



# Product Release Notes for 3ware 9750 SATA+SAS 6Gb/s RAID Controller Cards

**Release 10.2.2.1**

**READ ME FIRST!**

## *Introduction*

Thank you for purchasing an LSI 3ware RAID controller card. This document contains the latest information that may not be included in the Installation or User Guides. Please read this document before you contact Technical Support.

The latest 3ware product information, firmware, software upgrades, and OS drivers are available from LSI at: <http://www.lsi.com/support/Pages/download-search.aspx>

The LSI knowledge base, including frequently asked questions (FAQs), is viewed at: <http://kb.lsi.com>

LSI product compatibility and interoperability lists can also be found at: <http://www.lsi.com/support/Pages/interoperability.aspx>

For specific answers to 3ware questions, technical support, or to give feedback about a 3ware product, please visit: <http://www.lsi.com/support/email/Pages/3ware.aspx>

LSI also offers support 24 hours a day, 7 days a week at 800-633-4545 in North America, + 49 (0) 89 45833-113 in Germany, and 00-800-5745-6442 for international customers.

Sign up for the latest LSI news and support updates at: <http://twitter.com/LSIsupport>

## ***Release Highlights***

This release includes the following:

- SATA+SAS 6Gb/s controllers
  - 9750-4i
  - 9750-8i
  - 9750-4i4e
  - 9750-8e
  - 9750-16i4e
  - 9750-24i4e
- Added support for new SATA and SAS hard drives
- Added support for new Solid State Drives (SSD)
- Added support for new 4 TB capacity hard drives
- Added support for Windows 8 and Windows Server 2012 (in-box)

## ***Release Details***

The release has the following components:

- Firmware version: 5.12.00.016
- 3DM2 version: 2.11.00.021
- CLI version: 2.00.11.022
- FreeBSD 7.x driver version: 10.70.00.012
- FreeBSD 8.x driver version: 10.80.00.005
- FreeBSD 9.x driver version: 10.90.00.004
- Linux driver version: 3.26.00.028 (for supported distributions)
- Linux up-stream driver version: 3.26.02.000 (for newer kernels)
- Mac OS X driver version: 2.2.10
- OpenSolaris driver version: 2.3
- Windows driver version: 5.01.00.047 for Windows 7 and earlier
  - Version 5.01.00.047 in-box for Windows 8 & 2012

## ***Bug Fixes***

- 3ware 9750 driver does not handle Apple Mac Thunderbolt ejects (SCR-1098)
- CLI segmentation faults in Linux (SCR-1110)
- CLI reports wrong capacity for 3 TB drives (SCR-1113)
- Removed firmware debugger print-outs (SCR-1117)
- Upgraded OpenSSL version (SCR-1121)
- FreeBSD system panics w/ certain CLI and 3DM show commands (SCR-1131)
- RAID-5 & 6 inoperable unit issue (SCR-1133 & SCR-2294)
- AEN/ATA Task File and Repair LBAs mis-match for multiple disks (SCR-2277)
- Miscellaneous: Added flash retry text change (SCR-2282)
- VMware ESXi 5.x installation support (SCR-2271 & SCR-2300)

## ***Operating System Support***

The following operating systems are supported:

- FreeBSD 7.4, 8.2, & 9.x (x86 & amd64)
- Linux (x86 and x86\_64)
  - Fedora Core 12
  - Red Hat Enterprise Linux 5.6 & 6.1 (in kernel)
  - openSUSE 11.2 & 12.1 (in kernel)
  - SUSE Linux Enterprise Server (SLES) 11 SP-1 & SP-2
  - For other distributions, refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle14546.aspx>
  - Specific driver sources for kernels 2.6.8 through 2.6.39
- Mac OS X Leo (10.5), Snow Leopard (10.6), and Lion (10.7) for Intel Mac Pros
- OpenSolaris 2009.11 (x86 & amd64)
- VMware ESX, ESXi 4.x & ESXi 5.0 (x86\_64)
  - VMware drivers are available at [www.vmware.com](http://www.vmware.com) and [www.lsi.com](http://www.lsi.com)
- Windows XP, Vista, 7, 8, 2003 SP2, 2008, 2008 R2, & 2012 (x86 & x64)

## ***Restrictions***

### **Important: Older Drivers & Software Tools Are Not Compatible With This Release**

Drivers and software released prior to version 10.2.2.1 are not fully compatible with the firmware in this release. You must upgrade the 3ware driver and software before you update the firmware on your 9750 controller.

If your system contains a 3ware driver and/or software released prior to 10.0, these will not work with the 9750 controller. Older 96xx or 95xx controllers will only work with drivers from earlier releases.

### **No Legacy Firmware and Driver Updates For This Release**

There is no firmware or driver updates for the 9550SXU, 9650SE, and 9690SA controllers in this release. The 9650SE and 9690SA controllers have updates available separately. The latest 3ware management tools (CLI & 3DM2) included in this release can be used to manage these earlier controllers.

## ***Errata***

### **Support for Hard Drives Larger Than 4 TB**

As new capacity hard drives are made available, please check our compatibility list at <http://www.lsi.com/support/Pages/interoperability.aspx> for the latest additions.

### **Support for 3DM2 with Latest Windows Security Patch (SCR-1120)**

The latest Windows security service patch stops 3DM2 from running. Contact LSI support for a beta version to fix this issue.

**Support for 3DM2 with Linux 3.0 kernels (SCR-1148)**

New Linux distributions using kernel 3.0 do not support 3DM2 email notification, causing the 3DM2 daemon to panic

**Support for CLI with Linux 3.0 kernels (SCR-1135)**

New Linux distributions using kernel 3.0, such as openSUSE 12.1, benignly reports "malloc: using debugging hooks" when running CLI. This error can be ignored.

**Support for CLI with VMware**

Refer to the following KB article for important tips when using CLI with VMware <http://kb.lsi.com/KnowledgebaseArticle16671.aspx>

**3ware CD Menu Tools Do Not Run With Fedora Core 10 & Later (SCR-1781)**

Due to security restrictions the 3ware menu is no longer supported with Fedora Core. The workaround is to login as root and run the tools directly from a command line instead.

**Fedora Core 12 Driver Does Not Load on Primary Storage (SCR-521)**

Due to an OS installer issue, the Fedora Core 12 operating system does not load the 3ware driver when you install the operating system on a 3ware controller. Run the workaround as documented in the `install.txt` file included on the storage medium containing the 3ware driver.

**Unable to Boot openSUSE 11.2 and SLES 11 SP1 after OS Install (SCR-922 & 993)**

Due to OS installer issues, the openSUSE 11.2 or SLES 11SP1 operating systems fail to boot from the 3ware array following installation. Run the workaround as documented in the [Readme](#) file included on the storage medium containing the 3ware driver.

**SUSE Driver Does Not Load Automatically for Secondary Storage (SCR-2166)**

Due to SUSE Linux Enterprise Server (SLES) 11 restrictions, the 3ware driver fails to load on boot even after the `mkinitrd` command is executed. As a workaround, edit the `/etc/init.d/boot.local` file in the distribution to add either of the following commands:

```
insmod /lib/modules/<kernel version>/kernel/drivers/scsi/3w-sas.ko
modprobe --allow-unsupported 3w-sas
```

While other supported Linux distributions should not be affected, the same procedure may be used. For Redhat or Fedora, edit the `/etc/rc.d/rc.local` file instead.

**Units created while BBU Capacity Test is Running Results in an Error (SCR-503)**

If unit creation in 3BM is attempted while the BBU battery capacity test is running, 3BM will report "Parameter not changeable" since the write cache cannot be enabled until after the test is completed. The error can be safely ignored and the write cache will be automatically enabled after the test has completed.

**SATA Drive Spindle Speeds are Reported Incorrectly (SCR-262)**

This occurs for both direct connect and expander based SATA drives. SAS drives are not affected.

**No Warning is Shown if More Than 32-units Are Available (SCR-673)**

If more than 32-units are attached to the controller no warning message is reported that the maximum number of units allowed by the firmware and software was exceeded. Drives associated with the subsequent units will appear with a “u?” designation in 3DM2 and CLI. In the 3BM, the units will be marked “incomplete”.

**CLI or 3DM2 May Fail to Import an Incomplete Unit After Rescan (SCR-671)**

In most cases rescan will correctly import an incomplete or dead unit. Prior to rescan the drive(s) may appear as ‘u?’ since a unit number is not yet assigned. If the ‘u?’ designation remains after rescan a reboot may be required.

**CLI for FreeBSD May Fail to Show Controllers and CLI Version (SCR-945)**

With certain FreeBSD systems CLI may report a syntax error with the show and show version commands. Other commands are not affected including /cx show & /cx/ux show.

**CLI Allows Migration of a Single SAS Disk to a RAID-1 Array Using a SATA Drive (SCR-594).** Mixed SAS and SATA drive configurations are normally not allowed during creation and migration by 3BM, CLI, or 3DM2.

**3ware Installer for Mac Reports an Unusual Debug File Location (SCR-792)**

When 3DM2 is installed on an Apple OS-X system, the debug file is actually written to: /var/folders/zz/zzzivhrRnAmviuee+++++++/Tmp-/3wareDebugFile as reported by the installer. The folder is accessible if the user logs in as root.

**3DM2 Displays Mac OS 10.6.2 as Darwin 10.2.0 (SCR-754)**

This is by design and is the logical equivalent of Redhat or openSUSE running on Linux.

**3DM2 and CLI Incorrectly Shows a RAID-6 Initialization as Paused (SCR-619)**

If a RAID-6 array single drive rebuild occurs during initialization both activities actually continue together even though the initialization is shown as paused.

**3DM2 May Display Invalid Characters in Email Notification Settings (SCR-705)**

If the 3DM2 email notification setting fields are not populated, random characters may be displayed in place of a blank field. Only Windows operating systems appear to be affected. These characters can be safely ignored.

**An Enclosure with Dual Expanders May Appear As Two Enclosures (SCR-285)**

If a single enclosure is attached with dual expanders it may incorrectly appear as two enclosures in 3BM, CLI, or 3DM2. If multiple enclosures are attached the last enclosure may be shown as a duplicate.

**Possible Timeouts with Multiple SAS 2.0 (6Gb/s) Enclosures**

Certain SAS 2.0 enclosures w/ expanders, (e.g.: Supermicro 216A, and LSI 620J and 630J), should be limited to no more than 3 cascaded enclosures with the 3ware 9750 controller, unless all SAS or SATA drives have the exact same link speed, to prevent connection timeouts. Direct attached configurations are not affected.

**Important Configuration Note for 3ware 9750-16i4e & 24i4e Controllers (SCR-997)**

SAS expanders should only be attached to the external port of the 3ware 9750-16i4e or 9750-24i4e controllers. The internal ports are designed for direct attached SATA and SAS drives only, since an onboard SAS expander is already included.

**Restrictions When Updating SES Enclosure Firmware Using CLI**

Initially only LSI and Supermicro SAS expanders are supported when updating the enclosure's storage enclosure processor (SEP) firmware using CLI. Please refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle15857.aspx> for more details.

**New SAS I<sup>2</sup>C Breakout Cable Required for Supermicro Direct Attached Enclosures**

Direct attached drive enclosures, such as the Supermicro 826TQ, 836TQ, & 846TQ series require a new SAS breakout cable for use with I2C enclosure management. Please refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle15858.aspx> for more details.

**Managing audible alarms w/ Supermicro Direct Attached Enclosures**

Please refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle15859.aspx> for more details on how to manage your SES enclosure's audible alarm with Supermicro direct attached TQ backplanes.

**Supermicro X7DWN+ Support of More than Three 9750 boards (SCR-1017)**

3BM (BIOS) for 9750 supports up to 3 boards per BIOS session, and additional boards should appear in a second instance of the BIOS. If not, please refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle15868.aspx> for additional instructions.

**3ware 9750 is Not Detected Correctly with Certain Supermicro X7 Series (SCR-283)**

If the error "PCI Vendor and Device IDs do not match" appears during POST and the 9750 controller's messages are not displayed, upgrade the motherboard to the latest Supermicro BIOS from KB article: <http://kb.lsi.com/KnowledgebaseArticle15595.aspx>.

**3ware 9750 is Shown in BIOS But Freezes at Boot on Supermicro X8DA3 System**

Please refer to KB article: <http://kb.lsi.com/KnowledgebaseArticle15693.aspx> to upgrade the motherboard to the latest Supermicro BIOS.

**Supermicro 826TQ Drive Identify LEDs Do Not Stay On (SCR-978)**

When using the Supermicro 826TQ enclosure with the 3ware 9750 and earlier controllers, drive LEDs 9-12 will stop blinking after a few minutes. The first 8 drives are not affected and will continue to blink until the drive identify feature is turned off.

**WinAVAlarm Does Not Sound on 64-bit Windows Systems (SCR-1161)**

No alarm is audible with Windows 64-bit systems when the WinAVAlarm option is activated for an AEN.

**OpenSolaris UFS File System Unit Limit (SCR-2157)**

To support eight or more drive units on OpenSolaris 2009 v6, use the ZFS file system instead. There are limitations with eight or more units when using the UFS.

**OpenSolaris System Hang Issue Using UFS File System (SCR-2087)**

When creating a UFS file system in Open Solaris 2009 v6, you must use the -T option to avoid a possible system hang: `newfs -T /dev/rdisk/cx/tx/dx/sx`

**Support for Units Larger than 2 TB OpenSolaris (SCR-973)**

While the 9750 supports units that are greater than 2 terabytes in size, these storage objects are too big for some 32-bit kernels, such as OpenSolaris. Use the 3ware autocarve option as a workaround. Refer to the 3ware SATA+SAS RAID Controller Card Software User guide for more details.