HP xw4400 Workstation Storage Options

Mini White Paper

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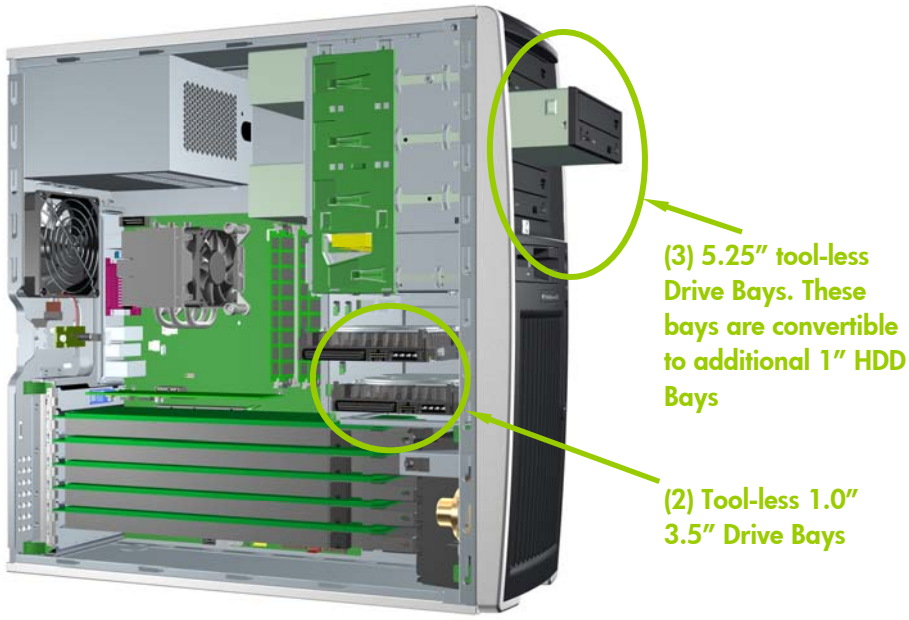
Introduction

The HP xw4400 Workstation offers flexible storage options in a compact chassis. There is support for SATA 1.5Gb/s (sometimes called "SATA-1") and SATA 3Gb/s (sometimes called "SATA-II") drives, integrated SATA RAID and optional Serial Attached SCSI (SAS) RAID.

Key Product Features

Figure 1. HP xw4400 Workstation Components



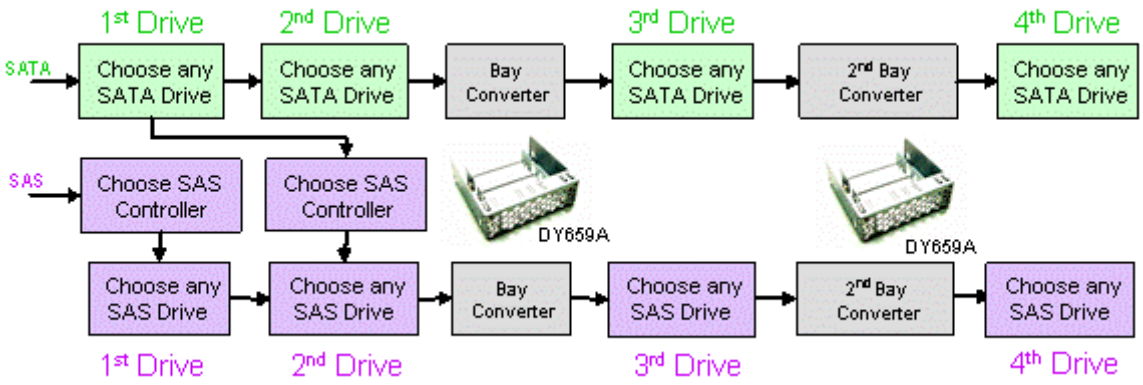
The xw4400 supports (2) tool-less internal 1" HDD slots and (3) 5.25" tool-less optical bays. Two of the 5.25" bays can be converted to additional 1" internal HDD bays using the optional DY659A bracket. When configured with 4 HDD bays, the xw4400 can support up to 3.0TB of SATA 3Gb/s storage. The optional SAS controller supports up to 4 disks, allowing up to 1.2 TB of SAS 3Gb/s storage.

The current HDD choices are shown below:

SATA 7200	SATA 10K	SAS 10K	SAS 15K
80 GB (3Gb/s)	80 GB (1.5Gb/s)	146 GB (3Gb/s)	73 GB (3Gb/s)
160 GB (3Gb/s)	160 GB (3Gb/s NCQ)	300 GB (3Gb/s)	146 GB (3Gb/s)
250 GB (3Gb/s)			300 GB (3Gb/s)
500 GB (3Gb/s))			
750 GB (3Gb/s)			

The xw4400 supports many combinations of SATA and SAS drives for both factory integrated and After Market Optional (AMO) storage. The supported choices are shown in the flowchart, starting with the selection of SATA or SAS for the first drive. The xw4400 has an integrated SATA RAID controller, but a SAS controller must be added before any SAS drives. HP supports the LSI SAS304 1E SAS Controller. The PCIe-based adapter supports up to 4 internal SAS drives. As indicated, it is possible to start off with a SATA drive and add a SAS controller and up to 3 SAS drives.

Figure 2. Supported Drive Combinations



RAID

The xw4400 has an integrated Intel ICH7R SATA RAID controller that supports RAID 0* (Striping, for performance) and RAID 1* (Mirroring, for fault tolerance) and is capable of RAID 5 and 10. For SAS, the SAS3041E controller provides support for RAID IS, IM, and IME. In all cases, disks in a RAID array must be identical. Also note that using disk mirroring halves the amount of available storage. Setting up a SATA RAID configuration on the xw4400 is the same as on the xw4300. More details on the xw4300 SATA RAID configuration can be found in Setting up SATA RAID on the xw4300.

Cabling

For Factory-integrated storage, all required cabling is provided. For AMO storage, a SATA cable kit is provided with each drive ordered. SAS drive AMO kits include a SATA cable and a SATA to SAS drive adapter.

Summary

The xw4400 provides a large amount of highly-configurable storage in a small chassis.

Related Resources

The following documents also provide additional information about RAID configurations and can be located by visiting www.hp.com/support/xw4400_manuals and selecting the **White papers** quick jump link.

- *Setting up SATA RAID on the xw4400 Mini White Paper*
- *Workstation RAID Primer Mini White Paper*

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