



Case Study

Shelby County Schools

School System Scores Perfect Grade With SAS Products From Seagate and Promise Technology

Nestled in the southwest corner of Tennessee, the Shelby County school district boasts a national reputation for academic excellence. *Money Magazine* selected Shelby County Schools (SCS) as one of the “100 Top School Districts” in the United States for providing its students with far-above-average educations at a below-average cost. The district’s firm commitment to outstanding performance and efficiency is shared by SCS Network Administrator Scott Truitt.

When it became obvious that his previous mail server wasn’t keeping pace with the roughly 4500 active email accounts that SCS administrators, teachers and staff require, Truitt’s long-standing preference for Dell servers made his purchase of a new PowerEdge 2850 running Red Hat Enterprise Linux in concert with the popular Zimbra Collaboration Suite a straightforward decision.

Company

Shelby County Schools

Location

Memphis, Tennessee

Contact

www.scsk12.org

Primary Focus

Produce citizens who are prepared with the competencies, attitudes and emotional health to be productive members in an increasingly technology-driven society, and who are skilled in the abilities to communicate, reason, solve problems and continue their learning.

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But his choice of an external storage solution was less familiar to him. Recalls Truitt, "I normally buy Apple Xserve RAIDs, but you can't get them anymore. The last two RAIDs that I've bought have been Promise VTrak systems, and I've been very pleased with them. Setup has been really easy and they seem exceptionally fast; the hardware is very impressive."

Duly convinced, Truitt enthusiastically chose a Promise E610FD RAID system to partner with his new email server, but turned to Paul Foote at Truitt's preferred system integrator, Innovative Sales, for help in selecting the specific hard drives to be used. "Innovative Sales focuses on providing customers a total solution," notes Dave McNerney, the company's vice president. "Our staff is committed to developing personal relationships with our clients, learning about their business needs, and applying the right technology at industry-leading prices."

According to Truitt, "I just told Paul I wanted the best, fastest drives out there. And of course we looked at Seagate® Barracuda® ES.2 SAS (serial attached SCSI) drives. For the past seven or eight years, I've been a Seagate fan. They've been very reliable hard drives for me."

Speed, Capacity and Reliability Are Key

Addressing the needs of over 45,000 students (and all of their actively involved parents), it's no surprise that SCS handles an enormous amount of email. "Just yesterday we received 49,133 messages," Truitt notes. Running 24x7, the mail server's voluminous email traffic clearly makes storage speed a top priority, but capacity is also a growing consideration, particularly in the SCS environment.

"I work for a school system, and here people want to keep emails for five, six, seven years," muses Truitt. "They think they might need to search through all those messages and find where they talked to somebody about a specific issue. So they want their old emails instantly available, not just archived offline."

Reliability is critically important to Truitt. "If something works for me, I'll go to my career end with it, that's just how I am," he emphasizes. "We've got a small IT department here and I just don't have the time to deal with hardware failures. Nobody had to sell me on the reliability of Seagate drives. When I purchase drives I always buy Seagate drives. And the Promise RAIDs I've got on hand have been flawless so far."

SCS Storage Hardware Overview

The Promise VTrak E610FD RAID system selected by Truitt is a 3U rack unit that houses 16 3.5-inch Barracuda ES.2 SAS 1-TB drives (an expansion chassis can house another 16 SATA or SAS drives), configured in RAID 6 with two spares and two drives allotted to parity. The system boasts dual redundant active-active, failover/failback RAID controllers, 4-Gb/s Fibre Channel connections to the host, RAID 5 and RAID 6 support, with global and dedicated hot spare hard drives.

Truitt chose the Seagate Barracuda ES.2 SAS hard drive for its unique blend of speed, capacity and reliability. The highest-capacity (up to 1 TB) nearline SAS drive on the market, the enterprise-class Barracuda ES.2 SAS drive delivers up to 135 percent higher performance than its SATA counterpart, as well as up to a 38 percent improvement in IOPS/watt over SATA. With an MTBF of 1.2 million hours, the Barracuda ES.2 drive offers unrivaled reliability among all 7200-RPM drives.

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Unexpected Bonuses

While Truitt specified his new Promise/Seagate storage system primarily for its blazing speed, he was pleasantly surprised to learn that it offers a variety of other advantages. For example, the SAS architecture that enables such impressive throughput also delivers greater data integrity than SATA-based systems, thanks to features such as end-to-end IT Nexus checking, a key component of data integrity that ensures data traveling to or from the drive is not misdirected.

Truitt was initially wary that a 7200-RPM drive of such enormous capacity (1 TB) might entail a performance penalty compared to smaller 10K-RPM rivals, but the greater areal density of the disks used in the Barracuda ES.2 SAS drive enable it to deliver competitive throughput while running at a slower spin speed. Reducing platter speed translates into less power consumption, lower heat output and reduced cooling requirements—all helping to cut electricity costs.

“I didn’t really consider that when I was going with this purchase, but that will certainly make a big difference,” Truitt explains. “Just recently I was coming out of a meeting and my director commented, ‘We’ve got to start looking at ways to save electricity.’ When you’re a school system, every dollar saved can go toward educating the kids. I think our electricity costs went up a million dollars last year, so energy savings will definitely play a key role in my future purchases.”

Do It Once, Do It Right

Like many organizations these days, SCS is under pressure to trim expenses, but Truitt refuses to compromise on quality: “There are places you can save money, but then sometimes you’re just being cheap. I wanted to do this new mail server storage system right the first time; with the Promise VTrak E-Class RAID system and Seagate Barracuda ES.2 SAS drives I think I’ve done that. I don’t want to make any hardware changes for five years. That may be pushing the limits a little bit, but I think I can do it.”

To Learn More:

Seagate® Barracuda® ES.2 SAS Hard Drives

For more information on Barracuda ES.2 drives, visit www.seagate.com.

Promise Technology VTrak E-Class Storage Systems

For more information on VTrak E-Class systems, visit www.promise.com.

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