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Dustin Fennell, CIO,
Scottsdale Community College

Scottsdale Community College chalks up success with end-to-end virtualization

Arizona's Scottsdale Community College (SCC) is a two-year institution with 800 staff and about 11,000 students. In addition to traditional programs of study, including university transfer and career programs, SCC offers continuing education for practicing professionals, developmental education and English as a Second Language. It is the only public community college in the nation on Native American land.

The challenge – Cost-effectively expand education access

When SCC's distributed infrastructure came due for yet another round of desktop hardware upgrades, CIO Dustin Fennell decided to jump off the PC refresh treadmill. The college had many reasons for seeking a fresh approach to IT. Constant spending for new hardware meant there was no funding left for expanding the solution, adding advanced technology or even purchasing new educational software. Further, SCC needed a way to strengthen its market advantage in an area with fierce competition for students from more than 15 other colleges and universities, many of which are much larger and perceived as offering more technologically advanced services to students. Also, SCC has a mandate to provide pervasive technology services to the community, particularly to low-income residents and non-traditional students.

“We wanted to make our education resources more widely available and affordable for all types of students,” said Fennell. “Many students were struggling to afford software required for our courses, or a particular type of computer needed to run that software. The alternative meant having to come on campus to use one of our PCs, which was not only inconvenient for students but also hampered our efforts to expand enrollment with non-traditional learners such as working adults and people who wanted to take online courses”



Implementing an end-to-end virtualization solution from Citrix

Fennell was familiar with Citrix® XenApp™ from a previous job at another college. So when he made the decision to move beyond distributed PC computing to a central Web portal, he chose the Citrix Delivery Center™ portfolio of virtualization products. The MySCC portal provides a single point of connectivity to applications and desktops as well as files and network resources.

Key benefits

- Simplifies access for students, faculty and the community
- Makes learning more affordable for students
- Cuts hardware replacement costs by \$250,000 annually
- Provides a competitive advantage to drive additional enrollment

Working with Thin Client Computing, a Platinum Citrix Solution Advisor, SCC implemented the MySCC portal solution in two phases. First, Citrix® XenApp™, Platinum Edition was rolled out for virtualized delivery of many different applications, including the Microsoft® Office Suite, specialized math tutoring programs, Microsoft® Visual Studio® and Adobe® Creative Suite®. Currently, more than 60 applications are delivered and offerings are growing in response to requests from students and staff.

The college then implemented Citrix® XenDesktop™, Advanced Edition to deliver two Windows® XP virtual desktops: one features AutoCAD, AutoDesk Revit and Google™ SketchUP™ software and is delivered to about 100 interior design and AutoCAD program students; the other delivers Adobe Creative Suite to Business Institute students as well as any other students and staff who need it. All virtual desktops have access to mapped drives, personal files and network resources.

Citrix® XenServer™, Platinum Edition, chosen to replace a competitive server virtualization solution due to superior performance, serves as the platform for XenApp and XenDesktop. The provisioning functionality of XenServer streams a single workload image to multiple servers. The SSL VPN capability of Citrix® NetScaler®, Platinum Edition secures portal traffic over the network in high-availability mode. SCC also uses Citrix® GoToMeeting® for online collaboration.

Fennell said, “We port everything through MySCC. This single interface allows students and employees to access their personal files (via published folders), network resources (via published network shares), applications via XenApp and specialized desktops via XenDesktop. We have chosen this approach at this stage in the project for simplicity, so students and employees have a consistent user experience no matter where they access MySCC.”

Improving accessibility for the college and the community

The MySCC portal, powered by Citrix virtualization technologies, is expanding and simplifying information delivery for faculty, staff, students and the community as a whole. With a tagline of “any time, place, device,” the free portal makes it easy to connect from any browser. With MySCC, students no longer have to purchase software licenses and a specific brand or model of computer for coursework because the latest software is made available to them via the portal. In fact, the system supports thousands of Macintosh® computer users. It also supports thin-client devices, which will be implemented in SCC’s new IT building when it opens in 2010.

With Citrix virtualization, all students in a course use the same resources, ensuring a consistent learning environment. Fennell noted, “There is an adjunct faculty member who lives in Colorado and teaches Adobe Creative Suite applications online. She is very pleased knowing that her students all have access to the same version of Adobe. She can post project files in a shared folder that all the students can read.”

Further, Web-based access is making a significant difference for low-income students who previously had many challenges in pursuing a college degree. “A young woman came to me in tears because she was so happy about MySCC. She lives in a group home with limited access to a single, shared computer and wasn’t allowed to install any software on it. She couldn’t afford her own computer or software. Because of the Citrix solution she is now able to do her class work, use all the software she needs and progress toward her degree.”

Fast ROI and lower IT costs

By adopting server, application and desktop virtualization, SCC has achieved significant ROI. According to Fennell, “We did not have to come up with new funding to finance this two-phase project; we simply redirected money that would have been spent on PC upgrades over those two years to pay for the Citrix solution. In the end, rather than having 500 new computers on campus that only benefit the students and employees who use them, we have provided a high-speed, highly available system that benefits every student and employee at our college.”

Moving forward, the college is saving \$250,000 per year that would have been spent on hardware refreshes, providing SCC the choice of saving that amount or applying it to other strategic needs and technology innovations. In the face of current and anticipated statewide educational budget cuts, SCC is better positioned than other colleges and universities to continue adding new technology and access.

For the IT team, Citrix solutions have simplified administration, enhanced data security and kept staffing lean. For example, according to Fennell, “Previously, we had to maintain three different versions of AutoCAD on our campus PCs because the software is expensive and some students had older versions. It was a nightmare. Delivering AutoCAD over XenDesktop means we only have to maintain one version—and that administration is done in the datacenter instead of on the devices.”

XenServer has enabled SCC to consolidate physical servers, thus reducing server administration tasks. Provisioning capability, which allows standard server and desktop images to be created, stored and dynamically delivered, reduces storage space by nearly 1,000 GB. He explained, “We provision 100 virtual desktops from two images of 10 GB each. Without Citrix provisioning, we would require a terabyte of storage.”

Another benefit of centralized management was the college’s ability to use existing IT staff to support a new science building and redirect one full-time position to fill a more strategic need. Embracing end-to-end virtualization has also led to expanded skill sets and greater job satisfaction for the SCC IT staff, many of whom had previously handled hardware only.

Applications delivered

More than 60 applications, including:

- AutoCAD modeling software by AutoDesk®
- Adobe Creative Suite
- Microsoft Visual Studio, Internet Explorer® and Office
- MicroGrade classroom management software
- QuickBooks® accounting software

Networking environment

- Citrix XenApp, Platinum Edition running on 11 HP DL-380 servers
- Citrix NetScaler, Enterprise Edition – one HA pair of 7000 series appliances
- Citrix XenServer, Platinum Edition
- Citrix XenDesktop, Advanced Edition
- Citrix GoToMeeting
- Microsoft Windows Server® 2003
- PCs, Macintosh computers and Linux®-based machines

Standing out from the competition

With the implementation of Citrix virtualization solutions, SCC has moved from technology underdog to technology leader. The MySCC initiative has not only generated tremendous interest from the community—with a thousand unique visits to the site before it even officially launched—but has made area colleges and universities take notice.

With broader and easier access to its offerings, SCC can tap the growing market of non-traditional students who provide the greatest potential for increasing the college's enrollment. "The biggest opportunity that we have is in the online environment, but there is a lot of competition. Today, no other college in our service area can provide students with applications the way SCC does with Citrix. Our online students can use the same applications and network resources as the traditional day students. We hope to leverage that competitive advantage in the marketing of our college."

Fennell concluded, "Virtualization with Citrix Delivery Center is enabling SCC to fulfill its service mission, expand application availability, improve our technology and achieve a competitive advantage without having to increase the budget."



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