Arizona State University Deploys Steadfast Model to Become a Next-Generation Institution

Executive Summary

CUSTOMER NAME
Arizona State University

INDUSTRY
Higher Education

BUSINESS CHALLENGES
- Align IT's capabilities to support ASU's vision of becoming a next-generation university
- Prepare network for next-generation learning environment

SOLUTIONS
- Identify core versus context network activities
- Realign vertically integrated IT team to focus on high-value contributions
- Identify and align with leading-edge, strategic alliance partners

BUSINESS RESULTS
- Ability to transition to new technology without significant capital expense
- On track to meet goal of 40 percent growth by 2014

With a student population exceeding 65,000, and expecting to reach 100,000 between 2010 and 2014, Arizona State University is planning for aggressive growth as well as increased student demand for next-generation technologies. These challenges prompted the university to rethink its existing IT business model—a vertically integrated IT staff responsible for managing all facets of the network—which was inhibiting its ability to scale. Working with Cisco®, Arizona State identified which IT activities, based on a "core versus context" model, would meet the university's goals, and then aligned itself with leading-edge, visionary technology partners. Today, through its network of strategic partnerships, Arizona State is primed to become a next-generation, innovative university.

Business Challenges

With its main campus located in Tempe, Arizona State University (ASU) is a public, metropolitan research university with more than 65,000 undergraduate, graduate, and professional students enrolled on four campuses throughout the state. The university strives to be a leader in higher education and is on a 10-year journey led by university President Michael Crow, who envisions ASU as the "New American University," one that will promote excellence in research and among students and faculty, increase access to educational resources, and work with communities to impact social and economic development, in a positive manner.

Adrian Sannier, CTO of ASU, took the lead in achieving this next-generation vision and recognized that success was dependent on the university's use and management of advanced technology. Sannier also chaired the school's University Technology Council to articulate and prioritize the technology needs of ASU and coordinate technology development throughout the institution. Sannier's first objective was to understand where the university stood technologically, what challenges it was having, and how these challenges impacted ASU's ability to achieve its vision.

Vertically Integrated IT Enterprise No Longer a Strength

"It became clear to me that ASU, like many institutions of higher learning, was running a cottage IT industry," Sannier says. "The IT enterprise was vertically integrated, meaning that we did many things ourselves, like running the network, customizing and installing software, provisioning e-mail for our students, providing storage and backup, etc. While that was a strength in the 1980s, in today's climate it's a weakness."

Sannier found that ASU's IT model was getting in the way of enabling the level of higher education experience that ASU wanted for its students. For example, with limited resources, the university could supply students with only 50 megabytes of disk space—the equivalent of downloading and storing five songs.

"The storage space was insignificant but it's all we could support," Sannier says. "We also couldn't provide calendars for students and our homegrown e-mail system didn't have search, labeling, or other features common in the consumer space."

"We are aggressively transitioning to new technology without significant capital investment because of the alliance we have with strategic partners. Because the equipment is not owned by ASU, as the technology evolves, Cisco can help ASU make decisions to move to technologies that operate on larger scales more quickly."

Adrian Sannier
University Technology Officer, Arizona State University

Solutions

Sannier decided that it was time to develop a forward-looking IT strategy and knew that the network was critical to pulling the strategy together successfully. Around the same time, Cisco sales executives, along with the Cisco Internet Business Solutions Group (IBSG), visited ASU. Upon hearing what Sannier was trying to do, they suggested that the university might benefit by looking at Geoffrey Moore's model of core versus context and applying it to ASU's needs.

A high-tech consultant and author, Moore in his book *Dealing With Darwin: How Great Companies Innovate at Every Phase of Their Evolution* describes core as anything that contributes directly to competitive differentiation and leads to customer preference in purchase decisions, and context as all the things that a company or product must do to pass muster but which do not differentiate it from others in the same market.

"As the complexities of operating a higher-education institution increase, we see more institutions adopting enterprise-like business models as part of campus strategy development," says Dr. Tracey Wilen-Daugenti, Cisco IBSG Higher Education Practice lead. For ASU, this model translated to activities that were critical to meeting the university's vision but were difficult or impractical to outsource (core) versus activities that were required by the university but did not differentiate the institution from other institutions (context).

"In higher education, we're not used to thinking like an enterprise," Sannier says. "For example, we knew we had a good network, but in today's university environment if you don't have a great network, it will hurt you. But if you do have a great network, you can't tout yourself for it because it's expected, very much like an enterprise."

Sannier knew that ASU could neither delegate the network to a context activity nor differentiate itself in that way. He realized that while the ability to offer students and faculty the latest technology and advanced services was core, activities like networking, connectivity, and security were context. While still critically important, ASU needed to find a way to manage these activities without taking management talent away from focusing on applications such as one-to-one computing in the academic enterprise, a learning program that gives teachers 24-hour-a-day, 7-day-a-week access to a computers, software, digital content, etc. With Cisco as a key partner and trusted technology adviser, Sannier could achieve a top-performing campus network without draining his internal resources.

"As we were trying to look for lighthouses or touchstones to guide our strategy, we realized that we needed to turn to some of the companies that were already providing us with the best technologies we have," Sannier says. "And Cisco was perhaps one of the most fundamental companies for us."

University Partners Help IT Staff Focus on Core Activities

ASU knew that achieving its vision required a secure and comprehensive network, and began working with Cisco to understand how ASU could prepare for and use those technologies. By aligning its network strategy with Cisco's, Sannier was assured that every technology investment he made would fit ASU's overall strategy, whether it was networking and security today or telepresence[1] and videoconferencing in the classroom tomorrow.

"Security is always a huge issue, and it's common for IT people to think we know best how to ensure our data and provide network security," Sannier says. "But how can any university, even with a staff of 30 IT professionals, compare its capability to someone like Cisco who has massive resources and who does this every day?"

ASU also worked with Cisco and Qwest to deploy a converged voice, video, and data network for digital telephony. Cisco offered its capital leasing program to alleviate the capital expense, and Qwest deployed the Cisco converged network at ASU's downtown campus, integrating it with the existing network. Qwest charges ASU by the device port at a price that is less than if ASU had provisioned the network itself.

1. Telepresence refers to a set of technologies which allow a person to feel as if they were present, to give the appearance that they were present, or to have an effect, at a location other than their true location. www.wikipedia.com.

Sannier says that ASU can now transition "aggressively" to new technology without making significant investments in capital because of the alliance it has with its partner companies. And because the equipment is not owned by ASU, Cisco can help ASU make decisions to move to advanced technologies that operate on larger scales more quickly.

Another example of the transition to new technology is ASU's successful partnership with Apple Computer and iTunes U, which ASU uses to distribute academic content through podcasting. iTunes U is a free service provided by Apple that allows instructors, administrators, and affiliates to manage, distribute, and control access to educational audio and video content for students within a college or university using Apple's iTunes Store infrastructure.

Cisco recommended that following a hierarchical network model is essential for achieving the level of high availability, network reliability, and scalability required to support advanced applications like multimedia. (For more information, see "Design Implications of Rich Media (Podcasting) in a Campus Network" at www.cisco.com.

Sannier says it would have taken ASU 12 to 18 months to develop this technology on its own, and even if they had, they would have still been behind in terms of having a state-of-the-art solution. "We'd spend all our time catching up with no time in the classroom capturing material," Sannier explains.

"We select partners, such as Cisco and Apple, who have the vision and future roadmaps that will support that vision. They know where technology is going and they have far more experts than we do to help us recognize and implement the vision."

Adrian Sannier
University Technology Officer, Arizona State University

Business Results

Following Cisco's guidance to pursue Moore's model of core versus context and planning a next-generation network to support growth and future technology needs, ASU now has a strategy for accelerating strategic partnerships and achieving its goal of becoming the New American University.

Because of this ASU attained the following results:

- Increased growth: ASU is on track to achieve its goal of 40 percent growth.
- Record iTunes usage: With one of the largest and most successful iTunes U implementations to date, ASU is serving about 4,000 programs per week from its iTunes U service distributed over 25,000 to 30,000 individual user interactions.
- Increased podcast downloads: ASU projects that the number of podcast recordings will reach 12,800 in the third-quarter semester, 2007, as well as 512,000 track downloads.
- Expanded file storage/serving capacity: Based on projected usage estimates for approximately 400 courses (not including public programming), ASU now offers 33,000 Gigabytes of projected data transfer per semester.
- Reduced costs: The university will realize significant savings because ASU is able to distribute the noncore activities of file storage and file distribution to its partners.

Working with key innovators, the university has laid the foundation for staying on the leading edge of technology to achieve competitive differentiation.

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More Information

The Cisco Internet Business Solutions Group (IBSG), the global strategic consulting arm of Cisco, helps Global Fortune 500 companies and public organizations transform the way they do business—first by designing innovative business processes, and then by integrating advanced technologies into visionary roadmaps that improve customer experience and revenue growth.

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