

## VirtualTape Library (VTL) Version 4 Release Notes

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## New Features and Enhancements

### ACSLs Library Support Option

1. FalconStor has added support for the Sun/StorageTek *Library Station* library management software. This feature allows customers to attach VTL appliance to Tape Libraries/Silos managed by Library Station software.

### Automated Tape Caching Option

1. The Automated Tape Caching option enhances the functionality of VTL as a transparent cache to an attached physical tape library by matching the VTL configuration to the specifications of the physical tape library and tapes. This minimizes the time needed to back up data by increasing the number of parallel active backup streams, thereby serving as a high-performance cache for the physical tape library. This option provides advanced flexibility by allowing you to set up policies that automatically trigger data export to physical tapes based on criteria, such as the number of days that data has been on virtual tape or the amount of used space.
2. Automated tape caching feature can be used in conjunction with the Secure Tape Option such that physical tapes created are encrypted.

### Local Replication Option

1. The Local Replication option replicates the virtual tapes, based on policy, within one VTL appliance.

### Hardware Compression Option

1. The Hardware Compression option uses a certified hardware accelerator board to save disk space by compressing data so that more data can be stored by a virtual tape drive.

### SuSE Linux Professional v9.3 support

1. FalconStor has expanded the VirtualTape Library appliance operating system to include support for SuSE Professional v9.3.

## Tape Drive/Library support

1. FalconStor has enhanced the IBM 3590 emulation support to 'auto' mode. In 'auto' mode tapes are automatically loaded into tape drives when used tapes are unloaded from the tape drives. 'Auto' mode of IBM 3590 autoloader is supported only by a few backup applications, such as the iSeries native backup tool. Most applications use the 'random' mode, and do not require this feature.
2. Support for the following libraries/drives support has been added
  - a. Spectra Logic Gator 12K, 20K, 64K
  - b. ATL M1500, M1800
  - c. Overland NEO Series 2000, NEO Series 4100

## Console Enhancements

1. Added the "Attention Required" feature to alert users about error conditions that require immediate attention. This feature will be integrated with the CallHome Option. Users will be able to specify whether attention required messages should be sent out.
2. Software maintenance patches now can be installed/uninstalled from the VirtualTape Library Console. The Console also displays the full history of all patches installed/uninstalled on the VirtualTape Library appliance.
3. A new user interface has been added to Java Console to configure IBM 3494 physical library attachment. In previous versions configuration information had to be manually entered on VTL appliance.
4. Added a feature that allows customers to discharge a LUN without having to first delete all tapes created on it.
5. Change Tape properties for existing virtual libraries: Tape properties such as the **Maximum Capacity**, **Tape on Demand** settings can now be changed for existing libraries. Please note that the new settings will be effective only on new tapes created since the change. There will be no changes made to the tapes that already exist in the library.
6. The Java console event log can now be exported to simple text files, with comma separated parameter fields such as message ID, severity, message text etc.
7. Default export mode has been changed to 'Move' (from 'copy') for both manual export and 'auto-archive'.

## VirtualTape Library Server

1. Added a hardware compression feature that uses a certified hardware accelerator board to save disk space by compressing files so that more data can be stored by a virtual tape drive.
2. Added Qlogic Multi-ID support for VirtualTape Library on Red Hat Linux kernels (32-bit version based on the 2.4.21-ipstor kernel).
3. Enable Write Cache option is now set by default to improve I/O performance.

## Information and Restrictions

### Backup Applications

#### HP Data Protector

1. HP Data Protector does not support serialization on the STK 9710 library.
2. The SONY CSM-200 library with SDZ-100 drives is not supported with HP Data Protector.

#### IBM Tivoli Storage Manager

1. Tivoli Storage Manager on AIX supports digit barcodes only. Please use six digit barcode ranges when creating tapes for AIX clients running Tivoli Storage Manager.
2. When using the IBM 3590 library/drive with Tivoli Storage Manager on AIX, the IBM 3590 library needs to be assigned to LUN 1 and the drive needs to be assigned to LUN 0.
3. The iSCSI protocol is not supported for IBM Tivoli Storage Manager.
4. IBM 3592 tape drives in 3584 library is not supported for TSM 5.3.2. (Previous versions of TSM are supported)
5. STK 9940B tape drive is not supported for TSM 5.3.2.

#### Legato NetWorker

1. If you are using Legato NetWorker with the Hosted Backup Enabler option, you must install the following Linux packages on the VTL appliance:
  - freetype-2.0.9-2.i386.rpm
  - XFree86-libs-4.2.0-8.i386.rpm
  - pdsh-5.2.14-16.i386.rpm

#### Veritas Backup Exec

1. Veritas Backup Exec 9.1 requires a special patch to work with iSCSI. More information about the patch can be found at <http://seer.support.veritas.com/docs/267751.htm>.
2. Veritas Backup Exec 9.1 requires a patch to support the SONY CSM-200 library. The patch can be found at <http://seer.support.veritas.com/docs/268088.htm>.
3. Veritas Backup Exec does not yet support the Microsoft iSCSI software initiator.

#### Veritas NetBackup

1. If you are using NetBackup 5.x, we recommend that your software has been updated to include the latest maintenance pack and device mappings file provided by Veritas.
2. While using the iSCSI protocol on Windows clients running Veritas NetBackup, do not use the tape drivers from NetBackup. Use the drivers provided by the tape drive vendors.
3. Veritas NetBackup 5.0 for Linux requires the following patches from Veritas to work properly with the SONY CSM-200 library:
  - NB\_ORA\_50\_2\_M\_268363.linux2.4.tar
  - NB\_50\_2\_M\_268351.linux.tarThese patches can be found at [http://support.veritas.com/menu\\_ddProduct\\_NBUESVR.htm](http://support.veritas.com/menu_ddProduct_NBUESVR.htm)
4. Veritas NetBackup 5.0 for Windows requires SONY tape drivers to work with the SONYSDZ100 tape drive.

5. Veritas NetBackup 5.0 on Windows 2003 does not support the IBM 3590 tape library/drive using the iSCSI protocol.
6. The iSCSI protocol is not supported for Veritas NetBackup 3.41 on Windows.
7. If you are using Veritas NetBackup with the Hosted Backup Enabler option, you must install the following Linux packages on the VTL appliance:
  - freetype-2.0.9-2.i386.rpm
  - XFree86-libs-4.2.0-8.i386.rpm
  - ncurses4-5.0-5.i386.rpm

## iSCSI

1. The VTL iSCSI target implementation supports port 3260 only.

## iSeries Client

1. The iSeries client supports the VTL Fibre Channel Target Mode Server using QLogic HBAs.
2. The following Fibre Channel HBAs are supported on the iSeries client:
  - IBM 5704 PCI-X HBA on OS/400 V5R1 or above (1Gb/s)
  - IBM 2765 PCI HBA on OS/400 V5R2 or above (2 Gb/s)
3. The iSeries client currently supports the IBM 3590 E11 tape library and the IBM 3583 and IBM 3584 tape libraries with IBM 3580-TD1, IBM 3580-TD2 and IBM-3580-TD3 tape drives.

## SCSI Target Mode

1. SCSI Target Mode supports LSI Logic's LSI22320T SCSI HBA only.
2. SCSI Target Mode is supported only in 32 bit RedHat with 2.4.21-ipstor kernel.

## Supported Tape libraries, Tape drives, Storage devices, and Backup software

1. Check the certification matrix on the FalconStor website for a complete, current list of tape libraries, tape drives, storage devices, and backup software that is certified with VirtualTape Library – [http://www.falconstor.com/certification\\_matrix\\_active.asp](http://www.falconstor.com/certification_matrix_active.asp).

## Miscellaneous

1. Emulex LP8000 cards should use the driver provided by Emulex (available on the Emulex website) for Windows 2000. Do not use the default driver provided by Windows 2000.
2. The Replication option cannot be configured for tapes that are loaded in tape drives.
3. While using IBM 3590 tape drives with Veritas Backup Exec, VTL compression will not work if the default buffer/block setting (64K/32K) is used. Set the buffer and block sizes to the same value for the compression to work.
4. If you are running your VTL system with or near the maximum number of tapes, it is recommended that management operations (such as creating virtual libraries, drive, tapes etc.) be performed when there is less I/O activity on the system. On a busy system, some of the management operations can fail if there is heavy I/O activity on the system.
5. In a failover configuration, it is recommended to save configuration file during non-failover state.

6. IP Replication or Remote copy features are not supported between RedHat 7.3 servers and SuSE Professional 9.3 servers.
7. IP Replication or Remote copy features will be supported only between v4.0 (build 1221) and v3.15. V4.0 will not support IP replication with v3.1 or prior versions.
8. The feature that allows creation of a virtual library equivalent to a physical library is not supported with StorageTek/SUN ACSLS managed libraries or IBM 3494 Library. If you are using tape caching with STK ACSLS managed libraries, please create a virtual STK library (e.g. STK L180, L700) and enable tape caching feature on it. If you are using IBM 3494 library, please create a virtual IBM library (e.g. IBM 3583, 3584) and enable tape caching on it.
9. Linux version of the Console will not work on 64 bit machines that have more than 2 G of RAM.
10. Multi-ID support for Qlogic FC HBAs is not supported for SuSE Professional v9.3.
11. Enabling telnet and FTP from the java console on SuSE Professional v9.3 servers is not supported.
12. In order to use ACSLS option, DNS name resolution is necessary for VTL appliance and ACSLS server.

## Installation and Upgrade Procedures

Once you have prepared the VirtualTape Library appliance's hardware, kernel updates, storage devices, and networking, you can install the software onto the computer.

**Note:** The following instructions can also be used if upgrading FalconStor's VirtualTape Library software from version 3.15 (build 1142 for RedHat 7.3) to VirtualTape Library version 4.0 (build 1221).

1. Log into your system as the root user. Only root will be able to install the VTL Server.
2. Mount the VTL installation CD to a directory on the server.
3. Go to that directory.
4. Run the installation script on the CD:
  - a. `./vtinstall` for RedHat
  - b. `./vtinstall_suse` for SuSE Professional v9.3.

**To upgrade a v3.15 RedHat 7.3 based appliance you must use the `vtinstall` script. This is because VTL 4.0 has changed the installation directory to `/usr/local/vtl`. RPM upgrade will not upgrade the system correctly.**

**Please note that a RedHat 7.3 based appliance cannot be upgraded to use SuSE Professional v9.3.**