

Staff and Students, Alike, Learning New Ways to Do School Work

ATTO Diamond Storage Array Helps Make Classwork a Breeze

When Rick Edwards, IT director at Ramapo Indian Hills Regional High School District in Franklin Lakes, New Jersey, began researching ways for his 2500+ students and staff to access shared storage about a year ago, he focused on vendors who support the digital video space. "If you want speed, you go to the video guys," Edwards explains. "They're leaps ahead of the data guys in Reads/Writes."

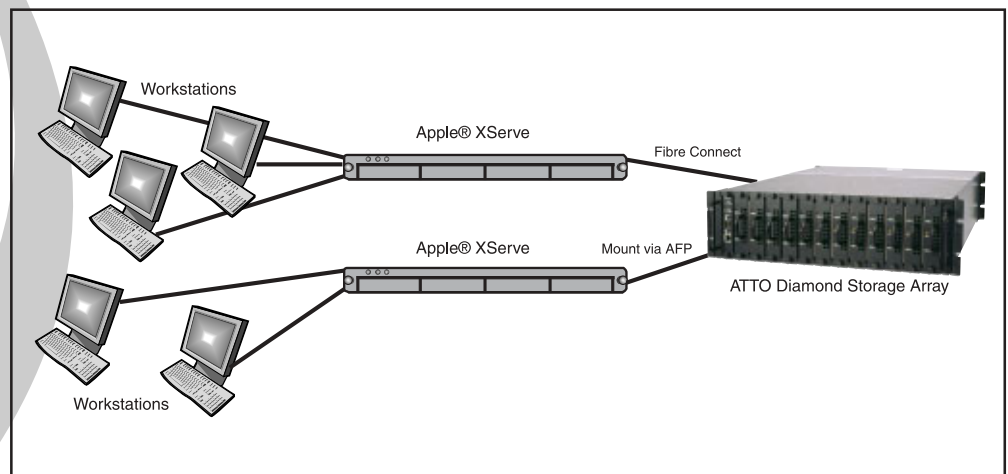
That premise led Edwards to open discussions with ATTO Technology, Amherst, NY, about the company's Diamond Series Storage Array. Already familiar with ATTO's dominance in the Mac® market, it was a name he could trust. The ATTO Diamond Array's educational pricing package fit his tight budget, and its exceptional features fit his needs, so Ramapo Indian Hills (RIH) became only the second school system in the country to implement such a plan for shared storage.

Though Edwards originally wanted common storage for use as an FTP server, plans quickly changed when he realized what else he could do to help improve the students' and staffs' access to information.

The ATTO Diamond Array is used with Universal Locker from Apple®. Users can log in from anywhere in the world through a web browser or mount partitions as if it's a hard drive. Everyone funnels into two servers that push onto the ATTO Diamond Array for storage. Though the school is populated with Macs using OS X, many of the users have PCs at home and Universal Locker works equally well with both.

One of the main benefits of the implementation is that students can begin work on a project or homework assignment in one class in the morning, for example, then work on it again from a workstation in the library later that day, and then again from home that evening without having to worry about bringing files back and forth. Sneakernet is virtually eliminated, along with the excuse that "the dog ate my homework."

The ATTO Diamond Array purchased by RIH is a 1.92 TB capacity rack mount unit configured with Fibre Channel Host Interface Cards (HICs). The actual configuration of Edward's system is as follows:



They're using Web Dev now, though Edwards hopes to change that with the implementation of different SAN software. There are dual Gigabit Ethernet connectors on each of the XServe units and two IP addresses on each for distribution of the load. "It's set up in a round robin configuration so each user hits a different Gigabit Ethernet connector," explains Edwards. With that many users, the speed on the server side must be sufficient to accommodate the hits. Equally as important, the RAID access had to be fast on what they attach to. That's what makes the ATTO Diamond Array the perfect solution. In fact, the Diamond Array often has to wait for the XServes to catch up.

The ATTO Diamond Array offers unmatched performance in its class. With 240 MB/sec. sustained data-transfer rates, it's more than sufficient. And, currently only about 25 percent of the Diamond Array's 1.92 TB capacity is being used, as each user is regulated on the amount of storage they can use. Students get a maximum of 100 MB, while staff has access to 1 Gigabit each. Capacity of

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the ATTO Diamond is expandable up to 7.2 TB should RIH require more space. "This is our first year doing this. As it grows in acceptance, we'll certainly need more space," notes Edwards.

The Diamond Array is currently configured to mirror the data across the drives so there is no concern about data loss. Edwards does intend, however, to purchase a 5 TB robotic tape backup unit for the next school year. RIH is adding a fully functional TV studio to the school and they'll need to backup those bandwidth-intensive files to the tape back up system.

Security issues are not a concern for Edwards. Each user's unique home directory is completely protected. Only the user's individual directory is visible, just as if it were his own hard drive. That way, there are no issues with students accessing and copying each others' work. And staff records are completely safe as well, though no confidential student information is currently housed there.

Each teacher has a laptop with which to upload those confidential files to a separate server that parents can log into to track their child's progress. Edwards is currently in the process of marrying those two databases in a project he's working on with Apple. With the ATTO Diamond Array's ability to partition the data, security won't be a concern then, either.

"We haven't had one single issue since we installed the Diamond Array," notes Edwards. "In fact, RIH does a fair amount of beta testing for this system for Apple. We've become something of a dog and pony show for other districts around the country looking to see how it's working and how to implement a similar system. We're always taking someone on a tour it seems." In all, there are approximately 8000 school districts nationwide that would benefit from a similar set up.

Edwards sums it up this way, "You can't beat ATTO's price point for 2 TB RAID or its ability to easily expand to more. The Diamond has become the defacto storage for IT projects at RIH."

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