

# Small Box, Maximum Capacity

## Sans Digital AccuRAID Targets Cost-Conscious Buyers

by Sue Hildreth

THE ECONOMY MAY BE SLOWING, but it's not stopping end users from gobbling up storage capacity and demanding more. In fact, the average growth in demand for storage capacity will be about 60% this year and is likely to be the same next



year, according to IT market research firm IDC. Cost-conscious IT managers must look for lower-cost and expandable storage solutions to meet this continued growth in demand.

It's that cost-conscious storage buyer that Sans Digital (626/322-3868; [www.sansdigital.com](http://www.sansdigital.com)) is targeting with its new entry-level AccuRAID AR212X Series, a 2U rack-mountable RAID system aimed at providing maximum storage capacity in a small box.

### 12-Bay RAID

The AR212X is a 12-bay RAID unit that supports both SAS and SATA disks, including the newer 1TB SAS and 1.5TB SATA disks. Up to five additional 12-bay JBOD units can be attached to the AR212X, resulting in a total capacity of 72 bays and more than 100TB

of data on SATA disks or 72TB of SAS storage.

The ability to add more JBOD bays is what makes the system particularly cost-effective, says Sans Digital Product Manager Stanley Chan. "Unlike with older models, you don't need to purchase another RAID system. If you fill up the first 12 bays, you can just add another JBOD unit."

Hao Zhang, a storage consultant for E23 ([www.123raid.com](http://www.123raid.com)), which specializes in storage hardware solutions for small and mid-sized enterprises, says that this type of expandability is important, particularly for applications involving video recording or editing, backup and archiving, and others that need to keep large amounts of data for a long period of time.

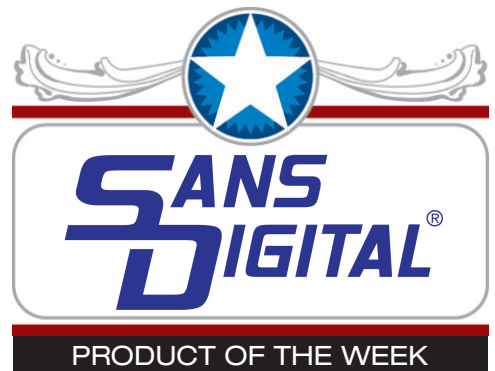
"Those applications typically generate data at a very fast rate. If the storage system does not support capacity expansion, then the user either has to use more computers or use Fibre [Channel] switches to gain more capacity with limited ports. Either method will mean extra costs and management complexity," says Zhang.

### SAS & SATA

The product supports both SAS and SATA drives. SAS, or Serial Attached SCSI, is designed mainly for high-performance applications, such as video editing, where speed is

an issue. SATA disks hold more data and are usually used for high-capacity disk-to-disk backup, says Chan, adding that SAS is currently more popular among his customers, largely due to the rapid rise in audio/video content.

Many times people will mix SATA and SAS disks to meet different needs in the same system, says Zhang. "SATA drives are the mainstream



## Sans Digital AccuRAID AR212X Series

**Description:** A 2U rack-mountable RAID product designed for file servers, backup, audio/video streaming, and digital video recording. It can hold up to 72TB of capacity with additional AS212X JBOD storage expansion units.

**Interesting fact:** Sans Digital, based in the City of Industry, Calif., markets 10 different families of DAS and NAS storage products, including the AccuNAS, AccuRAID, TowerSTOR, and TowerRAID. The company sells its products in the United States, Canada, Europe, Australia, and New Zealand through its channel of resellers, retailers, and distributors.

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choice for cost and capacity. SAS drives are the common choice for fast seek time and high I/Os and reliability. I've also seen customers mixing SAS and SATA in the same box but in different volumes, using SAS disks for the index and SATA for the data to achieve the best cost-for-performance and functionality ratios," he says.

Sans Digital also has 2U, 12-bay AccuRAID models for SCSI and Fibre Channel. The AR212S and AR212F4 support SATA to U320 SCSI and SATA to 4Gbps Fibre Channel, respectively.

The AccuRAID AR212X supports RAID levels 0, 1, 1E, 0+1, 3, 5, 6, 30, 50, and 60. RAID 6 extends RAID 5 by adding an additional parity block, giving it two parity blocks distributed across the disks. The support for RAID 6 means it can survive the failure of two drives in the system, rather than just one, making it more appealing to IT managers concerned with preventing downtime.

To speed up recovery from failure, the unit features hot-swappable drives

that support a hot spare for fast replacement of a failed drive and automatic hot rebuilding of a newly activated hot spare.

### Web-Accessible GUI

IT admins can keep apprised of problems with the system via a graphical user interface that is accessible from any Web browser. That allows IT staff to perform setup and configuration from any PC and to check on system alerts. The unit's SMTP manager monitors and transmits alerts to the GUI, as well as to the administrator's email box in the event of any major problem, such as a power or cooling fan failure. System alerts are also shown on the unit's LCD. The Web-based GUI means that administrators can keep track of issues while outside of the data center or even outside of the office.

"A consultant working from a remote location can tie into the system and see what needs to be done," says Chan. "They can reset the unit, for instance, or change the configuration."

## AccuRAID AR212X Architecture

- Intel IOP 341 800MHz processor with 256 onboard ECC cache memory, upgradeable to 2GB
- SAS/SATA RAID 60 ASIC engine
- Dual-Channel SAS connector supporting failover
- Support for SAS JBOD (AS212X) expansion up to 72 drive bays
- Redundant and hot-swappable power supply and cooling fans
- OS-independent and host transparent

Another selling point of the AccuRAID AR212X is its price, says Chan.

With a price tag of about \$6,000, the AR212X compares favorably with higher-end or higher-priced models from larger competitors. Because many IT budgets are tight right now, IT managers are more inclined to look for less expensive storage options, says Chan. 