eServer xSeries Tape Drive Support Help Guide v.1.4

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

From Veritas 8.x, 9.x for Windows NT/2000/2003, go to Help, About Veritas.
From ARCserve for Windows NT/2000/2003, go to Help, About ARCserve.

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

Veritas Backup Exec - http://seer.support.veritas.com/search_forms/techsearch.asp
ARCserve/Brightstor - http://support.ca.com/

How do I determine what Tape Drive\Library\Changer firmware level my customer is running?

Using Veritas 8.x, 9.x for Windows NT/2000/2003, in the Veritas Devices tab, right click the Tape Drive, go to Properties.

Using Veritas 8.x, 9.x for Novell, 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.

Using ARCserve for Windows 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.

Using ARCserve for Novell, 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.

How do I determine what Tape Drive firmware level my customer is running while in Production and NO tape software is installed?

Windows NT
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 NT 2000\2003
1. Right mouse click My Computer and select Manage
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
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>

What is my customer's Tape Drive Buffer Size* for performance improvement?

From Veritas 8.x. 9.x for Windows NT\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.

From ARCserve for Windows NT\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)

What is my customer's SCSI transfer rate* on their Tape Drive?

1. Restart your server and go into the Adaptec settings using the CNTRL+A option.
2. Under Options, select SCSI Disk Utilities
3. After it scans, verify and record the SCSI ID for the tape drive and changer and press (ESC)
4. Under Options, select Configure/View Host Adapter Settings
5. Under Additional Options, select SCSI Device Configuration
6. The first option is Sync Transfer Rate (MB/Sec) for each SCSI Device. Record this for the SCSI ID used.
7. Press (ESC) twice, save and exit.

How can I get the customers System Event log?

Windows NT 4.0

1. Click the Start Menu button, go to Programs, Administration Tools, and Event Log.
2. Click File, Save As, xxxx.EVT, and send to the Helpcenter.

Windows NT 2000

1. Right mouse click My Computer and select Manage
2. Double click Event Viewer and then click System
3. Go to the Action menu, and choose Save File Log As, xxxx.EVT

Novell Netware

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

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

How do I get the Tape Drive software logs for review?

For Veritas 8.x for Windows NT\2000\2003, go to this website and download the Diagnostic Utility Program which includes instructions for BEDIAG:

http://seer.support.veritas.com/docs/240872.htm

For Veritas 9.x for Windows NT\2000\2003, go to this website and download the BEGATHER program:

http://seer.support.veritas.com/docs/265075.htm

From Veritas 8.x, 9.x for Novell Netware:

Server Console

1. Load the following command: load sys:bkupexec\nlms\bediag.nlm
2. From the client machine, go to the SYS volume of the backup server, bkupexec folder, and copy the BEDIAG.FAX file and send to the Helpcenter.
From ARCserve for Windows NT\2000\2003:

Open My Computer, double click C:\, open the Program Files folder, Computer Associates folder, ARCserve folder, and Log folder. Copy the ARCserve.LOG file and send to the IBM HelpCenter.

From ARCserveIT for Novell Netware:

Server Console Commands

1. Load conlog at the Arcserve server console prompt. Run astopx (x=6 or 7 e.g. ARCserveIT 6.6)
2. Load astartx   (x=6 or 7 version of ARCserve)
3. Unload conlog.
4. Email the sys:etc\console.log file.
5. Email the <vol>:\arcserve.x**asconfig.ini**, **arch$svr.log, tape$svr.log, tape$svr.cfg, nlminfo and csloader.log files.**
6. Type "load config /s" at the console prompt of the Arcserve server and the remote server, if any.
7. Email the sys:system\config.txt files.

You can get the config.nlm from www.support.novell.com if you don't have it. Download the file from Novell's website. Attach the files to the email. You can zip them into one file and email that. Do not send them in individual emails. Keep them together.

Client Commands

1. From a Windows 98/ME/NT/XP client machine, go to the SYS folder of the backup server.
2. Go into the ARCserve.x folder and copy **the sconfig.ini**, **arch$svr.log, tape$svr.log, tape$svr.cfg, nlminfo, and csloader.log files**

From ARCserveIT for Linux

1. Click the Reports button from the Quick Access bar. The Reports Manager opens.
2. To print a report:
3. Select the type of report you want to print.
4. Click the Print to Printer button.
5. Select the print options you want and select OK

How do I get a dump file for my tape drive or tape library?

Supported IBM DLT Tape Drives for Log Page 07 and FA Dump File

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)

* Use the xTalk software to get the FA Dump File for the SDLT tape drives. Instructions are provided 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\ASPI471 folder and run the ASPICHK 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, select Functions, Log Pages, select (07) in the Supported Log pages for this device field, if not available, type (7) in the Selected Page field on the bottom and press View Log Page. Copy input into a notepad and save as text file.

4. For DOS, boot to the IBM Tape Tool CD and select option (4) to gather the Log Page 7 log file.

For SDLT Tape Drives

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

2. Open the xTalk software, click on the FA Dump button to gather the dump file.

Supported IBM 8mm Mammoth Tape Drives for Dump Logs

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 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, select Write Dump, Analyze Dump and save the file dump.

Supported IBM DDS (Certance) Log File

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.

Supported IBM VXA-2 Log File

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\VXATool 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.

Supported IBM FH LTO GEN1 and GEN2 Standalone Dump File

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

1. Go to this website for instructions:

   http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-54890

Supported IBM HH LTO Support Ticket Log File

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\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 Support button on the top menu, View Support Ticket, and
   save the file.

3600-R20\109 LTO Tape Drive Dump Logs

1. Go to this website for instructions:

    http://www-1.ibm.com/support/docview.wss?uid=psg1MIGR-41770

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

1. 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 and 3607-26X LTO (HP) GEN 1 Autoloaders

1. 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.

4560-SLX Special Trace Log File

4560-SLX Tape Library

1. Connect the diagnostic RS232 cable that came with the library into the serial port of the server and the other end (phone cable type) to the RS-232 connection on the 4560 Library Controller Card.

2. Insert the IBM Tape Tool CD into the server and open the Tools\4560\neo42 folder and run the SETUP.EXE file.

3. Open a DOS prompt and go into the install path C:\Program Files\Neocenter and rename the file Neocenter.exe to Neocenter.old and nextgen.tdb to nextgen.old.

4. On the IBM Tape Tool CD, copy the files Neocenter_43.exe and Nextgen.tdb file from the Tools\4560\neo43patch folder into the C:\Program Files\Neocenter folder.

5. Make a shortcut of the Neocenter.exe file on your desktop to run the application.

6. Select Connect, then select Upload, select Special Trace, deselect the first option " Post Processing xxxx", and choose OK.

7. From the path the Neocenter was installed in, search for the TEST.BIN file and send this to the IBM Helpcenter Support rep.

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

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

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

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 ASPICHK 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.

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 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.

Tape Drive Description	Cleaning Guide\Usage Count
DDS-1, DDS-2, or DDS-3	Every 25 hours of read/write operations; 30 usages only
DDS-4, DDS5	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 35/70 DLT	Only when asked by unit. Good for only 20 usages.
3600 LTO Series	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.
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.

IBM Recommended Supported Storage and Cleaning Media List

Using storage media not listed on this IBM certified document may cause major damage to a tape drive. The use of untested media may result in billable service charges if the drive malfunction is traced to the use of untested media. 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 .pdf file 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 untested media may result in billable service charges. Please go to this website to review this listing:

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