



3ware[®] SAS/SATA RAID
Software User Guide Addendum
for VMware

Supports the 9690SA Models

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3ware[®] SAS/SATA RAID Software User Guide Addendum for VMware[®]

This document is an addendum to the *3ware SAS/SATA RAID Software User Guide, Version 9.5*.

It provides information about support for VMware ESX Server 3.5 under version 9.5.0.2 of the 3ware 9690SA RAID controller software.

This document includes these topics:

- Driver Installation Under VMware ESX 3.5 Server
- Updating Drivers under VMware
- Updating the Firmware Under VMware
- Installing 3ware RAID Controller Management Software for VMware
- Uninstalling Software on VMware
- Managing the 3DM 2 Daemon under VMware ESX Server 3.5
- Configuring the VMware Firewall to Allow Email Notification

3ware VMware Drivers and Management Software

In order to install the 3ware VMware RAID controller driver and management software you will need the 3ware VMware driver CD.

If you do not already have it, you can download it as an .iso file from the 3ware website at <http://www.3ware.com/support/index.asp> and burn it to a CD-ROM.

Related Documentation

For general information about using the 3ware RAID controller management software (3BM and 3DM 2), see the *3ware SAS/SATA RAID Software User Guide, Version 9.5*. For information on using Command Line Interface (CLI), see the *3ware SAS/SATA RAID Controller CLI Guide*.

For information on installing your 3ware RAID controller card, see the installation guide for your 3ware RAID controller model. If you do not have the printed copy of the installation guide that came with your controller, electronic versions are available on the 3ware website at <http://www.3ware.com/support/userdocs.asp>.

Driver Installation Under VMware ESX 3.5 Server

This section provides details about how to install the driver for your 3ware RAID controller under VMware ESX Server 3.5 and make the RAID units available to the operating system. It is organized into these sections:

- Installing the driver when your primary storage will be managed by the 3ware RAID controller
- Installing the driver when your secondary storage will be managed by the 3ware RAID controller

Installing the driver when your primary storage will be managed by the 3ware RAID controller

Use this procedure if your RAID unit will be your primary storage. In this case, you will first create a unit through 3BM (3ware BIOS Manager) and then install VMware on that unit.



Note: You will need to have a copy of the VMware ESX Server 3.5 installation CD, in addition to the 3ware VMware driver CD.

To install the driver when your primary storage is managed by the 3ware RAID controller

- 1 Install your 3ware RAID controller. For details, see the installation guide for the controller.
- 2 Use 3BM (3ware BIOS Manager) to create one or more RAID units on the 3ware RAID controller. You can access 3BM by pressing Alt-3 during system startup. Instructions are available in the *3ware SAS/SATA RAID Software User Guide, Version 9.5*, under "Creating a Unit through 3BM" and "Ordering Units in 3BM" on pages 91 and 95.
- 3 Insert the 3ware VMware driver CD into your CD-ROM or DVD drive and restart your system.

Your system should boot from the CD. (If it does not, change the BIOS settings to boot from the CD and then restart.)

- 4 At the VMware ESX Server 3.5 splash screen, press **Enter** to start the graphical install method.
- 5 When prompted, choose your language and press **Enter**.

- 6 When prompted, choose your keyboard type and press **Enter**.
- 7 At the “Update CD successfully loaded” screen, insert the VMware ESX Server 3.5 installation CD and press **Enter** to continue the installation.
- 8 After you have finished your VMware ESX Server 3.5 installation, reboot the server and install 3DM 2 and CLI. See “Installing 3ware RAID Controller Management Software for VMware” on page 5.

Installing the driver when your secondary storage will be managed by the 3ware RAID controller

Use this procedure if the RAID unit or units managed by your 3ware RAID controller will be for secondary storage. In this case, VMware ESX Server 3.5 is installed on and boots from a different device.

To install the driver when your secondary storage will be managed by the 3ware RAID controller

- 1 Install your 3ware RAID controller. For details, see the installation guide for the controller.
- 2 Log onto VMware ESX Server 3.5 as root.
- 3 Insert the 3ware VMware driver CD into the CD-ROM or DVD drive of the server.
- 4 Mount the CD.

```
mount -t iso9660 /dev/cdrom /mnt/cdrom
```



Note: /dev/cdrom is linked to /dev/hdc by default. If the CD fails to mount, your CD-ROM may be located at /dev/hda instead. In this case, use the command

```
mount -t iso9660 /dev/hda /mnt/cdrom
```

- 5 Navigate to the directory on the CD that contains the driver.

```
cd /mnt/cdrom/VMupdates/RPMS/
```
- 6 Install the driver.

```
rpm -ivh VMware-esx-drivers-scsi-3w-9xxx-xxx.rpm
```
- 7 Install 3DM2 and CLI.

```
rpm -ivh <AMCC-CommandLine-Management-Utility-xxx.rpm>  
rpm -ivh <AMCC-3dm2-Management-Utility-xxx.rpm>
```

- 8 Unmount the CD.

```
cd /  
umount /mnt/cdrom
```

and remove the CD from the drive.

- 9 Reboot the server.

You can now create one or more RAID units. Instructions are available in the *3ware SAS/SATA RAID Software User Guide, Version 9.5*, under “Configuring Units” on page 85.



Note: If you wish to verify successful installation of the driver, you can use one of the following commands:

```
esxupdate -l query
```

The driver package should be mentioned in the resulting message.

```
vmkload_mod -l
```

The driver should be listed as one of the loaded modules.

Updating Drivers under VMware

Driver updates for the 3ware RAID controller will be available from 3ware as RPMs.

The following steps describe how to update the 3ware driver under VMware.



Warning: Backup your original driver before updating in case you need to revert back to it. However, you will not be able to revert back to the original driver if you are booting from that unit.



Note: If you wish to revert to a version of the driver that is older than the one presently installed, you will first need to uninstall the present driver. For details, see “Uninstalling Software on VMware” on page 6.

To update the 3ware driver under VMware

- 1 Download the driver RPM file from the 3ware website at <http://www.3ware.com/support/index.asp>.
- 2 Backup any critical data prior to updating the 3ware driver
- 3 Change the directory to the location with the downloaded driver RPM file.
- 4 Update the driver.

```
rpm -Uvh <VMware-esx-drivers-scsi-3w-9xxx-xxx.rpm>
```

Updating the Firmware Under VMware

Firmware updates to the 3ware RAID controller can be done from 3DM 2 or CLI. For details, see “Updating the Firmware and Driver” on page 157 of the *3ware SAS/SATA RAID Software User Guide, Version 9.5*. An electronic version is available at <http://www.3ware.com/support/userdocs.asp>.

Installing 3ware RAID Controller Management Software for VMware

3ware RAID controller management software includes 3DM 2 and CLI (Command Line Interface).

CLI can run locally on the VMware server in a console window.

By default, VMware ESX Server 3.5 does not have a GUI and therefore you cannot access 3DM 2 locally. You must use another system that has a GUI and a web browser to access 3DM 2.

After initial installation and setup, administration will typically be done remotely through CLI or 3DM 2.

To install CLI and 3DM 2

- 1 Mount the 3ware VMwaver driver CD.

```
mount -t iso9660 /dev/cdrom /mnt/cdrom
```

- 2 Navigate to the RPM directory.

```
cd /mnt/cdrom/VMupdates/RPMS/
```

- 3 Run the install commands for CLI and 3DM 2.

```
rpm -ivh <AMCC-CommandLine-Management-Utility-xxx.rpm>
```

```
rpm -ivh <AMCC-3dm2-Management-Utility-xxx.rpm>
```

- 4 Note the URL supplied by 3DM 2 at the end of installation, (for example, <https://10.0.0.2:888>), as it will be required in order to connect to 3DM 2 through a web browser.

Uninstalling Software on VMware

You can uninstall CLI, 3DM2 or the 3ware RAID controller driver.

To uninstall software for VMware

- 1 Login as root.
- 2 Check for installed packages.

```
esxupdate -l query
```

You will see a list of the packages that have been installed on VMware.
- 3 Run the command

```
rpm -e <package_name>
```

on the package you wish to uninstall.
The software is removed.

Managing the 3DM 2 Daemon under VMware ESX Server 3.5

3DM 2 should start automatically after installation and upon bootup. If it does not, use the steps below to manage it.

To manage the 3DM 2 daemon manually

- 1 Login as root on the machine on which 3DM 2 is installed.
- 2 Use the following command and options.

```
/etc/init.d/tdm2 start|stop|restart
```

Configuring the VMware Firewall to Allow Email Notification

You can select an option in 3DM 2 to allow email notification of alarms and other events reported by the 3ware RAID controller.

However, in order to receive email notification, you will need to configure the VMware firewall to allow outgoing email, as all ports are blocked by default.

To configure the VMware firewall to allow email notification

- 1 Login to the server as root.
- 2 Configure the firewall to allow outgoing email.

```
esxcfg-firewall -o 25,tcp,out,smtp  
esxcfg-firewall -o 587,tcp,out,smtp
```