



3ware 9500S/9550SX/9550SXU/9590SE Series

Release Notes

Release 9.3.0.4

READ ME FIRST!

Introduction

Thank you for purchasing the AMCC 3ware 9500S/9550SX/9550SXU/9590SE Series Serial ATA RAID Controller. Please refer to the Errata section below for important information regarding the controller before calling technical support. This document describes known issues and important recommendations that are not included in the Installation and User Guides.

For additional information, see our web site at:

http://3ware.com/products/Serial_ata2-9000.asp

User Documentation:

<http://www.3ware.com/support/userdocs.asp>

Knowledgebase:

<http://www.3ware.com/KB/kb.asp>

Software Downloads:

<http://www.3ware.com/support/download.asp>

System Compatibility Lists:

http://www.3ware.com/products/compatibility_sata.asp

Service and support:

<http://www.3ware.com/support/index.asp>

Main U.S. Phone: 800-840-6055 (US only) or 858-535-6517

European Phone: 00 (800) 3-927-3000 or +49-89-800777-15

Release Highlights

- Support new RoHS compliant controllers: 9550SXU (PCI-X) and 9590SE (x4 PCI Express)
- Support the new 9550SX-16ML controller
- New Feature: Boot LUN

Release Details

The following firmware, driver, 3DM 2, and CLI versions comprise the 9.3.0.4 release package:

- Firmware version: 3.04.00.005 (9550SX/9550SXU/9590SE)
- Firmware version: 2.08.00.006 (9500S)
- 3DM 2 version: 2.04.00.018
- CLI version: 2.00.03.017
- Windows driver version: 3.00.01.070
- Linux 2.6 driver version: 2.26.04.009 (For supported distributions)
- Linux 2.6 driver version: 2.26.02.007 (For upstream kernels)
- Linux 2.4 driver version: 2.24.04.009
- FreeBSD driver version: 3.50.02.016

Operating System Support:

- Windows 2000 with Service Pack 4 and newer
- Windows XP 32-bit and 64-bit x64
- Windows 2003 32-bit and 64-bit x64
- Redhat Linux WS 4.0 Update 2 32-bit and 64-bit x64
- Redhat Linux Fedora Core 4 32-bit and 64-bit x64
- SuSE Linux 10.0 Pro 32-bit and 64-bit x64
- SuSE Linux Enterprise Server 9.0 32-bit and x86_64
- FreeBSD 5.4 32-bit and 64-bit x64
- Linux 2.4 and 2.6 driver sources are available to build your own driver for other distributions

Bugs fixed in this release:

Fixed a kmap_atomic() problem that might result in data loss under Linux

This release contains a new Linux driver that disables local IRQs while the driver is holding KM_IRQ0 or KM_IRQ1. This is to prevent an IRQ handler from using those kmap slots while the driver is using them, resulting in memory corruption.

3DM2 is now compatible with Linux 2.4 kernel

3DM2 is now available for Linux 2.4 kernel as well as Linux 2.6 kernel on the 95xx series controllers.

Hot spare inherits NCQ attributes from unit

Hot spare is now inheriting the NCQ attributes from the unit that it is rebuilding into.

CLI supports Linux 2.4 kernel

CLI in this release now supports Linux 2.4 kernel with the 95xx series controllers.

Linux drivers support systems with 4GB of RAM correctly

Previous versions of Linux driver did not correctly support systems with more than 4GB of RAM. This problem is now fixed in this release.

Errata

Latest firmware and driver

We are constantly fixing bugs and adding new features to our controller. Remember to check our web site for the latest release and to sign up for the AMCC 3ware Technical Newsletter. <http://www.3ware.com/support/index.asp>.

Support for the 7000/8000 series controllers

See 3ware KB article 14851 for support on the 7000/8000 series products <http://www.3ware.com/KB/article.aspx?id=14851>

Drivers prior to release 9.3.0 are not compatible with 3ware 9550SX/9550SXU/9590SE controllers

Using drivers released prior to 9.3.0 for the 3ware 9550SX/9550SXU/9590SE controller can result in system crashes. We have observed the problem when swapping a 3ware 9500S controller with a 3ware 9550SX controller without first updating the driver to

release 9.3.0 or newer. The solution is to always upgrade the driver to release 9.3.0 or newer before swapping out your older 3ware controller.

Note: The 9550SXU and 9590SE requires the 9.3.0.4 code set or newer.

Installing FreeBSD 5.4 and 6.0 on the 9550SX/9550SXU/9590SE controller

Since FreeBSD 5.4 and 6.0 do not have native support for the 9550SX controller, please follow the instruction in our knowledge base article at:

<http://www.3ware.com/KB/article.aspx?id=14850>

Unit under Linux 2.6 can be deleted or removed even when the unit is mounted and in-use

3DM2 and CLI can still delete or remove a unit even when the unit is busy if the unit is running under Linux kernel 2.6. This is due to a new implementation in this kernel where the EBUSY signal is not returned when the device is busy. We are currently working on a resolution for this problem.

NCQ is disabled by default

NCQ is disabled on the unit by default when you create the unit under 3DM2, CLI and 3BM. If you are using drives that have NCQ support and wish to enable NCQ then you can use 3DM2, CLI or 3BM to enable NCQ after the unit is created.

Auto Verify does not run when there is only one time slot set in the scheduling section

Currently there is a firmware bug that will cause the auto verify process not to run when user schedules only one time slot. The resolution is to have at least two time slots set in the scheduling window or select "ignore schedule" while enabling the auto verify function.

3ware driver support for Linux 2.6 kernel

Updates have been made to the Linux 2.6 kernel, which include but are not limited to: scsi driver reset entrypoint spinlock, scsi driver shutdown entrypoint, and kernel "change_queue_depth" driver entrypoint.

The 3ware in-kernel driver supports the 9500S, 9550SX, 9550SXU, and 9590SE controllers beginning with Linux 2.6.14 kernel. Subsequent Linux kernel releases will also support these controllers.

3ware does not recommend changing only the driver source to upgrade the 3ware in-kernel driver, but to upgrade to the next Linux 2.6 kernel that has a newer 3ware in-kernel driver. Please reference AMCC/3ware KnowledgeBase Article 14831, through this link: <http://www.3ware.com/KB/article.aspx?id=14831>

The 3ware 2.6 kernel source driver, labeled “upstream driver,” was tested using the latest pre-released kernel from kernel.org at the time of product release. Other kernel versions were not tested.

3ware will continue to provide a binary for the distribution drivers that it supports such as RedHat, SUSE, and Fedora Core.

The upstream driver has the following fixes:

- 1) Fix use_sg = 0 mapping on systems with 4GB RAM or higher.
- 2) Disable local interrupts during kmap/umap_atomic fix.
- 3) Add big endian support.
- 4) Fix 9550SX pchip reset timeout.

JBOD drives become available drives after power fails

We have seen conditions where JBOD drives become available drives when the user is updating the controller settings and a power failure happen at that instance. The workaround is to enable JBOD policy again in 3BM. We recommend not having auto rebuild policy enabled if you are using JBOD drives otherwise you might see data loss when the available drive is accidentally used to rebuild another unit.

3BM might not post after multiple power failures

If your system experiences multiple power failures (power off and on multiple times in a short period), your system might not see the 3ware controller during POST. The workaround is to turn off the system then turn it on again a minute later.

9590SE controller might not recover from a failed firmware upgrade

If you experience a power failure during a firmware upgrade on the 9590SE controller, there is a chance that the controller is not recoverable. If that happens, you can contact our technical support team for a replacement controller.

Boot fails after installing SUSE Enterprise 9.0

The SuSE Enterprise 9.0 installer contains a bug that does not update initrd to include the 3w-9xxx drivers. This results in the system failing to boot after the installation is completed. The work around is to run the installation normally as described in the Installation Guide but at the end when SuSE displays the “Now booting your system” countdown, immediately click the stop button and jump to the console with Alt+F2. Change directories to /update/000/install and run the update script (e.g. type ./update) which will copy the necessary drivers and update the initrd accordingly. Output from the script should include the 3ware 9xxx and SCSI modules. When the update is completed, return to the install screen with Alt+F7 and click the OK button to finish the installation. SuSE 10, SuSE Enterprise 9.0 SP1 and newer don't have this bug.