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Controlling IT Costs: Ideas and Innovations at Work

by Rhonda Morin

The recession is over, but college and university IT divisions are progressing cautiously, still forging ahead with the newest trends, but at a slower pace.

Elias Eldayrie was ready for the recession that hit the country like a Mack truck in 2008.

The CIO and his colleagues at the University at Buffalo (UB) were two years into a **strategic plan** to consolidate common information technology (IT) services and develop service delivery tools and processes. So when the economy tanked and state funding started to dry up, instead of abandoning their plan, University officials adjusted their fundraising expectations and delayed some IT projects. So far, the strategic process, which is poised to overhaul major IT functions across the entire campus, as well as reconfigure the department structure, has been able to stay on track.

"This [the economy] will be a temporary set back," said Eldayrie, who is leading the charge for the technology department. The so-called **IT Transformation** is part of a larger vision for the University — UB 2020, which aims to boost enrollment and draw in top faculty.

UB has weathered the storm, said Eldayrie, because the staff manages priorities using project management tools and gets support from the top down. "When the budget challenges came about, we benefitted from the discipline we already had in the organization."

Shifting Timelines

Take, for example, a wireless project that is high on the priority list. The goal is to cover 100 percent of the campus. UB is about half way there. So far the student union, libraries, and most of the classrooms are connected to WiFi. Next are the residence halls. But because belts have been tightened, what IT had planned to complete in three years will now be completed in five. "Our priorities, for the most part, have not changed; our ability to execute them at the pace that we had initially planned on is being compromised right now," Eldayrie said.

The year 2010 will be about staying the course for UB. Eldayrie said his number one priority is to maintain the integrity of the ongoing IT projects. He will do that by stressing to the University community that the importance of the plan hasn't changed; but rather the timing has had to be tweaked to adhere to the economic climate.

He's steadfast in his determination to continue UB's IT plan. When it's said and done, all 422 technology workers will report directly to him instead of having employees assigned to various other divisions across campus. Currently, UB has a central IT office that includes roughly 51 percent of the full-time technology employees on site.

Eldayrie believes the consolidation of technology, which currently spends \$40M annually and represents 4 percent of a \$1B University budget, will increase efficiency, satisfy more customers, and, as a result, attract more quality students and faculty to the school.

Communication Is Key

The process of merging divisions has been methodical and steeped in communication. After querying other institutions around the nation about best practices, Eldayrie opened up multiple communication channels with the University community to gather feedback and ideas. But the most important piece, he admitted, is to get buy in.

"People had concerns, but they had venues and opportunities to share those concerns and... also to participate in the solution," he said. "[We weren't] just telling them what we are doing, but also asking them and making them part of the process."

He runs town-hall style meetings, meets regularly with deans and vice presidents to address concerns, and is even drafting a "memorandum of understanding," so each department knows what services they will be getting and what to do if IT doesn't follow through with its promises.

The open process has put people at ease.

"People have been extremely cooperative and collaborative in nature throughout the process," he said. "This has enabled us to tackle the difficult issues later on and it has helped us build trust in the

organization, build credibility, and position us to address some of the most difficult issues.”

Start With the Obvious

During the planning process, Eldayrie and his team decided to start with the obvious; consolidate infrastructure and services that were duplicated. They targeted areas such as file storage, e-mail and telephone systems, databases, and platforms.

UB had 24 e-mail systems and 70 phone systems. The phone systems alone had an annual \$3.3M price tag. “We only need one [phone system] that works,” he said. So they switched to Voice over Internet Protocol (VoIP), an Internet-based telephony system. By the end of 2009, UB had converted 50 percent of its 5,000 old Centrex lines. Additionally, 6,200 of 10,000 targeted phones were switched to VoIP.

The combination of transitioning administrative and academic telephones to VoIP, as well as eliminating landlines in students’ residence hall rooms by this summer, is projected to save the University \$1.3M annually, said Eldayrie.

Moving voice, fax, and messaging systems to VoIP is a trend that many universities are embracing. Point Loma Nazarene University in San Diego increased its bandwidth for students at its remote campuses by upgrading to voice communications over an IP network.

“Just the fact that we are not calling each other long distance and we don’t have extensions anymore in those locations is saving us thousands per month,” said Sam Young, the chief information officer. He estimates they see \$5,000 to \$7,000 in monthly savings, and there are still more conversions scheduled.

However, Bob Lim, vice president for **Information Technology at University of Texas – Pan American in Edinburg**, cautions that immediate monetary savings is unlikely. “Initially [VoIP] is more expensive, but you’re utilizing your infrastructure to its fullest potential.”

Another downside is the consequence of power failures. If a building’s electricity goes out, the phones go down, because VoIP runs through a network.

This happened at the Point Loma Nazarene University campus for the first time in 10 years this past December. San Diego had a storm that knocked out power for eight hours for 50,000 households and the University grounds. The campus went for hours without phone service.

Gmail Saves Time

In addition to changes in telephone service, outsourcing e-mail has become more common.

University at Buffalo partnered with Google last year to offer incoming students Webmail accounts. In 2010, all students will transfer to Google’s Gmail platform. The young adults, said Eldayrie, prefer Gmail to the University’s system because they get seven gigabytes of e-mail space — much more than UB could offer.

Similarly, last year **Point Loma Nazarene University converted all of its students to Gmail**. Young said the upshot is that students get more space and functionality, while he gains a quarter of a person’s time.

“It wasn’t a cost saving, as much as a time savings,” Young said, noting that one of his employees who used to spend time working on the e-mail system is now able to put time into other projects. “I didn’t save any money, but I gained efficiency.”

Another way the University at Buffalo has reduced IT spending has been to partner with the PC supplier Dell, Inc., which provides the campus with standardized equipment, pre-loaded University-specific software, and cutting-edge services as a preferred vendor. More than \$2M was saved in one year.

“Now we manage our organization holistically, so we can leverage economies of scale, instead of every unit going out and buying everything on their own,” Eldayrie said.

Virtual Servers

More and more IT departments are also clamoring for virtual servers to cut costs and save energy. These smaller units replace bulkier, energy-greedy equipment that often sits idle in campus data centers. Multiple virtual servers can co-exist on the same computer, instead of having a separate computer for each server. It’s comparable to a CD player that can house several CDs at once.

Aside from the savings of buying and maintaining fewer servers, intellectual data is safer, according to Point Loma Nazarene University’s Young.

“Now all my data is stored in my servers, so there is nothing to steal or take care of if someone breaks into a room,” said Young.

UB is in the process of transforming many of its 733 servers and expects to save a half a million dollars annually.

Similarly, the University of Texas – Pan American (UTPA) started buying virtual servers in 2005 and has continued to invest in them while decreasing hardware server purchases. Four years ago UTPA had 108 hardware servers, and four virtual servers. By 2009, they were up to 15 virtual servers and 132 hardware servers.

Lim, who oversees a \$14M IT budget, said he's saving money by buying less hardware. "We are utilizing what we have, and making it run more effectively and efficiently."

The old way, said Lim, was to purchase one piece of software for each piece of hardware. But that often resulted in large inventories of things like computer monitors and boxes, lots of unused disk space, and the insatiable need to keep software applications current.

Today, UTPA has 156 application instances sitting on 15 servers. "It was 1:1; now it's one to many," meaning that it was once the norm to have one application to one server, but now there are multiple applications that interact with one server, said Lim.

However, there are downsides to server virtualization, said Young. Virtual machine sprawl is one. Growth can be fast and easy since it requires only a copy of the master image to be applied to a new machine. But be aware that the number of servers could quickly outpace the administrative coverage if employees do not stay on top of new techniques.

Additionally, according to Young, the basics of backing up systems still apply. "If you don't have a redundant environment, virtualization could magnify the impact of a physical hardware failure."

Despite the fact that the credit crisis in America is abating and the recession is officially over, weakened revenue streams continue to test universities. IT professionals are finding that the business processes they had in place and their predilection to use innovative solutions to save money and be more efficient are carrying them through these lean times. It's simply about good fiscal management; something they claim to already do.

"You can implement all the technology you want, but you also have to improve your business processes, and if you don't, you're not going to save any money," said Lim.

Rhonda Morin is a writer based in Oregon. She's the former editor-in-chief of Oregon Health News, a public policy publication. She has also served as an editor for Thomas Magazine, and associate editor for a national computer trade publication. Rhonda can be contacted at 503/912-1975 or blueink195@gmail.com.

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