4 Autoloader	P/N 00N7992

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. From Windows, insert the IBM Tape Tool CD and select option (2) to run the TapeRX Diagnostic program.
3. Select Retrieve Information, Trace Buffer, type C:\filename and press the Retrieve button to get the *.bin file.

IBM VXA-2 Log File

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

80/160GB 8mm VXA-2	P/N 59P6746
--------------------	-------------

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the \Tools\Exabyte\VXA2\VXA2Tool folder and run the Setup.exe for Windows to install the VXA-2 Tool software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
3. When complete, start the VXA-2 program, click on the Auxillary Page, and select the Gather LogFile button to capture the log file.

IBM HH LTO Support Ticket Log File

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

100/200GB HH LTO (HP) P/N 59P6717
3607-26X LTO (HP) GEN1

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the \Tools\HHLTO\LTT_v33 folder and run the hp_Itt33_win_support.exe for Windows to install the IBM Library and Tape Tools software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
3. Start the IBM Library and Tape Tools software. You will have two choices to continue with the program: MINIPORT or ASPI. Select the ASPI option and continue.
4. The program will now begin to scan SCSI devices. Select the HH LTO tape drive when the scan is complete, select the Support button on the top menu, View Support Ticket, and save the file.

100/200GB FH, 200/400GB FH (IBM) LTO Tape Drives, 3600-109/R20 Tape Autoloader and Library, and 4560-SLX LTO 200/400GB Generation 2 Tape Drive

100/200GB FH LTO (IBM) GEN1 P/N 00N8016
200/400GB FH LTO (IBM) GEN2 P/N 59P6744

Use the NTUTIL software located on the IBM Tape Tools CD. See instructions below:

Source: <http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>

1. Install the IBM Ultrium Tape Drivers located in this folder \Drivers\LTO\Windows2000 or 2003\32-bit.

This will extract the NTUTIL.EXE program that will be copied to the \Windows\System32 directory for Windows 2003 or \Winnt\System32 for Windows 2000.

2. From that directory, copy the NTUTIL.EXE file into the C:\ root directory.
3. Run the NTUTIL.EXE file from a command prompt and type (1) for Manual Test.
4. You must now verify the IBM LTO tape drive is seen via the NTUTIL program. To determine this, type (50) to Poll Registered Devices. You will see a message: All currently opened devices would be closed, continue? (Y/N). Press (Y) and hit Enter.

The next screen will show you the tape drive status such as the SCSI or Target ID, product ID name, and the current Microcode revision level you wish to change.

5. Press Enter to continue.
6. Type (20) to Open the device.
7. Select (1) RW (Read/Write) for the Open Mode and press Enter.

Note: You will see the message <SUCCESS> if performed correctly. Press Enter to continue.

8. Type (81) to Read Dump and press Enter. **DO NOT TYPE (80) TO FORCE DUMP**. This will erase vital information pertaining to the tape drive.
9. Type a name for the dump file and press Enter. The default name is dump0001.

You will see the message <SUCCESS> if performed correctly. Press Enter to continue.

Press Enter, and select (99) to exit the Main Menu to exit the program.

MULTIPLE LTO DRIVE INSTRUCTIONS

If you have multiple tape drives, after you have completed step (10) above, press Enter and select (21) to Close this device.

11. Select (1) to Set Device Special File and press Enter.

12. Type " tapeX " and press Enter.

Note: (X=drive number 0, 1, and so on . . .for the IBM 3600 & 4560 Tape Library, this will begin with " tape0 ") Verify at the top of the NTUTIL program screen that " TAPE1 " is seen under the Base Mode section.

13. Repeat steps 4-9 for each additional tape drives.

3600-R20 Tape Library Web Based Report Logs (not supported with 3600-109)

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

1. Make sure the unit is connected to the network, open a web browser and type in the IP address of the tape library. A cross over cable is required if the autoloader is not on the same network with the xSeries eServer.
2. Go to the Main Menu, Administration, Change Configuration, Network Access, select NO if preferable to configure a DHCP address, enter a static IP address, and subnet, press OK.
3. Once the unit becomes ready, open a web browser and type in the IP address given to the 3600-R20 unit. Click on the Report tab, select File, save as a .txt file.

3607-16X SDLT and 3707-26X Autoloader Log File

3607-16X SDLT

3607-26X LTO (HP) GEN 1 Autoloaders

1. Make sure the unit is connected to the network, open a web browser and type in the IP address of the autoloader. A cross over cable is required if the autoloader is not on the same network with the xSeries eServer.
2. Click on the Diagnostics tab and log in using the Administrator's ID and password. The default ID and password is "guest/guest".
3. Scroll down to the View Error and History Logs and select Autoloader\Save Log and send to IBM Support.
4. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
5. Open the \Tools\HHLTO\LTT_v33 folder and run the hp_ltt33_win_support.exe for Windows to install the IBM Library and Tape Tools software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
6. Start the IBM Library and Tape Tools software. You will have two choices to continue with the program: MINIPORT or ASPI. Select the ASPI option and continue.

7. The program will now begin to scan SCSI devices. Select the HH LTO tape drive when the scan is complete, select the Support button on the top menu, View Support Ticket, and save the file. Send IBM Support the stickett.ltt file.

3623-2SX\2LX Tape Autoloader Dump File

Not available at this time.

4560-SLX Special Trace Log File

1. Have the customer to open a web browser.
2. Type in the IP address of the 4560-SLX tape library and press Enter.
3. Log into the 4560 WebTLC screen using the administrator's password. The default password is (2). Select the History tab and select the Library Special Trace under the Display a Library Trace Log, and press the Display Trace button.
4. Select Edit, Select All, and copy into a text file. Save and send the file to your next level of support.

How can I run diagnostics on my tape drive, autoloader, or library?

4/8GB DDS1, 4/10GB DDS2, 12/24GB DDS3 for DOS Diagnostics

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. From DOS, boot to the IBM Tape Tool CD and select option (2) to run the SGTAPE21 Diagnostic program.

20/40GB DDS4, 35/72GB DDS5, 120/240GB DDS4 Autoloader Diagnostics

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. From Windows, insert the IBM Tape Tool CD and select option (2) to run the TapeRX Diagnostic program.
3. From DOS, boot to the IBM Tape Tool CD and select option (2) to run the SGTAPE21 Diagnostic program.

20/40GB 8mm, 60/120GB 8mm Mammoth Exabyte Tape Drive Diagnostics

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the Tools\Exabyte\Monitor folder and run the Setup.exe for Windows to install the Monitor software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
3. Open the Monitor software to run diagnostics.
4. From DOS, boot to the IBM Tape Tool CD and select option (5) to run the Expert Diagnostic Utility.

20/40GB DLT, 35/70GB DLT, 40/80GB DLT, SDLT, DLTVS Quantum Tape Drive Diagnostics

Note: Not supported on ServeRAID or integrated LSI chipset controllers.

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the Tools\ASPI471 folder and run the ASPICLK file to verify if ASPI32 is installed for Windows NT\2000. If so, proceed to next step. If not, run the ASPIINST.EXE file to install. A reboot of the server is required.
3. When Windows is back up, insert the IBM Tape Tools CD and select option (3) to run WINDLT Diagnostics, press the Accept button, type in the SCSI ID of the DLT tape drive, press OK to begin diagnostics.
4. For DOS, boot to the IBM Tape Tool CD and select option (3) to run DLTDIAG diagnostics.

100/200GB FH, 200/400GB FH (IBM) LTO Tape Drive Diagnostics

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Install the IBM Ultrium Tape Driver located in the Drivers\LTO folder.
3. From the same driver directory, copy the NTUTIL.EXE file into the C:\ root directory.
4. Run the NTUTIL.EXE file from a command prompt. Type (1) for Manual Test to begin diagnostics.

100/200GB HH (HP) LTO, 3607-26X (HP) LTO Tape Drive Diagnostics

1. Download the IBM Tape Tool CD from this website:
<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39400>
2. Open the Tools\3600 folder and run the Setup.exe for Windows to install the IBM Library and Tape Tools software. Note: This may require ASPI32 to be installed. If needed, this can be located in the Tools\ASPI471 folder.
3. Start the IBM Library and Tape Tools software, select the HH LTO tape drive when the scan is complete, select the appropriate diagnostic program tests.

3600-R20 Tape Library Diagnostics

1. Run from the web interface by typing the IP address of the tape library in a web browser or from the main menu on the front panel.
2. If media is suspected as bad, run the Wellness Test (10) times to test (3) pieces of media in the tape library at a given time. Note: Only (3) pieces of media can be inside the tape library.
3. If the picker assembly is having issues, run the Recalibrate Test (10) times to recalibrate the 3600 tape library.
4. Have the picker assembly cleaned by a CE using alcohol swab pads on contact points. See this website for details: <http://w3.pc.ibm.com/helpcenter/infotips/techinfo/MIGR-50426.html>

3607-16X SDLT and 3607-26X (HP) LTO Autoloader Diagnostics

1. Run from the web interface by typing the IP address of the tape library in a web browser.

4560-SLX Tape Library Diagnostics

1. Run from the web interface by typing the IP address of the tape library in a web browser.

What to capture/verify from a DSA report for Tape Drives

When capturing these reports, the following are the ONLY you should verify for when developing an initial action plan. Remember, ALL tape and SCSI drivers and firmware should be at the latest codes. Check the online support tools. If the versions are not current, you MUST update them.

System Overview

Explanation

Computer System

Product Name: 8647

This will give us the server type used for the tape drive.

Operating System

Product Name: Windows 2003
Service Pack: None

This will provide the OS name and what OS Service Pack installed

Installed Applications

Version

This will give us the name and version of the backup software used by the customer.

CA BrightStor ARCserve Backup	XXXXXX
Veritas Backup Exec	XXXXXX
Tivoli Storage Manager (TSM)	XXXXXX

Installed Hot Fixes That MUST be installed for Windows Server 2003

Windows Server 2003 Hotfix - KB 891793	XXXXXX	KB891793 is MANDATORY for tape drives which has the latest storport.sys driver.
--	--------	---

Note: **This will NOT install if Windows 2003 SP1 is installed.**

Windows Server 2003 Hotfix - KB 817688	XXXXXX	KB817688 is MANDATORY for tape drives for customer's using Native Backup.
--	--------	---

Windows Server 2003 Service Pack 1	XXXXXX
------------------------------------	--------

Device Drivers for Windows Server 2000/2003

If any are used below, you will need to know what version and if at the latest. If not the latest, have them installed.

SCSI Controllers

adpu160.sys	Adaptec Ultra160 SCSI Controller
adpu320.sys	Adaptec Ultra320 SCSI Controller
aic78u2.sys	Adaptec Ultra2 SCSI Controller
aic78xx.sys	Adaptec Ultra SCSI Controller
symmpi.sys	LSI (1020/1030) SCSI Controller
nfrd960 .sys	IBM ServeRAID 4M/4Mx/4L/4Lx/5i/6M/6i

Medium Devices (Autoloaders or Libraries)

Changer.sys	Default Microsoft Changer Driver
Qtmmc.sys	Quantum Changer Driver

Tape Devices

stdat4.sys	20/40GB, 120/240GB DDS4	Microsoft Corporation
stdatw2k.sys	20/40GB, 120/240GB DDS4	Quantum/Certance/Seagate Corporation
dlttape.sys	20/40GB, 35/70, 40/80GB DLT, SDLT	Microsoft Corporation
QntmDLT.sys	20/40GB, 35/70, 40/80GB DLT, SDLT	Quantum Corporation
stdat72w2k.sys	36/72GB DDS5	Quantum/Certance/Seagate Corporation
bnchtape.sys	40/80GB DLTVS80	Benchmark
dlttape-VRTS.sys	40/80GB DLTVS80	Veritas Backup Exec
0dlttape.sys	40/80GB DLTVS80	Veritas Backup Exec
vxa.sys or vxa32.sys	80/160GB VXA-2	Exabyte Corporation
halfinchVRTS.sys	100/200GB Half Height LTO	Veritas Backup Exec
hplto.sys	100/200GB Full Height LTO	Hewlard Packard
ibmlto.sys*	100/200GB Full Height LTO	IBM Corporation
ibmtp2k3.sys	200/400GB Full Height LTO	IBM Corporation
halfinchVRTS.sys	200/400GB Full Height LTO	Veritas Backup Exec
4mmdatVRTS.sys	20/40GB, 120/240GB DDS4	Veritas Backup Exec

* maybe an older IBM driver

Hardware

Firmware/VPD

Product Name	To identify the firmware version of the tape device(s)
--------------	--

BIOS

System BIOS	To identify if the server and ServeRAID cards are at the latest BIOS
ServeRAID BIOS	

Windows Logs

Application Event	To identify what/why the tape software is reporting errors
System Event	To identify what/why the tape hardware is reporting errors

What is the difference between Random and Sequential mode and which mode is supported with IBM xSeries Tape Autoloaders and Libraries?

Random Mode: Is a setting on tape autoloader or library unit allowing the software (e.g. Veritas Backup Exec or BrightStor ARCserve Backup) to manage the library.

e.g. It instructs the loading mechanism, which of the tapes in the device to load into the tape drive. It does not do any automatic loading INDEPENDENT of the host machines software instruction.

Sequential Mode: Requires user intervention. Does not ask for direction from the host system as to what media to deliver to the tape drive next. It simply sleeps until the media in the drive is ejected. At that point the picker assembly (or stacker) will remove tape from the drive, place back in original slot in tray and grab the next sequential tape in the tape tray, then sleep again.

What is the IBM recommended cleaning schedule and cleaning usage for my tape drive?

Proper maintenance is important to keep your DDS drive working properly. A routine of regular cleaning helps reduce errors due to environmental contaminants such as dust, carpet fibers or airborne debris. Note: If excessive dust or debris from the tape media collects at one or more of the tape heads, your drive may not be able to read from or write to tape. To avoid this situation, you must clean the tape heads on your DDS drive in the following circumstances. When using a new data cartridge, clean the drive every four hours of tape movement until the tape has been used from beginning to end.

<u>Tape Drive Description</u>	<u>Cleaning Guide\Usage Count</u>
DDS-1, DDS-2, or DDS-3 DDS-4, DDS5	Every 25 hours of read/write operations; 30 usages only Every 50 hours of operations with DDS-3 or DDS tapes; 30 usages only
Travan 40 (TR7), NS20 (TR5)	Once a week if tape usage = 3 hrs+ per day - 30 usages only max per cleaning tape
20/40GB DLT	Only when asked by unit. Good for only 20 usages.
35/70GB DLT	Only when asked by unit. Good for only 20 usages.
40/80GB DLT	Only when asked by unit. Good for only 20 usages.
40/80GB DLTVS80	Only when asked by unit. Good for only 20 usages.
80/160GB DLTVS160	After 250 tape motion hours. Good for only 20 usages.
110/220GB SDLT	Only when asked by unit. Good for only 20 usages.
160/320GB SDLT	Only when asked by unit. Good for only 20 usages.
20/40GB Mammoth	Every 30 hours of operations (once a month) and the type of tape being used. Good for only 18 usages.
60/120GB Mammoth 2	Every 100 hours and when "soft" error thresholds are exceeded. Good for only 18 usages.
60/120GB VXA-2	Every 100 hours and when "soft" error thresholds are exceeded. Good for only 18 usages.
100/200GB HH LTO	Only when amber cleaning LED is on. Good for only 50 usages.
100/200GB FH LTO	If you backup daily, clean once a week. Good for only 50 usages.
200/400GB FH LTO	If you backup daily, clean once a week. Good for only 50 usages.
3502 DLT Autoloader	Only when asked by unit. Good for only 20 usages.
3600 LTO Autoloader/Library	Only when asked by unit. Good for only 20 usages.
3607-16X SDLT Autoloader	Only when asked by unit. Good for only 20 usages.
3607-26X LTO Autoloader	Only when asked by unit. Good for only 50 usages.
3623-26X SDLT Autoloader	Only when asked by unit. Good for only 20 usages.
3623-2LX LTO Autoloader	Only when asked by unit. Good for only 50 usages.
4560 SDLT Tape Library	Only when asked by unit. Good for only 20 usages.
4560 LTO Tape Library	Only when asked by unit. Good for only 50 usages.

How can I verify if the customer's media is IBM Recommended?

Using storage media not listed on this IBM recommended document may cause major damage to a tape drive. The use of media not tested by may result in billable hardware service charges. Testing by IBM has found that the life and performance of the tape backup unit directly correlate to the quality of the media being used. The attached website below is a summary of tested and qualified cleaning cartridges for use in IBM branded tape backup units, autoloaders, and libraries. Please review all of the maintenance information in your tape drive user guide, as periodic maintenance is also not covered by the IBM warranty. Remember, repairs or exchanges resulting from improper maintenance or use of none tested media may result in billable hardware service charges.

<http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-39931>