Setting Up SATA RAID on the HP xw9300

Mini-White Paper

Introduction

This document details the steps needed to setup RAID 0, RAID 1, RAID 10, and JBOD disk configurations on an HP xw9300 Workstation. Additional information on these RAID modes can be found in the *Workstation RAID Primer* mini-white paper which can be found by visiting www.hp.com/support/xw9300_manuals and selecting the **White papers** quick jump link.

Steps

The steps are common to all RAID configurations. RAID-configuration-specific values are given as needed.

Install Drives

1. With the power off, physically install the correct number of SATA drives using any combination of the four available SATA ports. Table 1 below indicates the number of drives to install.

Table 1	RAID 0	RAID 1	RAID 10	JBOD
# of Disks	2,3, or 4	2	4	1,2,3,4

Enable RAID

2. Boot the system and enter BIOS Setup (F10).
3. Using the arrow keys and Enter, go to Advanced, then Device Options.
4. Enable SATA RAID, then the SATA ports that the drives are attached to.
5. Leave other settings as you found them.
6. Press F10 twice and Enter to save these settings. The system reboots.

Screen 1 Device Options

Configure the RAID Volume

7. When the system comes up, it will prompt you to enter the nVidia RAID Utility.
8. Press F6 to enter the utility.
9. The first section will be to select the RAID Mode: [Stripping (RAID 0), Mirroring (RAID 1), Stripe Mirroring (RAID 10), Spanning (JBOD)]. Use the up and down arrow keys to set the RAID Mode.

10. Tab to the Stripping Block to select the size (4K, 8K, 16K, 32K, 64K, 128K, Optimal). The default is Optimal.
11. Use the up and down arrow keys to set the block size.

Sscreen 2 nVidia RAID Utility

Tab to Free Disks

12. Select the drives to be in the array.
13. Use the up and down arrow keys to highlight the drive for the array.
14. Use the right arrow key to add drives to the array.
15. Ensure the correct number of drives are selected per Table 1 above.
16. Press F7 to finish the RAID array configuration.
17. Select Y to clear the disk data.
18. The RAID Array configuration status will display the array information.
19. Press CNTL-X to exit the nVidia RAID Utility.
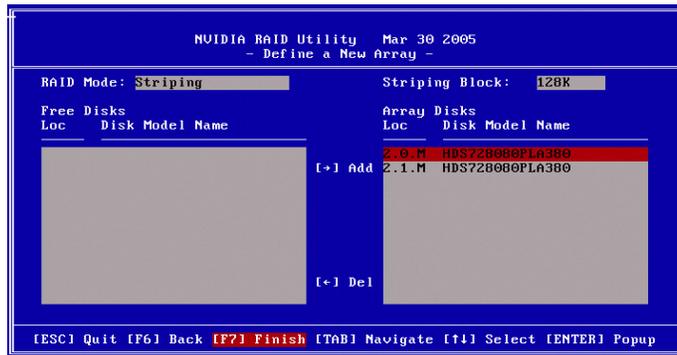
Screen 3 nVidia RAID Utility - Define a New Array

Set the Boot Order

20. Reboot the system and enter Setup (F10) again.
21. Enter Storage and then the Controller Order.
22. Use the arrow keys to move the pointer to NVIDIA STRIPE.
23. Use the left arrow key to change the order to First.
24. Place the OS install CD in the optical drive:

25. For Windows XP SP2 32bit, place an xw9300 Recovery CD in the optical drive for the upcoming rebuild of the OS.

OR

25. For Windows XP 64bit, place the Window XP 64bit OS CD that came with the Recovery CD.
26. Press F10 twice and Enter to accept the changes.
27. Press Enter and F10 again to exit Setup and save the changes. The system reboots.
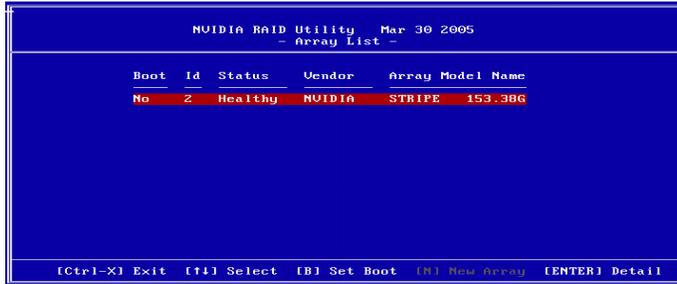
Screen 4 nVidia RAID Utility – Set Boot Order
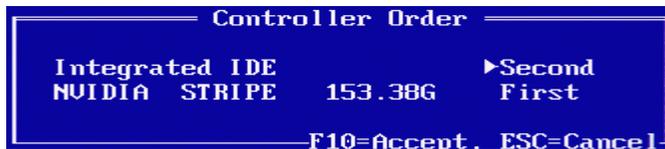
Screen 5 Controller Order

Rebuild the OS on the new RAID Volume

28. When the recovery CD boots, follow the instructions to install the OS (Windows XP SP2) onto the newly-created RAID Volume.
29. For Windows XP 64-bit, special 64-bit drivers will need to be installed to have the 64-bit OS installed. When the system starts the install, a task/info bar at the bottom of the screen will display "Press F6 if you need to install a third party SCSI or RAID driver." Press F6.
30. The system will then prompt you to specify a driver from the floppy. Be sure to have the nVidia 64bit RAID and SATA drivers on a floppy. These drivers can be downloaded from www.hp.com. Be sure to select both drivers, since they are both required.