

As a progressive all-girls school for over a century, **Castilleja School relies heavily on computer-based applications and services** to prepare its students for the future. Achieving high-priority goals such as virtualization and the rollout of new applications was hampered by the lagging performance of the school's legacy storage systems. Since installing a FlashArray from Pure Storage, application performance problems have disappeared, VDI implementation has moved ahead, and the IT staff spends virtually no time managing storage.

**BUSINESS TRANSFORMATION**

Students, teachers and staff have faster access to the applications they rely on to maximize the value of each teaching period. At the same time, the IT department is able to roll out new applications, modernize the IT infrastructure and maintain a lid on capital and operating expenses.

GEO

North America

INDUSTRY

Education

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Terry Young, senior network and systems administrator

ALL-FLASH SOLUTION FROM PURE STORAGE ENRICHES LEARNING INITIATIVES AT CASTILLEJA SCHOOL

As an all-girls school for more than 100 years, Castilleja School in Palo Alto, California, has been preparing students for leadership roles in society by offering a rigorous educational program that emphasizes close student-teacher collaboration and encourages students to think analytically and creatively.

Given its proximity to Stanford University and Silicon Valley, it is not surprising that the school puts a heavy emphasis on technology as both an educational tool and an enabler of success in adult life.

Cognizant of the importance of technology, the school's IT department is focused on providing the infrastructure and applications that support a world-class curriculum.

"We look at each 50-minute class as a precious resource to be maximized," notes Terry Young, senior network and systems administrator at Castilleja, who is responsible for the school's computing and communications infrastructure. "My focus is to do everything I can to make those 50 minutes productive and enriching."

The school's IT infrastructure supports numerous databases and applications, reflecting the diverse group of users it serves - students, faculty, administrators, parents as well as people outside of the Castilleja community. Included in the mix are the student information system that houses all student records inside a FileMaker database; instructional software such as the Sony Virtuoso digital tool to support the world languages program; the ACE website to foster engagement on global issues tied to curriculum; and the login portal to Schoology, a cloud-based learning management system. These applications benefit greatly by running on an all-flash array because of improved consistent response time when accessing them.

PROBLEMS WITH HYBRID STORAGE PROMPT ADOPTION OF FLASH

Young has been in IT roles for schools for nearly 15 years, and has seen the importance of technology in education increase steadily. Before joining Castilleja, he worked at a public school system, where he was an early user of all-flash technology from Pure Storage and gained a deep understanding of the benefits it offered.

Upon his arrival at Castilleja, Young inherited a hybrid storage system that used traditional hard-disk technology fronted by cache memory using flash. He found it wasn't up to the school's evolving requirements.

COMPANY:

Castilleja School
www.castilleja.org

USE CASE:

- Database

CHALLENGES:

- Legacy hybrid storage system causing unacceptable delays in application performance
- System backups limited to overnight
- Purchase of more storage required annually

IT TRANSFORMATION:

- Storage efficiency triples usable capacity without additional spending
- Multiple daily backups without impacting application performance
- Elimination of application latency caused by hybrid storage caching

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“We were seeing certain applications running slowly,” Young says, “and those problems correlated with not having the right data in cache in the hybrid system. When the data wasn’t in cache, the hybrid system had to go back to disk and this caused significant retrieval delays. This ‘data churning’ was the source of unacceptable performance problems.”

The school could have purchased additional hybrid arrays, but, according to Young, that would only have offered a short-term fix.

The hybrid storage system’s other shortfall was that its slow performance limited Castilleja’s IT team to performing system backups at night. This introduced unacceptable windows of vulnerability with respect to potential data loss and recovery.

“We use Active Directory for authenticating our students, faculty and staff, and we have to have that current and available at all times. Ideally we want to back that up multiple times during the day. But with our hybrid storage system, doing so would inflict a performance penalty on our production applications.”

ACHIEVING NEW LEVELS OF STORAGE EFFICIENCY

Young evaluated competing storage offerings before settling on Pure a second time as the solution that would provide the most value to Castilleja School.

“I knew from experience that Pure has much better technology than its competitors. Their R&D really shines through in the product. Plus, the ease of management is a big selling point. Other vendors make you delve into what I call the ‘sub-atomic’ layers of detail. But Pure abstracts all the lower layers and gives you one simple, macro view to manage. I hardly ever have to look at the Pure system from a management perspective. It just runs.”

Young also values the efficiency of Pure’s storage solutions. With his previous hybrid system, “we got maybe 15% data reduction with compression, but that’s not a huge benefit from a storage footprint perspective. With Pure, you get compression and de-duplication, and that means you’re using your storage resources much more efficiently.”

Castilleja is currently achieving about 4:1 consolidation, meaning that its data store of roughly 2TB consumes about 500GB on the Pure FlashArray. And with a license allowing up to 1.5TB of storage, “we have a huge amount of room to grow into without having to purchase more storage. I won’t need to add storage to my budget for quite a while.”

MANAGEMENT HEADACHES DISAPPEAR WITH FLASH STORAGE

Young sees multiple benefits from using all-flash storage from Pure.

Improved performance has solved the problem of lagging application performance, and complaints about latency from end-users (students as well as staff) have been eliminated. Specifically, complaints centered on the inconsistent response time when student records were being accessed from the student information system. Even though additional seconds are added, if enough records are being looked up at once, the total time spent waiting for retrieval can feel like an eternity. Similarly, this occurs with the school’s internal help-desk ticketing system when attempting to open different cases as well as when querying data from the mobile computer management system, Capser by JAMF Software.

The plentiful availability of storage capacity, thanks to data consolidation, also means there’s no barrier to deploying new applications whenever they are needed. “It’s really important that when the teaching staff feels they need a new application to improve education for our students, we can deploy that app right away,” Young says.

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And the high availability of the FlashArray means storage is barely on the IT management radar screen. “We had to look at our old system every day. With Pure, we don’t need to do any babysitting or troubleshooting at all. We no longer get service requests or incident calls with performance complaints related to storage, which frees up time and allows us to focus on other more strategic things.”

“The time saved from having to manage the storage stack allows a shift in focus towards cyber security. With increases in data breaches reported this past year, not having to worry about what performance impact there may be when wanting to deploy a new anti-virus/malware or IDS/IPS system monitoring tools, allows us the flexibility to choose the tool that best fit our needs as oppose to the storage system limiting which solutions we can deploy to address and respond to the rapidly evolving threat landscape.”

Finally, Young says, having the Pure array in place will make the introduction of a virtual desktop infrastructure easy to achieve, by streamlining storage deployment, eliminating boot storms and simplifying management.

“Pure is a total, turnkey solution,” Young concludes. “The technology is leading-edge, the product is rock solid, and the people are the best I have come across in the storage business. Storage is now a worry-free experience that allows us to spend our time more productively.”

