Product Reviews

Networks/Servers

Nexsan ATABeast [PC Pro]

COMPANY: Nexsan Technologies **PRICE:** £18,000 exc VAT

RATING: ★★★★★½ **ISSUE:** 123 **DATE: Jan 05**

Verdict: Beast by name and beast by nature, as Nexsan delivers one of the best fibre-channel storage densities in a highly manageable appliance. It offers impressive performance and extreme value too.

Fibre channel (FC) storage arrays have traditionally delivered the best performance but have also commanded the highest prices, making them a network storage solution suited only to enterprises with deep pockets. Not so with the ATABeast from Nexsan Technologies. This compact rack-mount appliance offers one of the highest storage densities we've seen so far, but at a price that makes it far more affordable for mid-range businesses.

Incredibly, the ATABeast is only 4U (about 7in) high but it has room for no less than 42 hard disks. It keeps costs down by using ATA drives. The system supplied for review came with a full complement of 250GB Hitachi Deskstar ATA/100 models, delivering a total capacity of 10.5TB. With 400GB drives this could be increased to a massive 16.8TB for one chassis and a mammoth 168TB for an industry-standard 42U rack cabinet. As always, there's a downside to this, although in this case it's a fairly minor one. To achieve this high density the chassis doesn't use front-mounted hot-swap bays, but instead has the drives mounted underneath the top panel. Releasing ten screws and flipping the lid away shows the drives slotted vertically into a horizontal main board. Each drive is equipped with slimline rails and mates directly with the IDE and power sockets below. This arrangement is actually quite simple to use as the appliance supports hot-swap. So once it has been pulled halfway from the rack and the lid removed the drives are easily accessible for replacement or simply to add more storage.

Fault tolerance is high on the agenda, as the chassis comes with a trio of power supplies plus a pair of RAID controllers, and all components are hot-swappable. The controllers are fitted into solid steel sleds and come equipped with 450MHz MIPS processors, 512MB of cache memory and battery backup packs as standard. Each module also has a pair of FC ports supporting both 1Gb/sec and 2Gb/sec operations plus point-to-point and looped FC protocols. Serial and network ports offer local and remote management and each controller runs its own web server. The controllers function independently of each other and look after specific bays in the chassis. Prior to

shipment, Nexsan tests the drives specifically for one controller so these must be mounted in the correct range of slots as shown in the manual.

The CLI interface is one of the best we've seen, making installation swift. Rather than use cryptic commands it provides a tidy GUI. Nexsan's browser interface is even better and offers high levels of access to all components. The homepage opens with a neat graphic showing the status of fans, power supplies and controllers, along with enclosure temperatures. Moving the mouse pointer over these brings up the current values. Below is a matrix that shows every storage bay with animated graphics revealing the status of each drive for the selected controller. You don't need to open two browsers to monitor both controllers either, as Nexsan's WorldView allows you to swap between each with consummate ease. An internal buzzer warns if any problems or faults have occurred and the appliance can send alerts to an email address as well.

The appliance doesn't support JBODs, so the drives need to be sorted into RAID arrays. A quick-start wizard makes light work of this as it automatically takes all available drives, creates multiple RAID5 arrays and maps the new volumes to both FC ports. Manual configuration allows you to choose from mirrored and striped arrays as well and spread the arrays over different ATA controllers for greater redundancy. You can also map volumes to either FC port allowing systems to use the same array but over different connections.

For performance testing the ATABeast was introduced to our resident FC SAN built from a QLogic SAN Connectivity Kit. We created four dual-disk striped arrays with two on each controller and used each to make a single volume. We then direct-attached four Windows Server 2003 systems using QLogic QLA2310 FC HBAs and assigned each to a separate volume. Since FC auto-negotiation is supported, it only took a couple of seconds for the servers to see the volumes as new, local and very fast hard disks, which could be formatted from the Disk Management tool and accessed normally from Windows Explorer. Using the open-source Iometer utility configured with two disk workers, 64KB transfer requests and 100 per cent sequential reads, we saw one server return an impressive 182MB/sec average transfer rate. Adding a second server saw this increase to a cumulative 359MB/sec, while four servers in the mix returned a total of 723MB/sec.

Overall performance is comparatively high when you consider products such as Chaparral's Rio eXp and its collection of FC hard disks was only about 7 per cent faster for raw throughput. Add to this the high storage density, quality management tools plus sheer value, and the ATABeast could be a real animal in the network storage market.

By Dave Mitchell