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verizon

SIMPLIFYING NETWORK MANAGEMENT

When faced with research complexity, Ohio State University simply went wireless

The Center for Human Resource Research (CHRR) at Ohio State University always has been ahead of the technological curve. In the late 1980s, the organization pioneered the Computer-Assisted Personal Interviewing (CAPI) system. In 2003, it became one of OSU's earliest adopters of Voice over the Internet Protocol (VoIP).

Naturally, then, when it was time to overhaul CHRR's complex network and the way roughly 60 CHRR staffers communicated over that network, managers looked to innovate. They found the answer in Mobile Broadband from America's largest high-speed wireless network.

THE CHALLENGES

To some extent, CHRR's innovative interviewing practices made it inevitable that they would have to move toward a mobile broadband solution.

While the CAPI system helped CHRR affiliates conduct interviews for individual studies, the software became too bulky to use with limited bandwidth over unreliable remote connections. What's more, since interviewers all subscribed to different broadband vendors, managing, synchronizing and updating the system on individual computers became a logistical nightmare.

Then there was the inertia problem. Because so many members of CHRR's field staff were averse to changing systems, for years the Center did not want to push them. So instead of asking staffers to standardize on one broadband provider, CHRR continued to reimburse them for their individual monthly broadband bills. In lieu of standardizing training, CHRR officials trained interviewers on their own respective systems.

Over time, this strategy became cumbersome—not to mention expensive. According to Randall Olsen, director of the CHRR and a professor of economics at OSU, there had to be a better way.

"In the research world, our budgets are limited so we always look at things really simply [and ask]: 'What's the least costly way of achieving this particular goal?'" he noted. The core challenge, as he saw it, was to find a way to "manage an environment on all these notebooks all across the country."

THE SOLUTION

CHRR found a reliable solution to all of these problems with mobile broadband from Verizon Wireless.

For starters, the network delivered broad and reliable internet access to interviewers in the field. What's more, after purchasing new notebooks with Verizon Wireless Mobile Broadband Built-In, CHRR officials found they could manage team members' notebooks en masse, rather than individually. Finally, CHRR officials realized they could have the wireless service on each notebook activated only when necessary, so the Center wouldn't be paying for service its interviewers weren't using.

THE RESULTS

So far, results of the new solution have been astounding.

On a macro level, the technology has improved mobile connectivity, created network uniformity, simplified notebook management and administration, reduced technical support calls and bolstered field-staff training. On a more microscopic level, the new technology also has helped CHRR cut back on a ton of expenditures; on a typical study, the Center now saves between $100,000 and $200,000 in administrative and management costs alone.

With its mobile broadband solution, Ohio State human resources now saves on a typical HR study between $100,000 and $200,000 in administrative and management costs alone.

"For us, this is a significant amount of money," said Olsen. "Those are all dollars we can funnel into doing better science."

CHRR also has appreciated improved levels of service. Under the current arrangement, the Center receives simple online account management, secure data transmission, world-class technical support, highly responsive customer support and discounts that increase as the department grows.

The bottom line: In higher education, mobile broadband is worth the investment. For more information about Verizon Wireless solutions in higher education, **visit www.vzw.com**.

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A Green Light to Lead

CIOs must spearhead the move to sustainable campuses, for the sake of their institutions and their own jobs.

Wayne Brown, the founder of the Center for Higher Education Chief Information Officer Studies, regularly surveys campus technology leaders on trends that impact IT jobs. In a recent interview, he told *CT* that higher ed leaders—including CIOs themselves—currently view the CIO role as *foundational* rather than strategic. In other words, everyone expects the CIO to focus on putting computers on desks, not to participate in the discussion about why the computers are there in the first place. In Brown's view, such an attitude puts CIOs on the fast track to seeing their jobs outsourced.

One key foundational role that is getting increasingly outsourced is data management, which has been, by default, an IT manager's primary job. Therefore, as more data and systems move to the cloud, more and more CIOs are left to rethink what it is that defines the work they do.

Which brings me to the focus of this issue of *CT*: the greening of higher ed IT. One of the compelling reasons why campuses are moving into the cloud is to lower their own *carbon* footprint. But the move to the cloud is changing not only the IT carbon footprint, but the IT *leader's* footprint as well. And it presents an opportunity to extend that footprint beyond IT.

To me, one clear way for CIOs to stake a claim to be part of the strategic leadership is for them to lead the charge in the greening of the American campus. Right now, IT departments are clearly doing a good job of lowering their own footprint through the cloud, virtualization, remote management systems, and so forth. But they seem less involved in larger campus sustainability initiatives, which often find their home in places such as facilities and transportation. It's a surprise to me how often we learn that facilities and IT don't talk to each other, or that an initiative to encourage fewer cars on campus is done without consulting IT. These are missed strategic opportunities.

Universities and colleges have no choice but to find ways to operate more sustainably—economically and ecologically.

Universities and colleges have no choice but to find ways to operate more sustainably—economically and ecologically. Information technology should clearly be at the heart of this effort. IT can help institutions assess where they are leaking energy and money; provide students and staff ways to monitor their energy use; collaborate with facilities to create really smart buildings; and work with academic planners to grow world-class online learning opportunities that will save energy and engage learners. The list goes on.

To happily twist the words of Gordon Gekko: Green is good. For the planet. For your institution. For your job.

E-mail me your thoughts on this or any other topic at the address below. **CT**

—Therese Mageau, Editorial Director
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APR 12 - 14
School & College Building Expo
scbexpo.com
Chicago

APR 17 - 20
National Association of Campus Card Users
2011 Annual Conference
naccu.org/2011
Baltimore

May

MAY 1 - 4
United States Distance Learning Association
2011 USDLA 5th Annual Conference
usdla.org/2011_national_conference
St. Louis

MAY 3 - 12
The SANS Institute
SANS Security West 2011
sans.org/security-west-2011
San Diego

MAY 8 - 12
Interop Las Vegas
interop.com/lasvegas
Las Vegas

MAY 12
Campus Technology Virtual Conference
campustechnology.com/virtual
Online

MAY 16 - 17
Educause
Enterprise Information and Technology Conference 2011
net.educause.edu/enterpriseconference
Chicago

MAY 16 - 19
IMS Global Learning Consortium
Learning Impact 2011
imsglobal.org/learningimpact2011
Long Beach, CA

MAY 22 - 24
Software & Information Industry Association
Ed Tech Industry Summit
siia.net/etis/2011
San Francisco

June

JUN 11 - 17
InfoComm 2011
infocommshow.org
Orlando, FL

JUN 12 - 15
League for Innovation in the Community College
Learning College Summit 2011
league.org/ls2011
Phoenix

JUN 15 - 18
New Media Consortium
2011 NMC Summer Conference
nmc.org/2011-summer-conference
Madison, WI

JUN 23 - 28
American Library Association
ALA 2011 Annual Conference
alaannual.org
New Orleans

JUN 27 - JUL 1
Association for the Advancement of Computing in Education
ED-MEDIA 2011 World Conference on Educational Multimedia, Hypermedia, and Telecommunications
aace.org/conf/edmedia
Lisbon, Portugal

July

JUL 9 - 12
National Association of College and University Business Officers
NACUBO Annual Meeting
www.nacuboannualmeeting.org
Tampa, FL

JUL 12 - 15
Blackboard
BbWorld 2011
bbworld.com
Las Vegas

JUL 15 - 24
The SANS Institute
SANSFIRE 2011
sans.org/info/71628
Washington, DC

JUL 16 - 18
The Association of Higher Education Facilities Officers
APPA 2011
appa.org/training/appa2011/index.cfm
Atlanta

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>> To submit your event:
Send an e-mail to Rhea Kelly (rkelly@1105media.com)

CT Online

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Viewpoint

The Student Portfolio Is the New Book
As the electronic portfolio becomes a more critical element in teaching and learning at higher education institutions, as well as a key tool for digital knowledge generation, a new field of scholarship is emerging around the study of e-portfolio practice.

Evidence of Learning Online: Assessment Beyond the Paper
Learning designer Judith Boettcher examines online assessment strategies beyond the traditional end-of-term paper.

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Features

Is Ed Tech Accessible Enough?
Technology opens doors for college students and teachers, but it's not always adequate for non-traditional learners, despite meeting existing accessibility standards.

Rebuilding Campus IT Systems With ERP
The **University of South Carolina** has embarked on an ambitious ERP project that will bring the institution's IT infrastructure out of the dark ages.

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WEBINARS

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Securely Manage Student and Faculty iPads at the Point of Learning
Experts provide best practices for managing and securing iPads on your campus, plus tips for creating an efficient IT support system that won't break your budget.

The Future of Testing: How Two Institutions Have Embraced Next-Generation Testing Technology
IT leaders offer their blueprint for creating a secure, fair, and convenient online exam environment that makes the process of test-taking easier for students and faculty.

Is Your Portal Keeping up With the Millennial Student?
Meeting the needs of today's forward-thinking millennial student means creating portals that offer a personalized experience with 24/7 self-service. Find out how.

Wireless LAN Architecture: Keys to WLAN Success in Education
Learn about key alternatives in today's WLAN architecture, and how architectural choices can affect overall performance, reliability, availability, management, and total cost of ownership.

Living in Mobile World: A Student Perspective on Being on a Mobile Campus
Gain real-world student insight on how to take your campus mobile and enhance the education experience in and out of the classroom.

NEED TO KNOW

Virtualizing the Campus Data Center
Reducing servers in the data center through virtualization saved so much money for **Loyola University Chicago** that the move paid for itself almost before the project was complete. And at **Saint Xavier University** (IL), annual virtualization savings from energy cuts and less hardware are estimated at some $7,500 a year. Read more at *campustechnology.com/articles/2011/03/03/virtualizing-the-campus-data-center.aspx.*

In Box

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Newsletters

Campus Technology Insider (twice monthly) showcases the best of the *CT* print publication.

Web 2.0 (twice monthly) covers teaching and learning in the new web world.

News Update (weekly) provides breaking stories in higher ed IT.

IT Trends (weekly) is loaded with news and resources for the IT professional on campus.

SmartClassroom (weekly) includes news, resources, and peer viewpoints on implementing a next-gen classroom.

C-Level View (twice monthly) opens a forum for technology discussions among top-level campus execs.

Subscribe now at *campustechnology.com/newsletters.*

A/V Focus

Connecting Smart Classrooms
A recent trend in A/V has been migrating smart classroom technologies onto the network. Read more at *campustechnology.com/articles/2011/03/02/connecting-smart-classrooms.aspx*.

Campus+Industry

TECHNOLOGY HAPPENINGS IN HIGHER EDUCATION

NEWS

LMS MIGRATION. In an effort to address a growing demand for online courses for its 800 students, **Emmanuel College** (GA) is transitioning from a homegrown learning management system to an LMS from Edvance360. The college chose Edvance360 LMS-SN for its course-management features and social-learning functionality, which it will use to facilitate relationships with prospective students and alumni. Other features include online testing, an online gradebook, social networking tools, and a customizable dashboard.

SPEEDY ALERTS. Six higher education institutions across the country, including the **University of Southern California** and **Providence College** (RI), are testing the RavenAlert emergency alert system from IntelliGuard Systems. The product promises to deliver simultaneous messages in less than 20 seconds and eliminate the bottleneck that occurs when a huge volume of alerts goes out by traditional channels such as texting, phone messages, and e-mails. The approach relies on a private wireless messaging network that delivers notifications via a line of devices, including wall units and keychain devices.

TECH AND STUDENT ENGAGEMENT. A recent survey jointly conducted by education solutions provider Cengage Learning and Eduventures, a higher education research firm, concluded that students are entering college with too few essential skills and too many external demands on their time to make the most of the experience. But, according to the 751 college students and 201 instructors surveyed, the use of digital tools can help overcome these issues. Fifty-eight percent of surveyed instructors believe that technology in courses positively impacts student engagement, and an equal percentage prefer to teach courses that use a great deal of technology. Read more at *campustechnology.com/articles/2011/02/16/survey-shows-college-students-overwhelmed-underprepared.aspx*.

PSYCHOLOGY IN 3D. A new psychology research laboratory at **New York City College of Technology** features an immersive virtual reality system that integrates with traditional psychophysiology, behavioral, and cognitive research equipment. Users don a high-resolution head-mounted display to enter a 3D stereoscopic virtual world where they are free to walk and explore naturally. An automatic motion-tracking system, the PPT X2 by WorldViz, synchronizes movement in the real world with movement in the virtual world, while components from MindWare Technologies allow for audio and video monitoring, two-way communications between experimenter and subjects, and two-camera color video recording.

NEW YORK CITY College of Technology is integrating virtual reality into the psychology curriculum.

FREE CMS. Blackboard has launched a free, hosted course management service aimed at wooing individual instructors who lack access to automated course management or who are disaffected by the systems in use at their schools. The system, dubbed CourseSites, is an online platform that enables faculty members to set up web-based class sites where they can post course materials, communicate with students, encourage collaboration, monitor performance, and manage grades—without licensing or hosting fees. Course contents are transferable to a full Blackboard installation.

SYLLABUS MANAGEMENT. **Webster University**, which has 22,000 students around the world, has licensed Intellidemia's Concourse syllabus management system to ensure consistency among its 100 campuses. The application provides course management through a digital syllabus stored online. Program features include a syllabus editor that allows faculty members to add deliverables, evaluation criteria, policies, meeting times, office hours, information about books used in class, and links to course materials. Initially considered specifically for the School of Business and Technology, the program has been made available to all faculty. Read more at *campustechnology.com/articles/2011/02/10/webster-u-organizes-classes-with-intellidemias-syllabus-program.aspx*.

STREAMLINING PAYMENTS. **Schreiner University** (TX) is adopting Higher One's CashNet ePayment and SmartPay modules to streamline payments on campus and allow online payment of tuition fees. The system provides FERPA-compliant access to account balance information for parents and other third parties, including installment payments, recurring payments, tuition, and miscellaneous charges. **CT**

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Computer Labs Report to the Holodeck

Virtualization can transport the benefits of even specialized computer labs to students anywhere, alleviating crowding and saving money.

Corbis

IN MANY WAYS, SPECIALIZED computer labs are the black holes of IT organizations. Budgets, equipment, employees—even space itself—are sucked in. Given a choice, many IT shops would engage warp drive and escape their gravitational pull forever.

While Captain Kirk might have looked to Scotty for a fix to the problem, colleges and universities are increasingly relying on a solution that comes without the Aberdeen accent: virtualization.

It's not exactly the *Star Trek* transporter, but virtualization gives institutions the ability to deliver the benefits of a computer lab—even specialized labs for disciplines such as computer science and engineering—to students anywhere without the hassles or expense.

With demand for lab access increasing and budgets in a tailspin, more institutions are using software from vendors such as Citrix and VMware to reconfigure their servers and virtualize access to the applications in specialized computer labs. All the applications run on the campus' servers and can be accessed via a web browser from anywhere students can find an internet connection.

"We now can make the resources available wherever and whenever they're needed," says John Savage, chief technology officer at **Montgomery College** in Rockville, MD. Before moving to Montgomery College last year, Savage led a virtual computing lab project at **George Mason University** (VA), using open source software initially developed at **North Carolina State**.

His team at George Mason estimated that the yearly cost of maintaining a virtual lab is 27 percent of its physical counterpart, and a virtual lab consumes only 13 percent of the power. "We didn't even factor in the cost of the room itself," notes Savage, "and the cost of building additional classrooms is tremendous."

Even if campus lab space is not eliminated, Savage is convinced that it can become more flexible. "I don't need an arts lab that has only the art software and an engineering lab with only engineering software," he stresses. "With virtualization, a single physical space can be one type of lab in the morning and another in the afternoon. And I can buy thin clients for $300 that may last seven years, instead of PCs for $1,200 that will last three."

Freeing up Space

San Diego State University's College of Engineering launched a virtual lab pilot project in September 2010, in part to alleviate a space crunch. The college is growing by 5 to 7 percent per year and estimates it will soon need a building three times its current size to keep up with enrollment.

With computer labs forced to double as classroom space,

The cost of maintaining a virtual lab is 27 percent of its physical counterpart, and a virtual lab consumes only 13 percent of the power.

it is not unusual for lines of students to snake down hallways waiting for classes to end so students can use specialized software such as ArcGIS, ProEngineer, and AutoCAD.

SDSU Engineering is using Citrix software for its virtual computing lab, which students now can access from their own laptops and other mobile devices.

"So far, the virtual lab is extremely popular with students and is alleviating a huge space problem for the college," says Darrell Irwin, SDSU's resource manager.

Interestingly, SDSU had tried something similar with Citrix software almost 10 years ago, but abandoned the effort because the technology was slower and the licensing cost was higher. "Now the pricing on Citrix is significantly lower and the performance is much better," says Irwin.

Because of its earlier poor experience, the college decided to ramp up slowly this time. In fall 2010, the virtual lab was made accessible to 350 students in six classes. "We will use that as a model," Irwin says, "and by fall 2011 we expect to roll it out to all 2,200 students."

One early benefit is that students are accessing the software on mobile devices such as iPads and smartphones. "We are seeing new uses develop," notes Irwin. "This new mobility means students can share what they are doing with other students, or show up at a professor's office so the student and faculty member can look at something together."

Reducing IT's Footprint

By embracing virtualization, **Weber State University** in Ogden, UT, has been able to cut down on the number of open computer labs and the cost of supporting them, while giving students more flexibility in how they access the lab's software.

Launched in 2006 using Citrix software, WSU's virtual lab consists of three physical servers and six virtual servers running numerous software applications.

"Our campus is 100 percent wireless and almost all students have their own laptops," says Shelly Belflower, director of technology services at WSU. "We have decreased the number of open labs from eight to five. Those spaces that were labs have been converted back to classroom environments, and other departments have taken back responsibility for them, so that decreases our costs."

Like Montgomery College's Savage, Belflower is also saving money on equipment. "We have switched to purchasing thin clients such as Wyse boxes for our physical lab spaces," she explains. "Those cost $350 less and have a lifecycle two years longer than the desktop PCs we were purchasing."

Students in Health Administrative Services were among the first beneficiaries of the new virtual lab. Many of them are employed in healthcare settings and had to travel long distances after work to access the specialized software in WSU's physical labs. Now they can access that software from work or at home.

According to Belflower, there is still room to grow. "Some software that is older and runs in a Windows 95 environment won't run in this environment," she says, "but we are always finding new applications that we can run centrally. We just added Minitab statistical software and usage shot way up." Between 2009 and 2010, the number of applications available through the virtual lab increased from 54 to 62.

A License to Save

SITE LICENSES FOR SOFTWARE are expensive, but higher ed institutions have often found them to be the simplest option because it's so difficult to gauge usage accurately. However, that difficulty disappears in virtual labs equipped with tracking software, enabling IT organizations to buy individual licenses based on actual usage. As many IT directors can attest, the savings really add up.

Cost savings were certainly one of the motivations behind the creation of **Weber State University**'s (UT) virtual lab. According to Shelly Belflower, director of technology services, the school was reluctant to pay site licenses for software that was used in only a few courses. Instead, it bought individual licenses and limited the number of students who could use the software at any one time. "We have several applications that are metered and we have only 25 or 30 licenses," she explains.

With students able to access the software around the clock from their own PCs, even the limited number of licenses has proved sufficient.

A similar rationale prompted **George Mason University** (VA) to install scheduling software in its virtual lab, allowing students to reserve applications ahead of time. As a result, 40 students can share 10 licenses of an application such as ArcGIS because they reserve time slots to use the software.

By tracking student usage, says John Savage, CTO at George Mason, "you can easily make adjustments and buy more copies of what you need and less of what you don't."

As more universities create virtual labs, software vendors may be forced to rethink how they charge for software. If virtualization technology makes software available to more students, vendors may argue that they should be able to charge more.

The flip side of the argument is that schools have possibly been overpaying for their licenses for years, and that accurate tracking of usage creates a fairer financial arrangement between vendor and school.

An Open Source Option

At Montgomery College, Savage is working to repeat the success he had at George Mason with open source software. A pilot project underway will be rolled out college-wide by next fall, giving all students remote access to the software applications they need.

For institutions trying to determine whether it makes sense to use an open source solution, he counsels that it depends on the size of the project.

"The commercial products are all good and have their place," notes Savage. "If I were just doing a 25-seat lab, that would make sense to me. But with a large campus with tens of thousands of students, the licensing fees would probably run $100,000 per year."

What Savage likes most about the open source Virtual Computing Lab (VCL) software is how easy it is to add features. For instance, his team customized a reservation system to allow faculty and students to reserve access to a virtual computer furnished with the applications that they want. The user enters the online reservation system, selects the desired resources, and a suitable online computer is created.

"At a school like Montgomery College, with 60,000 students, if you are in a big class with software that is not completely site-licensed, it is nice to know you have a reservation for when the resource will be available to you," says Savage.

The VCL system also makes it easier to track software license usage, and Savage is working to match up faculty members to share licenses. For instance, if two faculty members use statistical software for different topics on different days, perhaps they don't have to buy 25 licenses each. "The more you can split those costs, the more you can leverage that funding," he says.

Getting buy-in from faculty has been surprisingly easy, too. "I don't have to ask or plead with faculty to use this once they see it," says Savage. "The first question is, 'How quickly can I get it?'" At all possible speed, Mr. Sulu. **CT**

***David Raths** is a Philadelphia-based freelance writer.*

Resources

Citrix: citrix.com

Virtual Computing Lab: vcl.ncsu.edu

VMware: vmware.com/virtualization

Wyse: wyse.com

6 Keys to Identity Management

These best practices will help make your IAM project a long-term success.

AN IDENTITY AND ACCESS MANAGEMENT (IAM) project on campus can feel like a Sisyphean task: Just when access rights have finally been sorted out, the semester ends—and users change roles, leave campus, or require new processes.

Indeed, a number of IAM challenges confront the higher ed sector:

- Mass onboarding (i.e., setting up access rights for new users) and deactivation at the beginning and end of each semester.
- Different classes of users: Students, faculty, staff, alumni, and visiting scholars often have diverse technical requirements and business processes.
- Widespread use of federation (infrastructure that allows an application to trust an assertion made in another administrative domain about the identity and access rights of a user) to enable cross-institution sign-on.
- Relatively small budgets compared with those found in the business world.
- Very large user populations. Alumni, in particular, can pose challenges because there are more of them every year.

On top of these issues, IT departments face a constantly changing technical landscape: integrating new applications and retiring old ones, complying with privacy rules, and dealing with vendor churn. For instance, Oracle's acquisition of Sun Microsystems will undoubtedly have far-reaching technical and financial implications for many institutions, and the impact of Novell's recent acquisition by Attachmate has yet to be felt.

Ikon Images/Andy Baker

The following best practices can help overcome such challenges and turn the seemingly endless IAM labor into an IT triumph.

1) Don't Think of IAM as a Project

Identity and access management is the glue between the business processes that govern user access and the systems that users need to sign into. And since both business processes and systems are always changing, the IAM system must constantly adapt.

For that reason, the most successful IAM initiatives are run as ongoing programs, with permanently assigned staff and budgets, rather than one-off implementation projects. This enables organizations to keep up with change and also to drive user adoption—which is key to getting a return on investment.

2) Deliver New Functionality Frequently

Avoid the big bang approach: Don't take too long to stand up a system, because needs change constantly. If you take a year or more to implement IAM, you may find that the business processes and integrated systems have changed by the time you finish. A good rule of thumb is to

deliver something meaningful every three to six months.

3) Measure Results

To justify an ongoing IAM program, it's important to measure user adoption and benefits. Identifying business drivers and the associated metrics can help calculate a return on investment. For a list of possible metrics and how they are measured, see "Metrics and Drivers for Evaluating IAM Projects" below.

4) Understand Your Users

Keep in mind that you have multiple user populations, each with distinct user lifecycles and business processes. For that reason, it makes sense to manage onboarding, deactivation, authentication, and access control for each population separately. There are many possible deliverables for each segment of users; for examples of IAM processes and the user populations they affect, see "IAM Processes Required by Users" above.

IAM PROCESSES REQUIRED BY USERS

	USER POPULATION			
Process	**Students**	**Faculty**	**Staff**	**Alumni**
Automated onboarding	●	●	●	●
Automated deactivation	●	●	●	●
Request-driven workflow	?	●	●	?
Enrollment of contact info	●	●	●	●
Enrollment of security questions	●	●	●	●
Self-service password reset	●	●	●	●
Password synchronization	●	●	●	●
Privileged ID management	?	●	●	

5) Integrate, Integrate, Integrate

It's vital for an IAM system to integrate with a variety of systems campuswide. Possible integrations include: directories, e-mail systems (internal or hosted), student records systems, administration/finance systems, and research systems.

This year, consider adding new integrations to the mix:

- Automatic provisioning of user e-mail accounts on hosted e-mail systems from vendors such as Google or Microsoft.
- Enabling students, especially in computer science and related disciplines, to provision and de-provision virtual machines on cloud providers such as Amazon EC2.

6) Leverage Student Labor

Higher education organizations often have low budgets—particularly in today's economic climate. Fortunately, they also have a plentiful supply of inexpensive labor for implementing IT systems: students!

Utilize student labor for such tasks as business analysis, integration work, and implementation of business logic—not just initially, but on an ongoing basis. Students can help deploy a first-phase system, evolve the system's capabilities, and then transfer their knowledge to the next generation of student workers, supplying some of the work to make your IAM initiative a long-term success. **CT**

METRICS AND DRIVERS FOR EVALUATING IAM PROJECTS

Driver	Metric	Measured as
C	Help desk FTEs	Number of full-time equivalent staff required to support peak password-reset call volumes
C, P	Setup time	Number of IT work hours required to set up a new user
S	Deactivation time	Lag time between notification and deactivation of a departed user
C, S	Deactivation effort	Number of IT work hours required to terminate access for a departed user
S	Weak passwords	Number of systems that do not enforce length, character set, history, and dictionary rules
S	Standard caller authentication	Number of questions asked to authenticate help desk callers
C, S	Orphan accounts	Per system: number of user objects minus the number of legitimate users
C, S	Dormant accounts	Per system: number of accounts inactive for a certain number of days
C, S	Unassociated systems	Number of systems whose unique user identifiers are not mapped to a campuswide identifier
S	Admin password change interval	Per system: frequency of change of administrator passwords (in days)
C, P	Complexity of identity-change request	Number of different forms used to request changes to user identity data (name, phone, address, department, location, etc.)
C, P	Passwords per user	Average number of passwords a user must remember for institution-owned systems
C, P	Login prompts per user per day	Average number of times per day that a user must sign into an institution-owned system

Key: C = Cost reduction P = User productivity S = Security

Idan Shoham *is founder and CTO of Hitachi ID Systems.*

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Green-Eyed Monitors

Old-school monitors devour electricity at an alarming rate. With prices falling on new LED-backlit displays, *CT* profiles 15 models that lay off the juice.

REMEMBER WHEN COMPACT fluorescent lightbulbs first hit the market? Despite the promise of significant energy savings, few people could stomach the purchase price of nearly $20 each. But today, these electricity-sipping bulbs cost as little as $1.50 with rebates, and the incandescent bulb has been consigned to darkness.

Much the same thing is now happening with computer displays, which have always been big energy consumers. Two years ago, schools probably wouldn't have given serious consideration to the new energy-efficient monitors coming onto the market. Despite the promise of energy savings and the use of fewer hazardous materials, the new monitors, backlit by light-emitting diodes (LEDs), carried price tags about 35 percent higher than their traditional counterparts. But falling prices, coupled with greater customer focus on power savings and environmental footprints, have transformed these monitors from novelties into worthy contenders. In a survey of the market, *CT* found that schools can now choose from a range of energy-efficient LED-backlit monitors for less than $1,000—and, in some cases, for less than $200.

Apple LED Cinema Display

All the acronyms used with monitors can blur into a confusing alphabet soup. One acronym that isn't going away is LCD, which stands for liquid crystal display. Until fairly recently, the majority of LCDs were backlit with cold cathode fluorescent lamps (CCFLs), which contain mercury and consume a lot of power. The power savings of LED backlighting lead to lower carbon emissions, which are an increasingly important consideration for education institutions that have pledged themselves to carbon neutrality. Some monitors even include power-management features and carbon footprint meters. And because LED-backlit displays contain few or no environmentally hazardous substances, such as mercury, arsenic, and lead, they are easier to recycle than traditional monitors.

Displays with LED-backlit technology also offer advantages beyond the environmental. Because they use smaller, solid-state components, the monitors can be thinner and lighter than CCFL monitors. Also, unlike most other displays, LED-backlit displays don't take time to warm up: They turn on instantly and are uniformly bright.

In trying to decide which monitors best meet your school's needs, you need to cut through some of the marketing hype around "green" features. One option is to look for products that earn a Gold rating from EPEAT (Electronic Product Environmental Assessment Tool), which assesses electronics products for their responsible manufacturing, energy efficiency, and recyclability. EPEAT (*epeat.net*) is a procurement tool designed to help purchasers evaluate, compare, and select electronic products based on their environmental attributes. A product that earns EPEAT Gold has met all 23 of the organization's required criteria, plus at least 75 percent of the optional criteria.

On the next page, we highlight LED-backlit monitors that are not only environmentally friendly, but are also standouts in ergonomics, high-end performance, and price. (Note: All prices are the manufacturer's suggested retail price; the reseller price may be up to 50 percent lower. The lists are based on manufacturers' specifications compiled by GovConnection.com and from the manufacturers themselves; *CT* has not done any product testing to verify manufacturers' claims.) For a complete listing of all of the LED-backlit monitors in our survey, sortable by key features, go to *campustechnology.com/0411_monitors*.

Photos courtesy of Apple, NEC, Samsung

Ergonomic Stars

In many offices and classrooms, people take turns using the same workstations. For that reason, ergonomic flexibility can be a key consideration when choosing monitors. Most of the new generation of LED-backlit monitors can be tilted, but only a few are height-adjustable. The monitors listed here can do it all: tilt, swivel, and be adjusted for height.

NAME	LIST PRICE	WEIGHT	MAXIMUM RESOLUTION	NOTABLE FEATURES
Acer 24" B243HL LCD Monitor	$271	16.7 lbs.	1,920 x 1,080	5ms response time; 160-degree viewing angle (horizontal/vertical); Energy Star compliant
Asus 21.5" VW228TLB Widescreen LED LCD Monitor	$170.13	12.3 lbs.	1,920 x 1,080	DVI, VGA interface connections; EPEAT Gold
HP 20" LA2006x Widescreen LED LCD Monitor	$253.44	12.1 lbs.	1,600 x 900	170-degree wide-viewing angle; EPEAT Gold
NEC 19" EA192M-BK LED LCD Monitor 	$230.63	12.1 lbs.	1,280 x 1,024	Carbon footprint meter; EPEAT Gold
ViewSonic 24" VG2436wm-LED Widescreen LCD Monitor	$279.38	11.9 lbs.	1,920 x 1,080	Hidden stereo speakers; Energy Star compliant

High-End Options

Most LED-backlit monitors cost less than $300, but if you want upgraded features, such as a bigger screen, higher resolution, or a built-in camera and speakers, then you're going to pay more. Here's what is available at the higher end of the price spectrum.

NAME	LIST PRICE	MAXIMUM RESOLUTION	WEIGHT	INTERFACE CONNECTIONS	NOTABLE FEATURES
Apple 27" LED Cinema Display	$979	2,560 x 1,440	23.5 lbs.	DisplayPort	Built-in iSight camera, microphone
Lenovo ThinkVision 24" L2461x Widescreen LCD Monitor	$629	1,920 x 1,080	17.9 lbs.	VGA, HDMI	Built-in webcam, microphone and speakers; 120Hz MEMC (Motion Estimation, Motion Compensation) technology
HP 23" LA2306X Widescreen LED LCD Monitor	$389.01	1,920 x 1,080	15 lbs.	VGA, DVI, DisplayPort	Built-in two-port USB hub; VESA compatibility for mounting flexibility
Samsung 24" FX2490HD Widescreen HDTV LED Monitor 	$369.95	1,920 x 1,080	11.69 lbs.	DVI, VGA, HDMI	Picture-in-picture capability; built-in digital TV tuner
Asus 27" VK278Q Full HD Widescreen LED LCD Monitor	$341.63	1,920 x 1,080	14.3 lbs.	128 MB	DVI, VGA, DisplayPort connections; built-in webcam; 2ms response time

Options for Less Than $200

If cost is a key consideration, you can choose among several entry-level LED-backlit monitors for less than $200. They still deliver on the environmental front, although some may have lower screen resolutions and fewer bells and whistles than models intended for high-end graphics use.

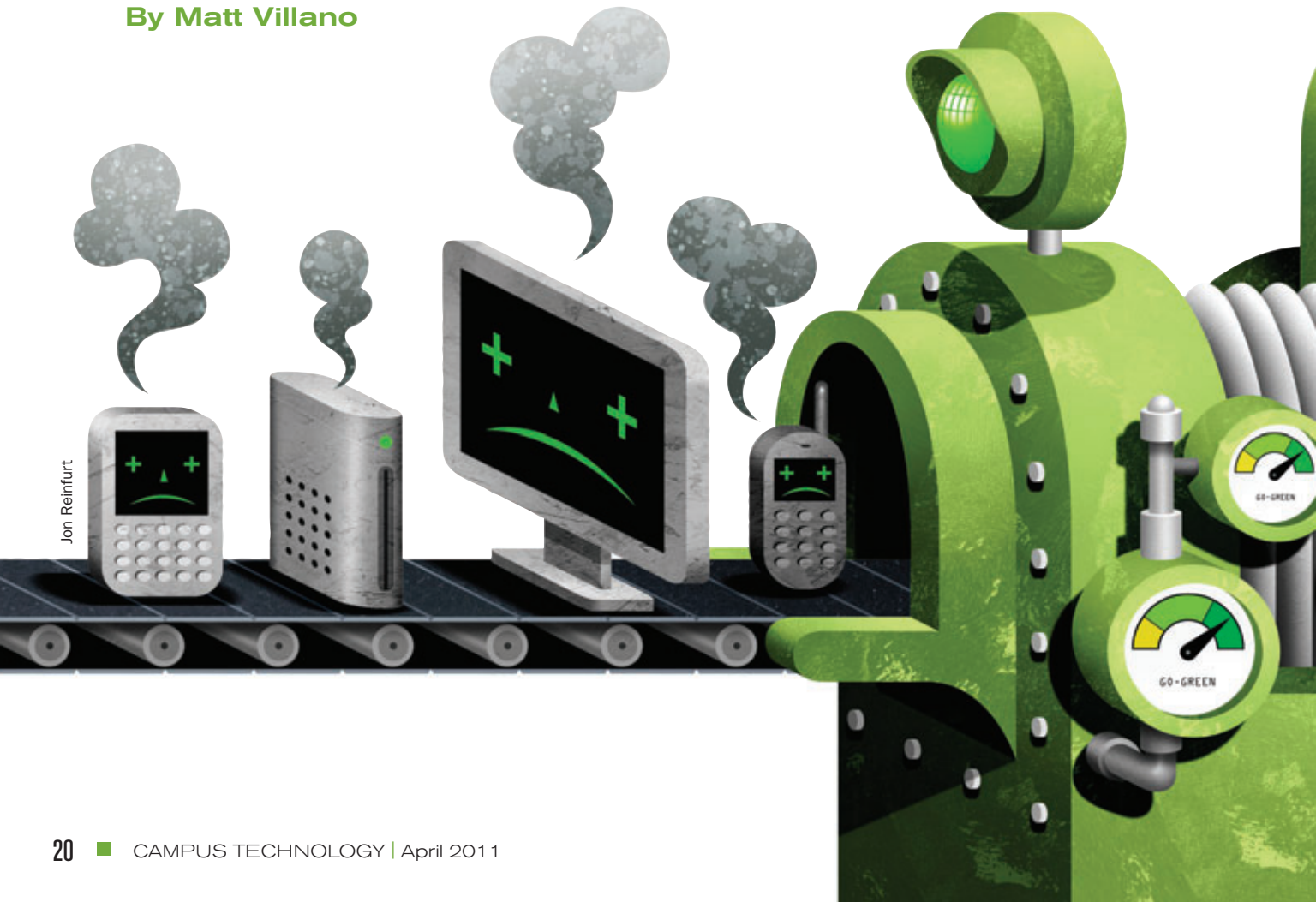
NAME	LIST PRICE	NOTABLE FEATURES	MAXIMUM RESOLUTION	ERGONOMICS	INTERFACE CONNECTIONS
ViewSonic 19" VA1931wa-LED Widescreen LED Monitor	$107.91	Energy Star compliant; automatic aspect ratio adjustment	1,366 x 768	Tilt	DVI, VGA
Asus 19" Energy Efficient LED Monitor	$111.77	Energy Star compliant; VESA wall mount; cable manager	1,440 x 900	Tilt	DVI
Acer 20" S202HL bd Ultra Slim Widescreen LED Monitor	$169.95	Energy Star compliant; high-contrast ratio; rapid response time	1,600 x 900	Tilt	DVI, VGA
Samsung 22" EX2220X Widescreen Monitor 	$179.95	EPEAT Gold; reduces energy consumption by auto-adjusting brightness	1,920 x 1,080	Tilt	DVI
NEC 20" E201W-BK Widescreen LED LCD Monitor	$197.54	Energy Star compliant; 4-way ergonomic stand; carbon footprint meter	1,600 x 900	Pivot, tilt	DVI, VGA, DisplayPort

***David Raths**, a freelance writer based in Philadelphia, compiled this survey.*

lean green machines

Across the world of higher education, IT departments are embracing sustainability to save money—and the planet. We profile eight institutions that have shifted their efforts into high gear.

By Matt Villano



Jon Reinfurt

HOW FAR WE HAVE COME. Not long ago, sustainability was little more than a buzzword among people who grow their own vegetables and sing John Lennon songs. Today, it's on the lips of everyone from the president to captains of industry, not only because it makes sense for the planet, but for economic reasons, too. Colleges and universities have been among the leaders nationwide in adopting green initiatives, partly due to their demographics, but also because they are facing their own budget pressures. Virtualization has become the poster child of many schools' efforts, because it provides significant bang for the buck. However, more and more higher ed IT departments are finding other, innovative ways to cut back on energy consumption and waste—and to reduce costs. With this in mind, we've chosen eight of our favorite green practices in higher education today. The list provides a diverse sampling by geography and project type—but it's by no means comprehensive. If you've got a project we should know about, please fill us in.

1) Let the Sun Shine in

INSTITUTION:
East Los Angeles College
GREEN MACHINE: Solar panels generate campus electricity

IT and facilities management leaders from the **Los Angeles Community College District** collaborated in 2010 to engineer a 1.2-megawatt installation of photovoltaic (solar) panels at the 20,000-student East LA campus. The array comprises nearly 6,000 individual panels mounted on carport structures. It produces 1.67 million kilowatt-hours of electricity per year, which is enough to power 17 percent of the college's energy needs. Larry Eisenberg, executive director for facilities, planning, and development, boasts that the system offsets production of 1,160 tons of carbon dioxide annually—the equivalent of removing 320 cars from the road.

The push toward renewable energy ties into a larger strategy to cut energy use by 20 percent districtwide. "The goal is to reduce energy consumption across the board," notes Eisenberg, adding that the changes should ultimately save the district more than $1 million in energy costs. Another part of the initiative includes installing software to put campus computers to sleep when they're not in use.

ONLINE EXCLUSIVE: Since 2002, the **Los Angeles Community College District** has spent more than $6 billion on modernizing and greening its colleges—one of the nation's largest green programs in history.
campustechnology.com/0411_laccd

2) Making Everything Shipshape

INSTITUTION:
Shippensburg University (PA)
GREEN MACHINE: Campaign teaches energy awareness

At this south-central Pennsylvania institution, green initiatives ranging from print management to server virtualization fall under the catchy slogan, "Environmental StewardSHIP." It's a phrase that leaders from the IT and facilities management departments tout to students and faculty members alike. Since the program launched in 2009, IT leaders have worked with the school newspaper on a series of articles about how students can cut back on energy consumption. Recently, they ran a promotion asking students to bring their computers to the Student Help Desk so IT technicians could adjust the power settings to make the machines consume less energy. Justin Sentz, director of web technical services, says this simple initiative alone resulted in a couple of thousand dollars in energy savings. "The whole idea is to educate students and make them more aware," he says. "The more they hear about us, the more they'll change."

3) Giving up the Paper Route

INSTITUTION:
Creighton University (NE)
GREEN MACHINE: Paperless course-evaluation system

In 2010, Creighton University unveiled a homegrown online course-evaluation system that replaces traditional paper-based surveys. The system, which integrates with the institution's student information system from SunGard Higher Education, currently covers 800 courses. According to Brian Young, vice president for IT, the savings could amount to $40,000 per semester, the equivalent of about 3 million sheets of paper. Nevertheless, says Young, the effort was not about money. Digitizing the dreaded "Blue Surveys" emerged out of an overarching drive to reduce the school's carbon footprint.

"There's no question the system will bring good things in terms of efficiency and monetary savings," explains Young. "But really, we did all of this because we wanted to cut back on waste."

4) Monitoring the Vital Signs

INSTITUTION: University of Iowa
GREEN MACHINE: Automated monitoring of facilities systems

Created in January 2010, the UI Energy Control Center allows staffers to optimize production levels of steam, chilled water, and electricity, and to monitor performance of these systems across 82 buildings from one central location. The software, from Rockwell Automation, keeps tabs on more than 100,000 pressures, temperatures, and flows in real time. Zuhair Mased, the university's associate director of utilities and energy management, says the initiative was part of a

TOP 5 ENERGY-SAVING MEASURES*

#1 Buy Energy Star-qualifying devices

#2 Buy servers and other data center equipment employing newer, low-power/low-wattage processors

#3 Buy computers that employ newer, low-power/low-wattage processors

#4 Employ energy-efficient/load-shedding uninterruptible power supplies (UPS)

#5 Train employees to shut down/suspend their equipment when out of office for extended periods

*Among higher ed organizations that have achieved a 1 percent decrease in energy consumption as part of an energy-management program. Source: *CDW-G 2010 Energy Efficient IT Report*

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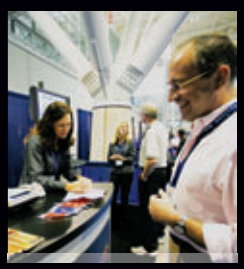

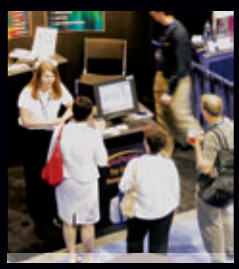


Featured Speakers

OPENING KEYNOTE

From Knowledgeable to Knowledge-able: New Learning Environments for New Media Environments

Michael Wesch, *Cultural Anthropologist, Researcher in Digital Ethnography, and Associate Professor, Kansas State University*

WEDNESDAY KEYNOTE

Making It Real: The Adoption of IT Innovation in Higher Education

Ellen D. Wagner, *Executive Director, WCET*

CLOSING KEYNOTE

The Fourth Decade of the 'IT Revolution': Continuing Challenges and Opportunities

Kenneth C. Green, *Founding Director, The Campus Computing Project*

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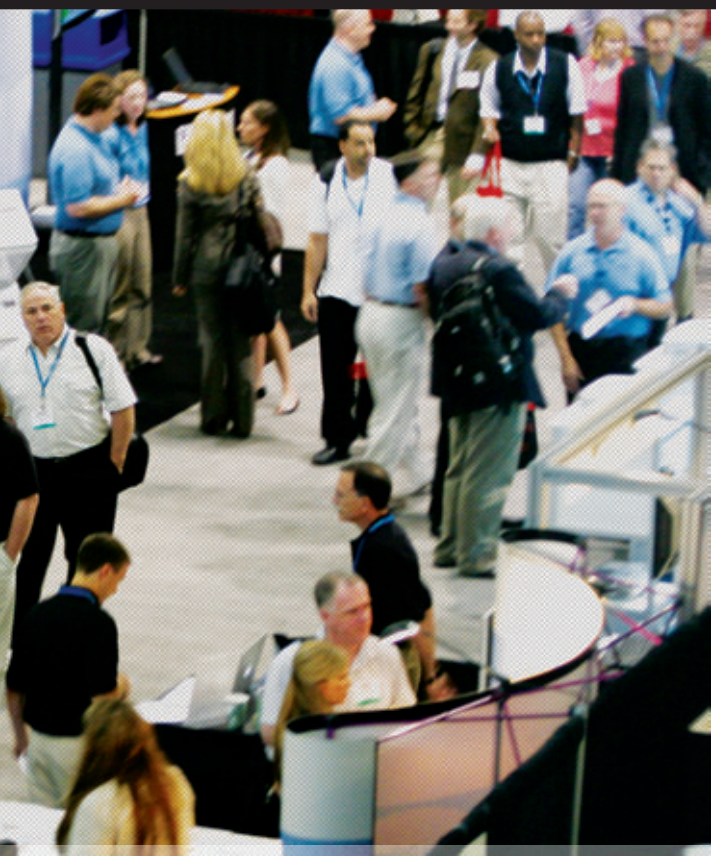

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Each session is a free ticketed event limited to the first 100 attendees to register online. To promote interactive discussions, one selection per attendee, please.

Tuesday, July 26, 2011 10:15 - 11:45 am
Alfred Spector, Vice President of Research and Special Initiatives Google

Wednesday, July 27, 2011 10:15 - 11:45 am
Cameron Evans, National and Chief Technology Officer Microsoft Corporation

Thursday, July 28, 2011 9:00 - 10:30 am
Bob Trikakis, Education Development Executive Apple

TRACK 1

DIGITAL CAMPUS AND IT INFRASTRUCTURE

T01	Digital Media Campuses: The Transition from Word Processing to Digital Media
T06	IT as a Service: Leveraging Private, Public and Hybrid Clouds
T11	Academic Video Management: Done the Open Way With Opencast Matterhorn
W16	CHANGE: Migrating from Legacy LMS to an Open-Source Moodle Platform
W21	One Stream to Rule Them All: Unifying Online Campus Video
W26	Head in the Cloud, Feet on the Ground: Modernizing Computer Lab Support
TH31	Learner Analytics via the Cloud: Sophisticated Statistics Made Easy
TH36	Securing Campus Network Access for an Improved User Experience

TRACK 2

INSTRUCTIONAL DESIGN AND LEARNING ENVIRONMENTS

T02	Pod Rooms: Faculty Friendly Classroom Technology
T07	Community of Practice in Online Education: Collaborative Curriculum
T08	Duking It Out: How Duke University Beat the Challenges of Lecture Capture for Its Students, Faculty and Administrators
T12	Academic Progress Portal: Catching Students Before They Fail
W17	Engaging Faculty: Observations from ACU's Mobile Learning Initiative
W22	Beyond Web 2.0: How Virtual Learning Environments Should Help Learners
W27	eAssessment: Using Electronic Portfolios for Curriculum Improvement
TH32	Building a Culture of Assessment Using Rubrics: A Web 2.0 Approach
TH37	IT Literacy in the Internet Era

TRACK 3

LEARNING APPLICATIONS AND TOOLS

T03	Navigating the Elusive World of Virtual Collaboration in the Classroom
T04	ePortfolios: Integrating People, Life and Learning
T13	Walking Ulysses: Collaborative and Mobile Mapping in the Humanities
T14	We All Have iPads—Now What?
W18	Teaching and Learning with Low-Cost and Low-Barrier Technologies
W23	Build Your Own eLibrary: Digital Faculty/Library Collaboration
W28	Using iPads to Produce and Publish Content in an Education Reporting Class
TH33	Emerging Technologies in Content Delivery: eBooks and eReader Devices
TH38	Using Popular Social Networking Tools In (and Out of) the Classroom
TH39	Welcome to Class. Please Take Out Your Cell Phones!

TRACK 4

LEADERSHIP, INNOVATION, AND STRATEGY

T05	The Four Pillars for Technology Decision Making
T09	The 21st-Century Campus: Students Tell It Like It Is
T10	Keeping Administration and Faculty Informed: Reports and Dashboards
T15	Leading Change: Course Redesign
W20	Finding Funding: Alternative Revenue Streams
W25	Value of Portfolio and Project Management in Tight Economic Times
W30	Trust, Verify and Communicate: Presidential Perspectives on the Campus Investment in Information Technology
THSE1	Project Rescue: Lessons on Leadership

INNOVATORS TRACK

CAMPUS TECHNOLOGY 2011 INNOVATORS AT WORK

Hear from recipients of 2011 Campus Technology Innovators awards about the programs and projects that take true initiative—and even out-and-out risks—to better serve their institutions through technology. Visionary university administrators, faculty and staff will share how their technology investments have taken teaching, learning, administration and operations to new heights.

CONFERENCE AT A GLANCE

TRACKS: WORKSHOPS

PRE-CONFERENCE WORKSHOPS

MONDAY
JULY 25, 2011

8:30 – 11:30 AM	**M01** 21st Century Education in the Cloud: New Opportunities to Support Instruction *John Kuglin, Retired, University of Montana*	**M02** Principles and Practices for Online Courses that Engage Learners *Judith V. Boettcher, Designing for Learning*
11:45 AM – 1:15 PM	*Luncheon Keynote*	
1:30 – 4:30 PM	**M06** Online Research Tools for Educators: Collaborate without Jet Lag! *Kathleen Covey, Penn State University*	**M07** M-learning on Speed Dial: How to Develop a Nimble Academic Mobile Learning Strategy for Your Campus *Alicia Russell, Victoria Wallace and Seth Merriam, Northeastern University*

BREAKOUT SESSIONS

TUESDAY
JULY 26, 2011

8:30 – 9:45 AM	*Opening Keynote* — **"From Knowledgeable to Knowledge-able: New Learning Environments for New Media Environments"** *Michael Wesch, Cultural Anthropologist, Researcher in Digital Ethnography, and Associate Professor, Kansas State University*	
10:00 – 11:00 AM	**T01** Digital Media Campuses: The Transition from Word Processing to Digital Media *Adam Smeets, Loyola University Chicago*	**T02** Pod Rooms: Faculty Friendly Classroom Technology *Stephanie Glick, Mount St. Mary's College*
11:15 AM – 12:15 PM	**T06** IT as a Service: Leveraging Private, Public, and Hybrid Clouds *Link Alander and Shah Ardalan, Lone Star College System*	**T07** Community of Practice in Online Education: Collaborative Curriculum *Darin Kapanjie, Fox School of Business, Temple University*
3:45 – 4:45 PM	**T11** Academic Video Management: Done the Open Way With Opencast Matterhorn *Bruce Sandhorst, University of Nebraska-Lincoln, Judy Stern, University of California, Berkeley, and Christopher Brooks, University of Saskatchewan*	**T12** Academic Progress Portal: Catching Students Before They Fail *Scott Helf, Western University of Health Sciences*

WEDNESDAY
JULY 27, 2011

8:30 – 9:45 AM	*CT11 Innovator Presentation and General Session Keynote* — **"Making It Real: The Adoption of IT Innovation in Higher Education"** *Ellen Wagner, Executive Director, WCET*	
10:00 – 11:00 AM	**W16** CHANGE: Migrating from Legacy LMS to an Open-Source Moodle Platform *Lou Pugliese, Moodlerooms, Inc.* *Panelists: Lorah Gough, Houston Community College System, and Mark Poore, Roanoke College*	**W17** Engaging Faculty: Observations from ACU's Mobile Learning Initiative *Scott Perkins and George Saltsman, Abilene Christian University*
11:15 AM – 12:15 PM	**W21** One Stream to Rule Them All: Unifying Online Campus Video *Jason LaMar and Joel Nelson, Columbus State Community College*	**W22** Beyond Web 2.0: How Virtual Learning Environments Should Help Learners *Jeff Borden, Pearson eCollege, Chaminade University, Hawaii*
3:45 – 4:45 PM	**W26** Head in the Cloud, Feet on the Ground: Modernizing Computer Lab Support *Cullen Jones, Naval Postgraduate School, Monterey*	**W27** eAssessment: Using Electronic Portfolios for Curriculum Improvement *Frederick Loomis and Michael Scheuermann Drexel University*

THURSDAY
JULY 28, 2011

8:30 – 9:30 AM	**TH31** Learner Analytics via the Cloud: Sophisticated Statistics Made Easy *Scott Helf, Western University of Health Sciences*	**TH32** Building a Culture of Assessment Using Rubrics: A Web 2.0 Approach *Ramesh Sabetiashraf, Santa Ana College*
9:45 – 10:45 AM	**TH36** Securing Campus Network Access for an Improved User Experience *Chris Ford, Brescia University*	**TH37** IT Literacy in the Internet Era *Larry Press, California State University, Dominguez Hills*
11:00 AM – 12:00 PM	*Closing Keynote* — **"The Fourth Decade of the 'IT Revolution': Continuing Challenges and Opportunities"** *Kenneth C. Green, Founding Director, The Campus Computing Project*	

M03
Buzzwords Come to Life: The Latest Web 2.0 Tools for the College Classroom
Mark Frydenberg, Bentley University

M04
iPads: Applications and Uses in Education
Jenna Linskens, Marian University

M05
User-Centered Learning Space Design
Bob Smith, Stanford University

M08
Buzzwords Come to Life: The Latest Web 2.0 Tools for the College Classroom
Mark Frydenberg, Bentley University
Repeated Workshop

M09
iPads: Applications and Uses in Education
Jenna Linskens, Marian University
Repeated Workshop

M10
Skype and Google Docs: A Perfect Alliance to Support Communities of Inquiry
Robert Moody, Fort Hays State University

T03
Navigating the Elusive World of Virtual Collaboration in the Classroom
Steven Hallman, Kenan-Flagler Business School, University of North Carolina at Chapel Hill

T04
ePortfolios: Integrating People, Life and Learning
Carly Klimash, Ilena Key, and Jason Slipp, Lehigh University

T05
The Four Pillars for Technology Decision Making
Mark Nestor, Miami Dade College

***TSE**
A Conversation With the Future
10:15 – 11:45 AM
SEAPORT HOTEL
Alfred Spector
Vice President of Research and Special Initiatives
Google

T08
Duking It Out: How Duke University Beat the Challenges of Lecture Capture for Its Students, Faculty and Administrators *TBA*

T09
The 21st-Century Campus: Students Tell It Like It Is
Julie Smith, CDW-G with Student Panelists: Adonis Archer, Pennsylvania State University; Nik Vallens, University of Arizona; Josh Wang, University of Washington

T10
Keeping Administration and Faculty Informed: Reports and Dashboards
Joseph Medved, Lei Millman, and Ronald Bergmann, Lehman College CUNY

T13
Walking Ulysses: Collaborative and Mobile Mapping in the Humanities
Tim Lindgren, Boston College

T14
We All Have iPads… Now What?
Mary Spataro, Phil Komarny, Mary Ann Gawelek, and Quinto Martin, Seton Hill University

T15
Leading Change: Course Redesign
Harrison Keller, Susanna Herndon, Lucas Horton, Justin Olmanson, University of Texas-Austin

W18
Teaching and Learning with Low Cost and Low Barrier Technologies
Jennifer Darrow, Mathew Ragan, and Judy Brophy, Keene State College

W19
CT 2011 Innovator at Work Award Recipient - TBA

W20
Finding Funding: Alternative Revenue Streams
Patrick Aievoli, Long Island University, C.W. Post

***WSE**
A Conversation With the Future
10:15 – 11:45 AM
SEAPORT HOTEL
Cameron Evans
National and Chief Technology Officer
Microsoft Corporation

W23
Build Your Own eLibrary: Digital Faculty/Library Collaboration
Rhonda Kitchens, State College of Florida, Manatee-Sarasota

W24
CT 2011 Innovator at Work Award Recipient - TBA

W25
Value of Portfolio and Project Management in Tight Economic Times
Patrick Bennett, Franklin University

W28
Using iPads to Produce and Publish Content in an Education Reporting Class *Wendy M. Chapman, Bill Celis, and Matt Frank, USC Annenberg School for Communication and Journalism*

W29
CT 2011 Innovator at Work Award Recipient - TBA

W30
Trust, Verify and Communicate: Presidential Perspectives on the Campus Investment in Information Technology *Kenneth C. Green, The Campus Computing Project*

TH33
Emerging Technologies in Content Delivery: eBooks and eReader Devices
Rob Kadel, University of Colorado-Denver

TH34
CT 2011 Innovator at Work Award Recipient - TBA

***THSE1**
9:00 – 10:30 AM
Featured Session
Project Rescue: Lessons on Leadership
Stephen J. Laster, Harvard Business School

***THSE2**
A Conversation With Apple Education
9:00 - 10:30 AM
SEAPORT HOTEL
Bob Trikakis
Education Development Executive
Apple

TH38
Using Popular Social Networking Tools In (and Out of) the Classroom
Kelly Walsh, College of Westchester

TH39
Welcome to Class. Please Take Out Your Cell Phones!
Mark Frydenberg, Bentley University

** = No Additional Charge—Limited Seating—Must Register to Attend*

PRE-CONFERENCE WORKSHOPS

MORNING WORKSHOPS
MONDAY, JULY 25, 8:30 – 11:30 AM

M01 21st Century Education in the Cloud: New Opportunities to Support Instruction

John Kuglin, Ret., University of Montana

It is important for educators today—especially those in post-secondary roles—to learn how to maximize their potential by leveraging cloud-based resources in their teaching practices. Individual educators need to be proactive in setting up blended learning environments that use both university and personal cloud resources. Kuglin offers a 10-point plan for 21st century educators.

M02 Principles and Practices for Online Courses that Engage Learners

Judith V. Boettcher, Designing for Learning and the University of Florida

Learn to address a range of questions about how technology and the design of courses make a difference in learner engagement and outcomes. Boettcher distills a world of theory and practice into a manageable set of principles and practices that guide faculty and staff in making wise choices in technology tools and course and program designs. Recommendations for community building, continuous assessment and customized learning and going beyond the traditional practices are among the many issues covered.

M03 Buzzwords Come to Life: The Latest Web 2.0 Tools for the College Classroom

Mark Frydenberg, Bentley University

We all know the buzzwords: collaboration, multimedia, social networking, cloud computing... But how can you update course instruction with the latest and most useful new Web 2.0 tools? This interactive, hands-on session takes you beyond blogs and wikis, YouTube, Facebook and Google Docs to try out the latest Web 2.0 applications that apply to higher education instruction. If possible, bring your wireless-ready laptop or iPad and/or your smart phone. Attendees who come without these devices are welcome to observe and learn.

M04 iPads: Applications and Uses in Education

Jenna Linskens, Marian University

In this hands-on session, educators will "make & take" as the presenter examines several applications for the iPad and shares ways to use them across the curriculum with students of all abilities, to improve student performance and understanding of concepts. Bring your iPad with you! Attendees who come without an iPad are welcome to observe and learn.

M05 User-Centered Learning Space Design

Robert Emery Smith, Stanford University

Our institutions are being challenged to use the best new practices and technologies in their classrooms. But in too many cases, the acquisition of a "parts list" of devices is leading the way, driving instructional and professional development plans. By focusing on user-centered design, we chart a path to the realization of new learning spaces and professional capacities that are truly beneficial, cost-effective and well-suited for use in their own unique community.

AFTERNOON WORKSHOPS
MONDAY, JULY 25, 1:30 – 4:30 PM

M06 Online Research Tools for Educators—Collaborate without Jet Lag!

Kathleen Covey, Penn State University

Learn about innovative tools that will help you collaborate and communicate with colleagues from around the world. From social bookmaking to Web highlighters, the session will identify easy-to-use tools that are free. It will also identify places where faculty can locate emerging tools that will enhance their future teaching and learning as well as research efforts. To get the most from this hands-on session, please bring a wireless-ready laptop for your own use. Attendees who come without a laptop are welcome to observe and learn.

M07 M-learning on Speed Dial: How to Develop a Nimble Academic Mobile Learning Strategy for Your Campus

Alicia Russell, Victoria Wallace and Seth Merriam, Northeastern University

Mobile learning or "m-learning" devices and applications are advancing so rapidly that it is difficult to imagine how to create a campus strategy that won't become obsolete before it can be implemented. Trading favorite mobile apps and exploring case studies from other institutions isn't enough. It is also important to think strategically about how to remain nimble and flexible as the pace of mobile learning accelerates. This workshop will encourage attendees to consider a series of questions that will help them design a flexible framework that can encompass their institution's unique m-learning needs.

M08 Buzzwords Come to Life: The Latest Web 2.0 Tools for the College Classroom

Mark Frydenberg, Bentley University

This is a repeat of workshop M03. Please see description listed with M03.

M09 iPads: Applications and Uses in Education

Jenna Linskens, Marian University

This is a repeat of workshop M04. Please see description listed with M04.

M10 Skype and Google Docs: A Perfect Alliance to Support Communities of Inquiry

Robert Moody, Fort Hays State University

Attendees will learn how Skype and Google Docs can be used together to create and sustain a community of inquiry that improves communication and student satisfaction in distance learning programs. This will be a "hands-on" workshop; participants are encouraged to bring their wireless-ready laptops. Those who attend without laptops are welcome to observe and learn.

OPENING KEYNOTE

TUESDAY, JULY 26, 8:30 – 9:45 AM

From Knowledgeable to Knowledge-able: New Learning Environments for New Media Environments

Michael Wesch
Cultural Anthropologist, Researcher in Digital Ethnography and Associate Professor, Kansas State University

It took tens of thousands of years for writing to emerge after humans spoke their first words, thousands more before the printing press and a few hundred again before the telegraph appeared. Today a new medium of communication emerges every time someone creates a new Web application. Michael Wesch will demonstrate the profound yet often unnoticed ways in which our culture is being remixed by new media. He will explain why we need to move from being simply knowledgeable to being knowledge-able and propose ways we can organize our education systems to foster the forms of learning we need.

Michael Wesch is a cultural anthropologist exploring the effects of new media on society and culture. After two years studying the implications of writing on a remote indigenous culture in the rain forest of Papua New Guinea, he turned his attention to the effects of social media and digital technology on global society. His videos on culture, technology, education and information have been viewed by millions. He was recently named an Emerging Explorer by National Geographic and has won several awards, including the 2008 CASE/Carnegie U.S. Professor of the Year for Doctoral and Research Universities.

GENERAL SESSION KEYNOTE AND INNOVATOR AWARDS

WEDNESDAY, JULY 27, 8:30 – 9:45 AM

Making It Real: The Adoption of IT Innovation in Higher Education

Ellen D. Wagner
Executive Director, WCET

Human beings are, by nature, attracted to the bright, shiny, and new. This phenomenon is particularly notable when it comes to our fascination with the notion of "innovation." Ellen Wagner posits that the best part of innovation—an essential part—comes from making our sparkling new ideas real by applying them in and to our work. She suggests that the "secret sauce" of true innovation is its effective implementation as a solution to problems and as a strategy for responding to new opportunities.

Ellen Wagner is Executive Director of WCET. A program of the Western Interstate Commission for Higher Education (WICHE), the WICHE Cooperative for Educational Technologies works to accelerate the adoption of effective practices and policies that advance excellence in technology-enhanced teaching and learning in higher education. Wagner is also Partner and Founder of Sage Road Solutions, LLC, providing advisory oversight for industry intelligence and enablement services and solutions practices.

CLOSING KEYNOTE

THURSDAY, JULY 28, 11:00 AM – 12:00 PM

The Fourth Decade of the 'IT Revolution': Continuing Challenges and Opportunities

Kenneth C. Green
Founding Director, The Campus Computing Project

This year marks the official beginning of the fourth decade of the "IT revolution in higher education" that began with the slow migration of IBM-PCs and Macintosh computers onto campus in the mid-1980s. Technologies have changed and improved dramatically over time, but what are the issues that consume the time and attention of today's faculty, IT leaders and senior campus administrators? Drawing on data from The Campus Computing Project and other sources, Green's presentation will address the great aspirations for IT that pose continuing challenges for the higher education community.

Kenneth C. Green is the founding director of The Campus Computing Project, the largest continuing study of the role of computing, eLearning and information technology in American higher education. Green is also a senior research consultant at Inside Higher Ed, which publishes his Digital Tweed blog. He is widely published and frequently quoted on higher education, information technology, and labor market issues in national print and broadcast media.

TRACK 1:
DIGITAL CAMPUS AND IT INFRASTRUCTURE

T01 Digital Media Campuses: The Transition from Word Processing to Digital Media

Adam Smeets, Digital Media Services Manager, Loyola University Chicago

Over the past 10 years, the face of the campus computer lab has begun to transition from one that filled a need to surf the internet and type research papers to being the one-stop-shop for digital media. For many institutions, this transition has come easily, while others met challenges. At Loyola University Chicago, digital media services has a strong emphasis on integrating resources for our faculty, staff and students at an institutional level. This session will highlight how Loyola transitioned a number of its computer labs from smaller pocket lab locations to powerhouse digital media labs. This session will also detail recent developments with partnership projects such as igNation, which was presented at the Campus Technology 2010 conference.

T06 IT as a Service: Leveraging Private, Public and Hybrid Clouds

Link Alander, Associate Vice Chancellor, with Shah Ardalan, Vice Chancellor/CIO, Lone Star College System

The Lone Star College system is leveraging private, public and hybrid clouds to move from IT as a commodity to IT as a strategic enabler. Today's instructors and students expect technology in the classroom to be as flexible as it is on their own personal systems. They want IT to be agile in meeting their needs; if we are not, they will go to the public cloud to get the service they expect. LSCS redesigned its enterprise core infrastructure on flexibility, agility and the cloud.

T11 Academic Video Management: Done the Open Way With Opencast Matterhorn

Bruce Sandhorst, Academic Technology Liaison, University of Nebraska-Lincoln, with Judy Stern, User Experience Designer, University of California, Berkeley, and Christopher Brooks, Institutional Co-Leader, Project Manager, University of Saskatchewan

Matterhorn carries a variety of features that made it a technology supportive of the educational initiatives around lecture recording: scheduled capture agents, engaging students with a fully indexed and searchable multimedia object containing slides and video, easy access and navigation, collaborative sharing of bookmarks and comments. We will discuss the user interface and flexible open architecture while demonstrating the product and discussing the deployment at UNL and other universities.

W16 CHANGE Migrating from Legacy LMS to an Open Source Moodle Platform

Lou Pugliese, President, Moodlerooms, Inc

Panelists: Lorah Gough, Director Instructional Computer Resource Center, Houston Community College System, Mark Poore, Director of Instructional Technology, Roanoke College

Change represents opportunity. And the opportunity for expecting more from your eLearning platform is now. Delivery models of the past may not be sustainable for the future and the need for flexibility is no longer a nice-to-have, it's a must-have. An open source LMS is a proven solution. Why consider open source? Why Moodle? Learn the answers to these questions and more at this open panel discussion, where institutions will share how they "made the change" to open source.

W21 One Stream to Rule Them All: Unifying Online Campus Video

Jason LaMar with Joel Nelson, Multimedia Web Developers, Columbus State Community College

Columbus State Community College is implementing a campus-wide initiative to unify and automate its lecture capture and streaming video delivery processes. By leveraging local and cloud infrastructure, we intend to make it as intuitive as possible for faculty and staff to record and deliver desktop presentations. Discover how the pieces of this workflow puzzle fit together and how you may be able to implement a similar solution, including both technical and logistical considerations.

W26 Head in the Cloud, Feet on the Ground: Modernizing Computer Lab Support

Cullen Jones, Educational Technologies Manager, Naval Postgraduate School, Monterey

After a departmental reorganization, the presenter was left in charge of a lab support team that had been using outdated methods to maintain, refresh and support hardware and software in the computer labs across campus. This session will detail the steps taken to bring the department into the 21st century. Methods addressed will include virtualization, changing support tactics and policies and better utilization of existing software. The session also covers the faculty's response, as well as a road map for the future.

TH31 Learner Analytics via the Cloud: Sophisticated Statistics Made Easy

Scott Helf, Chief Technology Officer, Western University of Health Sciences

This session will explore how the College of Osteopathic Medicine of the Pacific has pulled together over a dozen disparate data sources, extracts, transforms and loads the data in real time; and is able to instantly do massive, per cohort, partial correlation, multiple regression and ANOVA analysis via an access-controlled web interface. Traditionally month-long studies now take seconds, so that follow-up questions may be repeatedly asked to find trends, and then that information is used to feed back into and modify the candidate admissions and student education process.

TH36 Securing Campus Network Access for an Improved User Experience

Chris Ford, Network Administrator, Brescia University

This session discusses the path for deploying differentiated network access security for student housing, campus and guest networks to meet bandwidth concerns, protect the network from unwanted applications such as malware or peer-to-peer applications and improve the user logon and connectivity experience. This presentation highlights how Brescia University solved bandwidth issues, has better network usage information and can better meet compliance requirements.

T02 Pod Rooms: Faculty Friendly Classroom Technology

Stephanie Glick, Academic Technology Director, Mount St. Mary's College

Higher education classrooms contain a hodgepodge collection of teaching devices. Some faculty members use the latest technology gadgets while others prefer relics (like the overhead projector that faculty members threaten harm to anyone wanting to remove). Mount St. Mary's College created "Podrooms": Classrooms that are a delightful mixture of sleek, sexy devices and platforms that are faculty friendly, pedagogically engaging, supportable (by a small staff), sustainable and adaptive.

T07 Community of Practice in Online Education: Collaborative Curriculum

Darin Kapanjie, Faculty Director, Educational Technology and Professor, Statistics, Fox School of Business, Temple University

It's no surprise that talk in higher education is focused around how to boost online offerings. Unfortunately, quality is often lost when faculty convert a traditional course to an online course. As a result of curricular design, most online students work individualistically and have no sense of community or belonging with classmates and faculty. This interactive presentation will focus on the staple design elements required to foster the development of a community of practice online.

T08 Duking It Out: How Duke University Beat the Challenges of Lecture Capture for its Students, Faculty and Administrators

Presenters TBA

University-scale lecture-capture that can be viewed remotely and flexibly is not a future vision—it is here today. Come hear how one leading university has tackled the challenge with a solution that combines the classroom, an immersive video experience and student-generated content.

T12 Academic Progress Portal: Catching Students Before They Fail

Scott Helf, Chief Technology Officer, College of Osteopathic Medicine of the Pacific, Western University of Health Sciences

This session will introduce, demonstrate and encourage audience interaction regarding Western University's experience developing successfully a powerful, yet easy-to-use technology solution, which is now a mission critical system for four of its professional colleges. The system integrates data from nearly a dozen on- and off-campus data sources and empowers advisors, faculty and deans to track the progress of health care professional students and intercede on behalf of students, before they fail.

W17 Engaging Faculty: Observations from ACU's Mobile Learning Initiative

Scott Perkins, Director of Research with George Saltsman, Executive Director, Adams Center for Teaching and Learning, Abilene Christian University

Over the past three years ACU has equipped all undergraduate students with an iPhone or iPod touch and has vigorously investigated the impact of incorporating these devices throughout the learning process. With mobile devices deployed to all undergraduate students and faculty, ACU has created a stimulating environment for faculty to explore and experiment with the ways in which mobility can positively transform higher education.

W22 Beyond Web 2.0: How Virtual Learning Environments Should Help Learners

Jeff Borden, Lecturer/Senior Director of Teaching and Learning, Pearson eCollege, Chaminade University, Hawaii

From Bloom to Kolb to Johnson and Johnson, rote memorization to authentic assessment, learning theory to practical application, the World Wide Web has tools that not only help educators promote sound pedagogy, but advance it. Beyond Web 2.0, Internet-based technology can be utilized in various contexts and techniques to encourage learning from all student types. Attendees will leave the presentation with an extensive list of web resources, most of which are free, that instructors and developers can implement in the classroom immediately.

W27 eAssessment: Using Electronic Portfolios for Curriculum Improvement

Frederick Loomis, Assistant Professor, School of Education, with Michael Scheuermann, Associate Vice President, Instructional Technology, Drexel University

This session will include a review of the current state of practice of ePortfolios and present the Drexel University illustration of how the ePortfolio can be used for student development, outcomes assessment, and curriculum improvement. The presenters will demonstrate Drexel's institution-wide commitment to ePortfolios and show how the platform and process is being used for curriculum improvement in a graduate program in the School of Education.

TH32 Building a Culture of Assessment Using Rubrics: A Web 2.0 Approach

Ramesh Sabetiashraf, Computer Science Faculty, Santa Ana College

This session will show examples of how one Web 2.0 toolset promoted best practices and helped institutions build a culture of rubric assessment. iRubric has enabled tens of thousands of educators from more than 5,000 institutions to learn about rubrics and to build a culture of rubric-based assessment at their institutions. Attendees will also learn how to utilize rubrics not just for scoring, but as learning and student-engagement tools.

TH37 IT Literacy in the Internet Era

Larry Press, Professor of Information Systems, California State University, Dominguez Hills

Which IT skills and concepts are needed for success as a student and after graduation as a citizen and a professional? The presenter's evolving answer to that question is a modular IT literacy course. Each module focuses on a few skills and concepts and the course covers about six modules a week. The presenter will describe the course, demonstrate the teaching material, show how he implemented the online "textbook" and conclude with a discussion of IT literacy today and in the future as application platforms change.

TRACK 3:
LEARNING APPLICATIONS AND TOOLS

T03 Navigating the Elusive World of Virtual Collaboration in the Classroom

Steven Hallman, Manager, Educational Media, Kenan-Flagler Business School, University of North Carolina at Chapel Hill

"Why can't I use Sakai on my iPhone to join your telepresence meeting?" Over the past several years we have seen an incredible expansion in the number of tools available for distance collaboration. There is now a huge array of standards, operating systems and protocols available. The presenter will consider ways that new collaboration technologies relate to each other and reveal the common misconceptions about their interoperability. Attendees will learn steps that help faculty navigate this minefield of technology—past the jargon—and actually enable them to share their content more easily.

T04 ePortfolios: Integrating People, Life and Learning

Carly Klimash, with Ilena Key, and Jason Slipp, Senior Instructional Technologists, Lehigh University

At Lehigh University, strategic initiatives that promote student success and engagement are employed with the goal of fostering a collaborative teaching and learning experience. Mahara's ePortfolio system supports this vision with flexibility and creativity due to the open source nature of the software and integration with Moodle. This presentation highlights the implementation, evaluation, and early findings of this pilot study of four diverse programs, and reflects upon the lessons learned.

T13 Walking Ulysses: Collaborative and Mobile Mapping in the Humanities

Tim Lindgren, Instructional Designer, Boston College

This presentation highlights a project in which a Boston College Irish Studies professor used collaborative mapping as a way for students to explore James Joyce's famously difficult novel Ulysses. The project demonstrates the power of geospatial tools to make students active participants in the creation of knowledge and it suggests ways that mobile maps can be used in the humanities as means for glossing both literary texts and the physical spaces in which they are embedded.

T14 We All Have iPads—Now What?

Mary Spataro, Title III Director/Activity Coordinator, with Phil Komarny, Vice President of Information Technology, Mary Ann Gawelek, Provost and Dean of Faculty, and Quinto Martin, Interactive/Assistive Technology Specialist, Seton Hill University

Seton Hill University implemented its Griffin Technology Advantage program in the Fall 2010 semester. More than 1,800 iPads and 700 MacBook laptops were distributed to students and faculty. This presentation describes the challenges faced by the university in its commitment to enhance the teaching and learning process with the integration of mobile technology resources.

W18 Teaching and Learning with Low Cost and Low Barrier Technologies

Jennifer Darrow, Director, Academic Technology, with Mathew Ragan, Rich Media Specialist, and Judy Brophy, Academic Technology Specialist, Keene State College

This presentation will outline the process, results and unintended consequences when several traditional courses moved from Blackboard to a selection of Web 2.0 applications. Facilitators and participants will discuss how teaching with Web 2.0 technologies provides more cohesion to the learning experience; share examples of courses that are using Web 2.0 technologies; and discuss the challenges and victories for faculty, students, and support staff.

W23 Build Your Own eLibrary: Digital Faculty/Library Collaboration

Rhonda Kitchens, eLearning Librarian, State College of Florida, Manatee-Sarasota

The library has left the building. Are you still referring to it as a place when you should be providing it a space? In this real world where "information literacy" is not just a catchphrase but actually a day-to-day necessity, what instruction, navigation and collaboration can you create and participate in to support students?

W28 Using iPads to Produce and Publish Content in an Education Reporting Class

Wendy M. Chapman, Director of Web Technologies, with Bill Celis, Associate Professor, and Matt Frank, New Media Specialist, USC Annenberg School for Communication and Journalism

The iPad promised to change the way we consume content, but USC Annenberg wanted to investigate the potential of utilizing a highly mobile device with a long battery life, to change the way journalists produce content. The session will describe how the iPad was used to gather, edit and publish stories in a mobile (and green!) journalism course.

TH38 Using Popular Social Networking Tools In (and Out of) the Classroom

Kelly Walsh, Chief Information Officer, College of Westchester

The presenter will review examples and tips for effectively integrating popular social networking tools into the teaching process. We'll examine several ways in which Facebook and Twitter have been incorporated successfully into coursework. There are many other social networking tools on the web, and some are geared specifically toward students and educators. We'll introduce a few of these applications, such as TakingItGlobal and others.

TH39 Welcome to Class. Please Take Out Your Cell Phones!

Mark Frydenberg, Senior Lecturer in Computer and Information Systems, Bentley University

Students today are constantly on their cell phones—texting, browsing, or updating their Facebook pages. This session will explore ways to incorporate mobile phones into the classroom, rather than telling students to put them away. Learn about educational phone apps and best practices for using them in the classroom. The session will also explore different ways to easily create phone apps without any coding. Find out how to build an app for your institution using Windows Mobile Development tools, and how to build apps for iPhone, Droid and Windows phone platforms to combine online content using web-based software tools.

T05 The Four Pillars for Technology Decision Making

Mark Nestor, Chief Information Officer, The University of the Sciences

The four pillars are key areas for consideration that can be used by technology leaders who are evaluating instructional technologies. These four pillars allow executive leadership to make informed decisions based on the pedagogical, professional, technical and financial merits of the solution. The system blends current best practices and industry trends with traditional business decision-making tools such as ROI and TCO. The presenter will provide an overview of the four pillars, using lecture capture as an example of how colleges and universities can introduce them in strategic planning, shared governance and other technology planning endeavors.

T09 The 21st-Century Campus: Students Tell It Like It Is

Julie Smith, VP of Higher Education, CDW-G

Student Panelists: Adonis Archer, Pennsylvania State University, Nik Vallens, University of Arizona, Josh Wang, University of Washington

What do students really want when it comes to educational technology? What technology do they expect on campus next year? Highlighting CDW-G's 21st-Century Campus Report, Julie Smith of CDW-G leads an all-student panel discussion on technologies that are shaping today's campus and the trends that will impact your institution tomorrow.

T10 Keeping Administration and Faculty Informed: Reports and Dashboards

Joseph Medved, Higher Education Officer, with Lei Millman, Computer Associate, Ronald Bergmann, Vice President for Technology/Chief Information Officer, Lehman College CUNY

The BI system at Lehman College CUNY keeps our administration and faculty informed "up to the minute," based on different types of reports and dashboards produced from our central data repository. Find out how Lehman College addressed the most important factor in building different types of reports to serve managers all across campus: proper data sources.

T15 Leading Change: Course Redesign

Harrison Keller, Vice Provost and Executive Director, Susanna Herndon, Director of Instructional Technology, Lucas Horton, CTP Project Manager, Justin Olmanson, CTP Educational Technologist, Center for Teaching and Learning at UT-Austin

At UT-Austin, the Course Transformation Program has emerged as one of the institution's highest priorities. The institution has elected to focus on the CTP as the cornerstone of the president's efforts to make UT-Austin a leader in reinventing higher education while preserving its core values and mission. Find out how the university is translating this high-level commitment into action for change.

W20 Finding Funding: Alternative Revenue Streams

Patrick Aievoli, Associate Professor, Digital Media, Long Island University, C.W. Post

Given the realities of this new economy, how will campus technology continue to meet expectations if funding is diminished? There is a strong need for the development and use of alternative revenue streams that capture funding allocations derived from a new model. Attendees will discover ways to find funding through digital initiatives, with the presenter exploring 12 such revenue streams.

W25 Value of Portfolio and Project Management in Tight Economic Times

Patrick Bennett, Executive Director, Campus Services, Franklin University

Shrinking budgets have forced higher education IT departments to deliver greater value with fewer resources even as technology continues to play an increasingly important role for students, faculty and staff. IT directors must now gauge projects in terms of how they align with the mission and goals of the university and, ultimately, the value they will bring to the institution. To help accomplish this, many higher education IT leaders are implementing project and portfolio management practices and software that will help them better plan, prioritize and manage projects and resources.

W30 Trust, Verify and Communicate: Presidential Perspectives on the Campus Investment in Information Technology

Kenneth C. Green, Founder, The Campus Computing Project

Colleges and universities currently spend about 6 percent of their total budgets on IT resources and services—hardware, software, services and personnel—to support teaching and instruction, research, administration and management, and campus services. Yet new data from the 2011 Presidential Perspectives Survey conducted by INSIDE HIGHER ED and The Campus Computing Project suggest that many presidents are ambivalent, at best, when asked to assess the effectiveness of their institution's investment in IT. Green will examine the challenges IT officers confront in their efforts to explain the impact and benefits of the continuing campus investment in IT.

THSE1 Featured Session Project Rescue: Lessons on Leadership

Stephen J. Laster, Chief Information Officer, Harvard Business School

In this special 90-minute session, participants will work in round tables on a case study of a struggling university CIO, identifying the elements of leadership, analyzing the factors that led to the CIO's successes and failures, and applying the lessons learned to their own institutional situations. The session is for individuals who have formal and informal leadership roles in their IT organization. Participants will leave with an enhanced understanding of what it means to be a higher education IT leader and will take with them a practice leadership framework.

NOTE: This session will be limited to the first 30 participants that sign up during registration.

EXHIBIT HALL

The Campus Technology 2011 Exhibit Hall is where attendees can gather to see the latest products and services from participating technology vendors. Attendees traditionally enjoy this busy, interactive environment with lively discussions of new technologies, networking opportunities, poster sessions and technology classrooms that offer detailed product demonstrations and drill-down information.

SCHEDULE AND SPECIAL EVENTS

Tuesday, July 26

12:15 – 3:30 pm	Exhibit Hall Open
12:15 – 1:15 pm	Lunch
1:00 – 3:25 pm	Technology Classrooms
2:00 – 3:00 pm	Poster Sessions
4:45 – 6:30 pm	Show Favorites Exhibit Hall Reception

Wednesday, July 27

12:15 – 3:30 pm	Exhibit Hall Open
12:15 – 1:15 pm	Lunch
1:00 – 2:55 pm	Technology Classrooms
2:00 – 3:00 pm	Poster Sessions
3:15 pm	Exhibit Hall Raffle

For a complete listing of Technology Classrooms and Poster Sessions, go to www.campustechnology.com/summer11

EXHIBITORS:

Acentech Incorporated
AMX
Atomic Learning
Captual Technologies
Cattura Video
CDW-G
Center for Technology Leadership
Cloudpath Netowkrs
CollegeNet, Inc.
Crestron Electronics, Inc.
Digication
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NEW! SHOW FAVORITES EXHIBIT HALL RECEPTION

Tuesday, July 26 • 4:45 – 6:30 pm

Introducing a new interactive "game" in the Campus Technology Exhibit Hall—the [You Decide the Winners] Show Favorites awards—all taking place during the Exhibit Hall Reception, Tuesday, July 26 from 4:45 – 6:30 pm. As attendees walk the exhibit floor they will have the opportunity to be wooed by our vendors into voting for their favorite exhibitors. Just how exhibitors "bribe" attendees to vote for them is limited only by their creativity: free drink coupons, enticing products, skits in their booth, freebies/giveaways, etc. The sky's the limit.

The more attendees participate, the more entries they have into the grand prize drawing for an Android tablet. Winning exhibitors announced Wednesday, July 27 and will receive one of three marketing promotional packages.

Sponsors and Exhibitors as of 03/11/11

HOTEL INFORMATION

Campus Technology 2011 attendees who book their hotel by June 24, 2011, will receive the special conference rates listed below (subject to availability). After June 24, 2011, regular room rates will apply.

To make your Campus Technology 2011 hotel reservations, go to the Hotel and Travel page at campustechnology.com/summer11. Hotel reservations should be made through this link only. Please DO NOT call the hotel directly, as you will be redirected to the Campus Technology Housing Bureau.

Please note: All reservations must be guaranteed with a credit card or debit card.

Hotels will accept cash, credit or debit card payment for your stay upon arrival. If paying by check or purchase order, e-mail Campus Technology Event Housing at housing@1105media.com for further information.

For questions, regarding housing, please contact:

Campus Technology Event Housing
Monday through Friday, 8:00 am – 5:00 pm, ET
Phone: 702-938-1490
E-mail: housing@1105media.com

HOST HOTEL

Seaport Hotel
One Seaport Lane
Boston, MA 02210
Rate: $199 single/double
(Located across the street from the Seaport World Trade Center, where the conference is taking place.)

ADDITIONAL CONFERENCE HOTELS

Renaissance Boston Waterfront Hotel
606 Congress Street
Boston, MA 02210
$204 single/double
(Located a short two blocks [.13 miles] from Seaport World Trade Center where the conference is taking place.)

Embassy Suites Boston at Logan Airport
207 Porter Street
Boston, MA 02128
$164 single/double
(Located 1.5 miles from event venue, but conveniently situated on the MBTA Silver Line, a short ride away from the Seaport World Trade Center. This hotel also offers a complimentary full, cooked-to-order breakfast and evening reception for guests.)

Omni Parker House
60 School Street
Boston, MA 02108
$185 single/double
(Located 4 stops away on the MBTA Subway "the T," a short ride away from the Seaport World Trade Center. This historic hotel is located across from Boston Common and at the foot of Beacon Hill.)

AIR TRAVEL DISCOUNTS

American Airlines is offering discounts to Campus Technology 2011 attendees for air travel to Boston between July 22 and July 31, 2011. Mileage members can receive credit for all American miles flown to attend this conference. Call or have your travel agent call American Airlines at 800.433.1790 and reference #9571BN. Book your discounted ticket online using the discount reference number above as the aa.com promotion code.

TRANSPORTATION TO AND FROM THE AIRPORT

The Seaport World Trade Center and conference hotels are located only three miles from Boston's Logan International Airport. Transportation from the airport will need to be arranged via a short cab ride, rental car or the MBTA Silver Line rapid bus system, which stops near the Seaport Hotel and is a short walk to the World Trade Center and other conference hotels.

Estimated one-way taxi fare from Logan Airport is $30 — $40. If you travel via the Silver Line rapid bus system you will exit at the World Trade Center stop. For additional information on ground transportation options, please visit massport.com.

RENTAL CAR DISCOUNT

Avis Rent-a-Car is offering car rental discounts for Campus Technology 2011 attendees. To receive the discount, call Avis at 800.331.1600 and use the Avis Worldwide Discount (AWD) number #D005872.

ATTENDEE NETWORKING

Interested in networking with other attendees? Connect and converse with colleagues using a variety of methods. First, when you register, check the "Attendee Networking" box. Prior to opening, we will e-mail registrants with the names, titles, affiliations, twitter names and e-mail addresses of fellow attendees so that you can communicate before and after the conference. At the conference, join other professionals in your field at the Birds of a Feather Luncheons on Tuesday and Wednesday. You can also follow Campus Technology on twitter @Campus_Tech to backchannel and share links throughout the conference at hashtag #CT2011. And don't forget to "Like" Campus Technology on Facebook.

REGISTRATION INFORMATION

HOW TO REGISTER

Online: **www.campustechnology.com/summer11**

Phone: **800-280-6218** (8:00 am – 5:00 pm PDT)
541-346-3545 (credit card payment only)

Mail: Campus Technology 2011 Registration
1277 University of Oregon
Eugene, OR 97403-1277

REGISTRATION DEADLINES

Early Registration Discount Deadline: JUNE 24, 2011

TEAM REGISTRATION DISCOUNTS

When three or more people from a single school or organization register at the same time, you can realize savings of up to $200 per person. (See Registration Package listings for details.)

REFUND AND CANCELLATION POLICY

A 100% refund less a $100 processing fee will be given for all cancellations requested by June 24. After June 24, no refunds will be given; however, all registrations are transferable to colleagues and associates with written authorization from the original registrant.

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Phone: **800-280-6218** (8:00 am – 5:00 pm PDT)

E-mail: **CampusTech@ce.uoregon.edu**

Web: www.campustechnology.com/summer11

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SECURE WEB REGISTRATION

Online registration is transacted via secured server in order to safeguard your private information: www.campustechnology.com/summer11

ENTERTAINMENT

The Boston Harbor Seaport area makes a convenient base for exploring the city on foot, via cab, water taxi or by T train. The conference hotels are within walking distance of the New England Aquarium, the Boston Children's Museum, the Boston Design Center and the Bank of America Pavilion. The hotels are also just minutes from the city's famous Financial District, the Back Bay, North and South Ends, Fanuil Hall Marketplace and Fenway Park, home of the Boston Red Sox.

REGISTRATION PACKAGES

Conference Registration

- All conference sessions
- Keynote and general sessions
- Access to Exhibit Hall
- Exhibit Hall Reception
- Poster Sessions
- Lunch Tuesday and Wednesday
- Refreshment breaks

Only $699* through June 24
**Early Bird Savings. $799 after 6/24/11.*

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- Morning and Afternoon Workshops
- All conference sessions
- Keynote and general sessions
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- Exhibit Hall Reception
- Poster Sessions
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- Exhibit Hall Reception
- Poster Sessions
- Lunch on Monday, Tuesday and Wednesday
- Refreshment breaks

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Special Team Registration Pricing

(Groups of 3 or More)

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**Groups of 3+ Early Bird Conference only $699 after 6/24/11.*

Bring a group of your colleagues to Campus Technology and save $200! Group discounts are available for institutions that bring 3 or more people. Conference Package is $599 per person before 6/24/11 and $699 after 6/24/11. Early Bird Conference + Workshop Package is $699, and $799 after 6/24/11.

For more information on group registration e-mail CampusTech@ce.uoregon.edu.

REGISTRATION FORM

Campus Technology 2011 »» July 25 – 28

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18TH ANNUAL EDUCATION TECHNOLOGY CONFERENCE

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FIRST NAME | LAST NAME | TITLE

INSTITUTION/COMPANY

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*Your e-mail is used to communicate with you about your conference registration, related products and services, as well as offers from select vendors. Refer to our Privacy Policy, http://www.1105media.com/privacy.aspx, for additional information.

Step 2. CONFERENCE PRICING

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☐ Conference Registration	$699	$799
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☐ Complete Conference and Hotel Package (Package includes full pre-conference workshops and conference registration, plus four nights at the Seaport Hotel)	$1,999	$2,099

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TEAM NAME: TEAM CONTACT:

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Print Name as it Appears on Your Credit Card _____ Signature _____

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☐ 4-year college ☐ Vocational institution
☐ 2-year college ☐ Government organization
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☐ Top-Level IT Executive (VP, CIO, CTO, etc.)
☐ IT Director/Manager – Academic Computing
☐ IT Director/Manager – Administrative Computing
☐ Administrative Mgmt (Dean, Dept. Chair, Director)
☐ Faculty Member (Professor, Adjunct, Instructor)
☐ Media/Library Services
☐ Other _____

Do you evaluate, recommend, specify or approve the acquisition of technology products and services?

☐ Yes ☐ No

Attendee Networking:

☐ Yes, I want to participate.

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Fax: 541-346-3545 (credit card or PO only)
Mail: Campus Technology 2011 Registration
1277 University of Oregon
Eugene, OR 97403-1277

Step 5. SELECT YOUR SESSIONS ONLINE

After receiving your confirmation code, go to the registration page at www.campustechnology.com/summer11, enter your code and select your preferred conference breakout sessions.

Transfer/Cancellation Policy: You may transfer your registration to another person any time prior to the event. To cancel, your request must be submitted in writing and postmarked no later than June 24, 2011. Your fee will be returned, less a $100 cancellation fee.

Questions?

Phone: 800-280-6218 (8:00 am – 5:00 pm PDT)
E-mail: CampusTech@ce.uoregon.edu
Web: www.campustechnology.com/summer11

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Fax: 850-219-9610

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FROM PRINCIPLE TO PRACTICE

Whatever your area of responsibility on campus—whether you are a C-level decision maker, an academic leader, directing/managing IT infrastructure, or a tech-savvy faculty member looking to increase relevancy and efficiency in the classroom—Campus Technology 2011's mix of immersive workshops, inspiring ideas and solution-packed sessions make it the must-attend conference of the year.

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campuswide effort to reduce overall energy consumption by 15 percent by 2013. "You can't manage what you can't measure," he says.

In 2011, a new project will devise performance models for each boiler, turbine, and chiller on campus. By comparing these data with load forecasting and energy prices, the school will be able to determine the optimum combination of boilers, turbines, and chillers to run at any given time.

5) What, This Old Thing?

INSTITUTION:
Temple University (PA)
GREEN MACHINE: Repurposing outdated computers

Temple University created the Computer Recycling Center (CRC) in 2003 to repurpose hardware instead of disposing of it. In recent years, the center has paid huge dividends. In 2009, for instance, 78 percent of all computers that came into the center were redeployed; since 2005, the center has refurbished more than 7,000 computers. Jonathan Latko, assistant director of the center, notes that repurposing works well because most hardware on higher education campuses is underutilized and therefore can last several years beyond warranty expiration. "A 3-year-old computer from a high-end graphics developer can be repurposed for a student who needs one for internet access and word processing," he says.

Overall, since the center's inception, it has diverted 1.2 million pounds of waste from landfills. In September 2009, the CRC was the recipient of one of only 10 awards presented by the regional Environmental Protection Agency.

6) Savings Are a Lot of Hot Air

INSTITUTION: Butler University (IN)
GREEN MACHINE: Data center heats college building

A $14 million addition to Butler's College of Pharmacy and Health Sciences opened in late 2009. By the fall of 2010, school officials had implemented a system to repurpose heat from the structure's data center and all of its servers. In cold weather, which is no rare occurrence during a Midwest winter, the heat is transferred to the building's hot water system, and is used to preheat outside air for use inside. In both cold and warm weather, the heat is also distributed to Variable Air Volume Terminal Units, devices that control temperatures and

A PHOENIX RISES FROM THE AASHE

FOUNDED IN 2006, the Association for the Advancement of Sustainability in Higher Education (AASHE) is a nonprofit association of more than 1,100 colleges and universities working toward creating a sustainable future. The group provides resources, professional development, and a network of support to enable member institutions to model and advance sustainability in everything they do—from governance to operations and research.

Most of the nation's leading institutions in green IT are members of AASHE, and many of them took ideas for their bleeding-edge programs from other organizations in the group. According to Executive Director Paul Rowland, this kind of networking is precisely what makes the organization so important.

"Sustainability isn't the kind of thing where you do something and you want all the credit for yourself," he says. "Colleges and universities that join this group want to share and learn from their peers; they recognize that's how we all get better."

AASHE also provides a rating system for schools' sustainability efforts. Dubbed the Sustainability Tracking, Assessment & Rating System—or STARS—the system debuted last year and is a self-reporting framework for schools to gauge progress in their green efforts.

Green ratings help qualify a school's sustainability efforts, signifying, "We're doing this right and here's an independent organization that can prove it."

Much like the US Green Building Council's LEED ratings, the STARS system is based on points, and ultimately rewards participating institutions with four different ratings: Bronze, Silver, Gold, and Platinum.

Points and credits are awarded for green practices in everything from purchasing and sourcing to recycling and repurposing. Schools receive special credits for energy-conservation programs and development projects that embrace sustainable, low-impact philosophies.

More than anything, Rowland says, these ratings help qualify a school's sustainability efforts. "It becomes part of the brand, as if an institution says, 'Look at us, we're doing this right and here's an independent organization that can prove it,'" he explains.

Additionally, Rowland notes that because schools are so decentralized, the STARS process helps establish connections and raise awareness among departments and divisions on the same campus. "Look at a campus and there usually aren't many connections between people in one department and another," he says. "It's our hope that this process helps bridge those gaps, and gets people working together toward making their institutions more sustainable."

Indiana University's Electronic Waste Collection Days program netted more than 650,000 pounds of waste in 2010, and a whopping 830,000 pounds in 2009. Recycling services are provided free by Apple.

provide dehumidification in each office.

According to CIO Scott Kincaid, project engineers estimate the system currently provides 20 percent of the building's heat. They predict that it could provide as much as 40 percent by the time the data center is fully equipped. "By thinking about being green from the beginning of the project, we were able to find synergy that is good for the planet as well as our budget," says Kincaid.

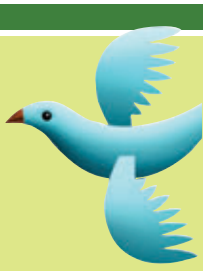
74% Higher ed institutions that have/are developing programs to manage and reduce IT energy use

49% Higher ed IT managers who know what portion of their IT budget is spent on energy

61% Higher ed IT organizations that have reduced IT energy costs by 1 percent or more since initiating an energy-management program

36% IT managers in higher ed who see energy efficiency as a very important consideration when purchasing equipment

Source: *CDW-G 2010 Energy Efficient IT Report*



7) Taking a Byte out of Landfills

INSTITUTION: Indiana University

GREEN MACHINE: Recycling discarded electronic waste

Recycling electronic waste such as old computers, TVs, and monitors is a daunting challenge considering how much technology we all use today. The challenge didn't deter IU students, who persuaded the IT Services department to launch its Electronic Waste Collection Days program. On numerous dates throughout the year, students, faculty, and staff can drop off their old equipment to be completely recycled—nothing ends up in a landfill.

Collection days netted more than 650,000 pounds of waste in 2010, and a whopping 830,000 pounds in 2009. Anything that contains potentially sensitive data is shredded. According to Susan Coleman, senior communications and sustainability specialist, the recycling services are provided free by Apple, which works with Sims Recycling Solutions to melt down equipment for reuse.

Starting this year, various student groups will fan out across campus to collect old equipment in residence halls. "IU students are more involved than ever," says Coleman.

8) Books Are Just Cool

INSTITUTION: Drexel University (PA)

GREEN MACHINE: Using books to optimize library cooling

For years, the approach to cooling the library at this Philadelphia-area institution was to run air-conditioning during the day, and then turn it off at night after the building closed. It seemed like a reasonable approach for controlling energy use, but there was an even better way: Now, Drexel precools the building overnight when electricity prices—and ambient temperatures—are at their lowest, and then turns off one of the two air-conditioning systems during the day. When the library opens in the morning, the temperature is around 70 degrees, and it rises only about 5 degrees over the course of the day.

The secret to the library's thermal inertia? "We figured out that books are great storage media for cooling," says Bill Taylor, director of mechanical services, adding that the strategy has saved about $25,000 a year. "It wasn't hard to implement," he says, "and it didn't require any additional hardware." CT

Matt Villano, senior contributing editor of this magazine, is based in Healdsburg, CA.

WEB EXTRA

Recycling old electronic equipment makes everyone on campus feel good, but an institution's responsibility doesn't start and end with the collection efforts. Too many incidents of toxic computer waste being dumped in Third World countries mean that schools have to be careful whom they partner with for waste disposal. In "The Dirty Truth About E-Waste," *CT* examines how schools can ensure that their electronic waste is recycled properly. *campustechnology.com/0411_ewaste*

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A top-ranked business school launches an online program in partnership with a for-profit business. Are we finally on the road to success?

By Dian Schaffhauser

MASTERING THE ONLINE MBA

If you were running a top-tier business school, how would you design an online-only MBA program that wouldn't tarnish your brand or ding your ranking? That's the dilemma faced by the Kenan-Flagler Business School at the **University of North Carolina at Chapel Hill**, which plans to launch an online-only program this July. The school has a lot to lose: In 2010, it ranked No. 16 in *Bloomberg Businessweek*'s popular "Business School Rankings & Profiles."

And let's face it, online MBA programs so far have been a lot like Rodney Dangerfield—they get no respect, even though most business school educators recognize that online represents the future. The problem for everyone who's tried to build an online program has been the same: How do you translate the teaching expertise of your faculty—the very asset that makes an MBA program worth its salt—into the online environment? The simple truth is that most faculty members don't have the time or the technical skills to make that transition successfully. ▸

Chris Hildreth

"We're charting new territory. Our faculty are being stretched to think differently about how to accomplish in a new medium what they do now," says UNC's Susan Cates.

That's what makes the Kenan-Flagler approach so interesting. The school's not expecting its faculty to lead the charge. Instead, it's forged a unique partnership with 2tor, a for-profit company led by John Katzman, the same person who founded The Princeton Review. Katzman has become an educational reformer of sorts. With 2tor, he is attempting to change how institutions transfer their most rigorous academic programs to the virtual world.

The timing of the partnership certainly couldn't be better. Employment figures for MBAs from the class of 2010 are approaching the pre-recession levels of 2007, according to the Graduate Management Admission Council. Nearly nine out of 10 graduates reported having a job, which is 16 percent higher than the class of 2003 reported. And the median base salary hovered at $94,500 last year, comfortably above 2007's $89,000.

Four other universities have gone public with plans to launch new online-only MBA programs this year: private schools **Crown College** (MN) and **New England College of Business and Finance** (MA), as well as public institutions **SUNY Oswego** (NY) and **North Carolina State University**.

The desire to push forward with an online MBA program is understandable. Many of the people who are most likely to want a business degree are already embarked on their careers and established in their communities. For many of these potential applicants, the idea of uprooting themselves to attend a business school—no matter how acclaimed—somewhere else is not appealing, especially if an alternative exists.

"We are looking at folks who are in various points in their careers, who have found their way to industry and a company that they are committed to and that they don't want to leave," says Susan Cates, Kenan-Flagler's president and associate dean of executive development. "They could really benefit further from learning a great deal more about business; but for family reasons, for work reasons, for reasons of geography, going to a traditional executive program or going to a full-time program doesn't make sense for them."

Cates gives the example of one recent applicant, who already possesses a master's degree in biology and a Ph.D. in neuroendocrinology. "He's an executive in the healthcare industry and has every credential you could think of on the scientific side, but he feels as if he could really benefit from doing an MBA to accelerate his career on the business side," explains Cates. "Given where he is in his career and with his family life, he's certainly not the right candidate for any full-time MBA program. He also wouldn't be interested in doing a program that isn't at a top school. When we came out with this program, his response was, 'This is what I've been waiting for.'"

For any top-flight degree program to succeed online, it must involve its top faculty. And therein lies the challenge.

Mixing Private and Public DNA

Cates says Kenan-Flagler had been exploring what it should do online with its MBA program for years. The school is hardly a newbie at virtual courses. It started an online nondegree program several years ago, and it offers a multitude of hybrid services through its traditional brick-and-mortar classes. But moving from a position where online instruction is a small part of what's being offered to where it becomes the backbone of the entire program requires something far different.

Enter 2tor. Based in New York City with locations wherever its clients are situated, the company was founded in 2008 with the mission of supplying software, personnel, and capital to top-tier research universities to help them deliver their online programs. Ultimately, it's a highly specific service provider.

Its first customer was the **University of Southern California** Rossier School of Education, which started the country's first online master of arts in teaching that same year. In the two years since MAT@USC launched, enrollment has grown from fewer than 100 students to 1,550, according to Susan Metros, USC's associate vice provost and deputy CIO for technology-enhanced learning.

Each 2tor deal is exclusive. As long as the contract with USC is in place, for example, 2tor will never help another university launch an online master of arts in teaching. In the same way, now that 2tor has signed up Kenan-Flagler for the online MBA program, the company will work exclusively with UNC in this field. Cates declines to divulge how UNC's partnership with 2tor is structured, but if the USC deal is anything to go by, it probably involves a split of the tuition revenue and an infusion of capital up front. Under the USC program, 2tor handles student recruiting, technology development, funding, field placement, and 24-hour student and faculty support. The school takes care of admissions and curriculum development.

As Melora Sundt, associate dean of academic programs at the Rossier School, pointed out in a blog entry about the arrangement, "This type of relationship is suspect in higher education. It represents the merger of two traditionally oppositional cultures—that of a research university, a breed not known for generating profit or for speed of movement, and a for-profit organization. But it's working. 2tor's staff attends our curriculum design meetings, helps create partnerships with schools, and coordinates the recruitment and admissions processing, with faculty making all final decisions."

2tor also supplied substantial capital for marketing and recruiting to get the program successfully launched. As another USC participant expressed in a press release about that program, "When you put it together, it's got DNA from both of us."

But just because both parents are talented doesn't ensure that their offspring will be—particularly if the parents are too busy to pay attention. For any top-flight degree program to succeed online, it must involve its top faculty. And therein lies the

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"We want them to teach us everything so we can unleash them online properly," says 2tor's James Kenigsberg of the company's work with USC faculty.

challenge. Award-winning business, management, and accounting instructors probably have more compelling projects on hand than figuring out how to use the new course management system or push the right buttons to capture their latest lecture.

That's why UNC relies on 2tor's experts to do the heavy lifting. "They're able to take what our faculty do extremely well—which is think about how you convey complex concepts and drive discussion and learning—and help them think about translating that into a different medium," claims Cates. "That has been a critical part of getting our top faculty involved in this program. Nobody is requiring faculty to do this—they are an army of volunteers."

In the beginning, a number of instructors did question whether the online experience could be as good for participants. "Those people have turned around to thinking, 'Wow! This can be a richer experience on some levels than we could have in a classroom environment,'" notes Cates. "We're charting new territory. Our faculty are being stretched to think differently about how to accomplish in a new medium what they do now."

2tor's Technology Approach

2tor provides a technology platform that evolves to support the online initiatives of its client schools. At its most basic, the platform employs the open source course management system Moodle, along with open source video solution Kaltura, and Adobe Connect Pro. But according to James Kenigsberg, the company's chief technology officer, once 2tor's done with them, you'd hardly recognize the programs.

"Moodle doesn't have a social site, so we've built a social engine to facilitate the level of learning that we want," he says. "For example, when our students log in, what they see is more like Facebook and less like other leading learning management platforms out there. They see a news feed where other classmates are discussing things or sharing links, where professors are chatting. We've brought the best ideas and tools around social media and implemented them in a way that makes sense for education."

But such whiz-bang features are still unable to take all the interactions, activities, and energy that permeate a b-school classroom and replicate them on the computer display of an online student. That's where 2tor tries to surpass the standard approaches often offered by instructional technology teams.

"A great teacher has more than enough great ideas," says Ian Van Tuyl, 2tor's VP of production. "What we're there to do is to help those great ideas mesh nicely with available technologies and new tech that can be adapted for specific needs."

The development process begins by sitting down with the course lead—the faculty member designated by the university to design a given course—and having that person describe the course as it exists "on the ground," explains Van Tuyl. Then 2tor comes up with ways to translate that experience online. ▸

SPECIALIZED SERVICE PROVIDERS

ALTHOUGH THE UNIVERSITY OF SOUTHERN CALIFORNIA has had dramatic success working with 2tor on its online master of arts in teaching—and is seeing quick traction with its recently launched master's in social work—the university is also collaborating with another firm that provides similar services. Embanet Compass Knowledge Group, based in Orlando, FL, will help the university launch two new online programs and support three existing ones.

The online versions of the school's master of science in geographic information science & technology (GIST) and master of arts in gerontology were both designed internally and launched in 1998. The master of aging services management debuted in 2009. USC is tapping Embanet to handle several services related to all three programs, including marketing, recruitment, and student support.

The service provider is also working with USC on the launch of two new degree programs: a master of communication management and a master of public administration.

The two competitors, 2tor and Embanet, offer similar services—startup investment, student recruitment, course development, and faculty and student support. Each also commands a cut of the revenue generated by the online program.

There are differences, however. 2tor specializes only in master's degree programs, whereas Embanet, which lists 36 institutions as customers on its website, has a broader focus. Also, 2tor has a proprietary version of Moodle to which the company has done a lot of customization. Embanet tends to emphasize content, which can be used with any major learning management system that an institution specifies.

The two companies may not be alone in the market for long. The delivery of online educational programs by service providers is definitely a "sector that will grow," says Susan Metros, USC's associate vice provost and deputy CIO for technology-enhanced learning. Pearson Education is a company to watch, she believes, along with The New York Times Co., which offers the Knowledge Network through the Epsilen platform specifically for continuing education and lifelong-learning programs. "You're going to see some really interesting partnerships," Metros predicts. "I would be surprised if Google didn't have something up its sleeve, because there's definitely a business proposition here."

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DON'T EXPECT FACULTY TO WIN OSCARS

WHY CAN'T FACULTY simply take their classroom magic online themselves? Susan Metros, associate vice provost and deputy CIO for technology-enhanced learning at the **University of Southern California**, chuckles at the question. "I've given a lot of incentive grants, I've given design courses, I've given [faculty] lessons in how to design learning objects. But how can you compete with a learning object that a publisher can create that's visual and 'produced' in a sense?"

Metros believes it's time to move away from the idea that faculty should create their own digital resources. "The skills required to put a course online and be competitive are so high order," she notes, "it would be unusual to have a faculty member be able to do video production, understand how to create a high-end multimedia program, or develop games and all these new interactive experiences that a distance learning program now offers."

Faculty expertise, she explains, is in research and teaching in their specific subject or discipline. It's not their job to learn the production side of today's high-tech wizardry. What they need to be able to do instead, she says, is communicate their teaching expertise to someone who can translate it for them into a multimedia experience.

One recent problem involved a faculty member who likes to pop a DVD into a player to watch it with the class, pause the DVD to ask questions and get class response, and then fast-forward the show to watch other parts. "That's hard to do online through streaming video," notes Kenigsberg. "People have different buffering speeds and different internet access."

So 2tor built a proprietary tool using an API from TokBox, a group videoconferencing application developer. Now, says Kenigsberg, an instructor can play video in synchronous sessions, stopping and starting the video as he wishes; and students can have voice over IP conversations as they watch the DVD, no matter what their connection speed.

Another professor, who's well versed in Microsoft Excel, still insists for "philosophical reasons" that students prove their statistical problems by drawing something using their hands, rather than relying on a spreadsheet.

"That presented an interesting challenge for us," says Kenigsberg. "In our online environment, we're not accustomed to doing intake from students of hand-drawn materials—and we're not talking about taking a picture of something and e-mailing it. So, because of this particular professor's desire to run exams that way, we're developing tools to enable that."

In developing an online course, claims Kenigsberg, all the faculty members have to be able to do "is express to us how they teach a great class. We'll help them take it online. We'll train them to use the tools. We'll train them in the technology to make sure they know how to teach online."

Beyond Instruction

2tor presumably shares revenue with its partner schools, so it's not surprising that its focus extends beyond instructional technology and faculty development to marketing as well.

UNC's Cates declines to comment, but, according to 2tor's Kenigsberg, the company deploys Salesforce.com for constituent relationship management. As he puts it, "I not only know how we met the prospect, but I also know how he did in school. Technically, I know every click."

As a result, if a university lacks a robust student lifecycle system of its own, 2tor has it covered. "There are some benefits to having a system that tracks a person from being a prospect to post-graduation," Kenigsberg says. To augment that information, every time a student finishes a unit, the program asks two or three questions about how satisfied he is with the content and the instruction. This feedback goes into the database and helps 2tor improve the program.

Some students and administrators may balk at the idea of a third-party company being able to track every click, but Kenigsberg is quick to add that, legally speaking, all data still belongs to the university. "Everything we create as part of this relationship belongs to the university—all IT, all the content. We facilitate, but they own it."

It's that ownership arrangement that drives 2tor's decision to partner with only a single school in a given topic. "UNC has a wealth of knowledge of how to teach specific courses," notes Kenigsberg. "We want them to be all-in with us. We don't want them holding back the secrets that make them different from other MBA programs out there. We want them to teach us everything so we can unleash them online properly." CT

Dian Schaffhauser is a senior contributing editor of Campus Technology.

Resources

2tor: 2tor.com

Adobe Connect: adobe.com/products/adobeconnect.html

Embanet Compass Knowledge Group: compassknowledge.com

Epsilen: epsilen.com

Kaltura: corp.kaltura.com

Moodle: moodle.org

The New York Times Co. Knowledge Network: nytimesknownow.com

Pearson Education: pearsoned.com

Salesforce.com: salesforce.com

TokBox: tokbox.com

UNC Kenan-Flagler: www.kenan-flagler.unc.edu

USC Rossier School of Education: rossier.usc.edu

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To score on a project as expensive and complex as a green data center, a CIO needs to understand the best time to seize the opportunity.

Taking the Shot

By Jennifer Grayson

MARK TWAIN ONCE SAID, "I was seldom able to see an opportunity until it had ceased to be one." He would have made a lousy CIO. In today's high-pressure IT world, almost every opportunity comes hidden inside a problem. And when it comes to "greening" a data center, the problems can be especially daunting, given institutional inertia, budgetary concerns, politics, and more. For CIOs looking to notch up a win with a leaner, greener data center, the key to success often lies in understanding when those very same problems can be used to press the advantage.

"I call it the institutional readiness factor," says Susan Malisch, vice president and chief information officer at **Loyola University Chicago**. "Are things lining up so that you can make a good case for what needs to happen?" Malisch and her team recently jumped on the opportunity to build a new, energy-efficient data center after being forced out of their old one. "Timing is everything in some cases," she explains, "and for us it was certainly the impetus for us to be able to move forward with a big and expensive project."

The Heavens Aligned

A green data center was not initially top-of-mind for Loyola. When opportunity knocked, though, the IT department opened the door wide. "In our case, we had a few things lining up on campus that were, quite honestly, outside our control," explains Malisch.

Over the years, the school's population of Jesuits, many of whom taught on campus, had shrunk. Their residence, in a large building in the center of the school's Lake Shore campus, was quite old, so the university decided to tear it down. Coincidentally, the endpoint for Loyola's entire voice and data network was also located in the building.

Moving that infrastructure to the data center wasn't an option: The server room, located in a different building on campus, wasn't much of a data center from the outset. The cooling apparatus was so poor that oscillating fans and temporary ductwork were deployed to try to control server temperature. "It looked like a temporary server room that had grown to accommodate all the equipment of a data center," says Malisch.

At about the same time, a university-wide disaster-recovery initiative required IT to examine how well equipped Loyola was to respond to a disaster scenario (avian flu was a big concern). The exercise was revealing: "We really didn't have a good story to tell around our systems and the environment that we had them in," Malisch admits.

So the university began building a new 2,362-square-foot data center, using a renovated space in the basement of Loyola's Dumbach Hall. Its location, across from the campus steam/chilled-water plant, allowed the school to supply the new data center with cooling via a new chilled-water network.

In Loyola's old data center, the cooling apparatus was so poor that oscillating fans and temporary ductwork were deployed to try to control server temperature.

As luck would have it, Loyola was simultaneously constructing its first LEED-certified building, so IT staff tapped the project's lead design engineer to assist with its new energy-efficient data center, too. In addition, Malisch, along with Dan Vonder Heide, Loyola's director of infrastructure services, attended a weeklong training workshop on data center design at the Uptime Institute (see "The Uptime Institute" below).

Based on this training, they decided to install a winter-mode economizer for the new data center, in which outside air is used to cool the water feeding the data center's air-handling units. Given Chicago's famously frigid winter weather, it was a relatively simple decision with a big upside in cost savings.

In the four years since, the department has virtualized more than 70 percent of its servers and upgraded to Energy Star equipment. Electronic meters installed last Christmas will soon give Loyola a sense of the energy savings, and those data will inform future design and purchasing decisions. All the work has paid off, it seems: In 2007, the data center won an Excellence in Engineering Award from the American Society of Heating, Refrigerating and Air-Conditioning Engineers.

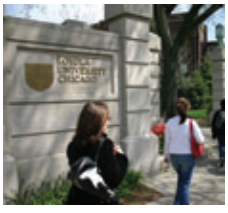
"The intent wasn't greening the data center," says Malisch, whose initial goal was simply to find new space on campus when her old building was torn down. "But if you're going to go through all that effort, you take a look at redesigning what you have, right?"

Making a Fresh Start

Sometimes, a glaring IT problem—and a real opportunity—can become buried under the press of other projects. In such cases, it often takes a fresh pair of eyes to see what needs to be done.

That was the case at **Randolph College**, a liberal arts school in Lynchburg, VA, where Victor Gosnell took the helm as CTO in 2008. Prior to his arrival, the IT team had been very busy: It was in the final stages of a campuswide wireless access point rollout; it had also recently transitioned the school to a new VoIP phone system and had upgraded many lab and public-access computers. All of

THE UPTIME INSTITUTE



LOYOLA UNIVERSITY CHICAGO has a reputation for being green. It boasts a forward-thinking Center for Urban Environmental Research & Policy; it has committed all its future construction to Silver LEED certification; and, last fall, it became the first school in the United States licensed to produce and sell biodiesel fuel. So when Loyola IT staff moved forward with a data center overhaul, it only made sense for them to seek out the most energy-efficient technology available.

As part of their research, Loyola CIO Susan Malisch and Dan Vonder Heide, director of infrastructure services, attended a weeklong training workshop on data center design at the Uptime Institute. The institute, which provides education to data center professionals, has taken on the emerging issue of data center efficiency, working alongside environmental leaders such as the Department of Energy, EPA, and The Green Grid.

It was at the Uptime Institute that Vonder Heide learned the ins and outs of leveraging local climate for data center cooling. Armed with that knowledge, Loyola IT added a winter-mode economizer to its new data center, using outside air to cool the water feeding the data center's air-handling units.

Malisch recommends the Uptime Institute training to any institution looking to redesign its data center. And since communication is key, she advises that Facilities and IT attend the training together. "The partnership, the relationship that you create [between the two departments] is huge," she says. "Because you're really working with a project manager who's probably never designed a data center before. The kinds of things you need to address are different in that kind of space versus a classroom or residence halls or the typical stuff that we usually do on a college campus."

The Uptime Institute also hosts an annual Symposium on Green Enterprise IT, as well as recognizing groundbreaking energy-efficiency initiatives with its Green Enterprise IT Awards. Institutions can submit a project for consideration at *uptimeinstitute.org*.

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THE DATA BEHIND CONSOLIDATION

MORE THAN THREE-QUARTERS (78 percent) of higher ed institutions either have or are developing a plan to consolidate their data center. That's the word from the *2010 Energy Efficient IT Report*, a study performed by CDW Government that looked at energy-efficiency trends in IT at 756 organizations, including 152 colleges and universities.

Among higher ed professionals surveyed for the report, the primary motives behind the drive to consolidate data center operations are:

- Reducing energy consumption (64%)
- Reducing expenditures on hardware, software, and operations (60%)
- Increasing use of new and more efficient computing platforms and tech (46%)
- Supporting a green initiative (42%)
- Increasing IT security (36%)

these projects were worthwhile and much needed. To Gosnell, though, it was immediately obvious that the school's data center was crying out for attention. Randolph's enrollment is around 500 students, yet the school had more than 50 physical servers—some dating back eight years—in its rack.

"It seemed like overkill, the amount of energy it was consuming," says Gosnell, referring both to the electricity the data center gobbled up and the man-hours needed to maintain it. "The amount of time, energy, and cost to keep up all those pieces of physical equipment was exponentially unnecessary for the size of the institution and our data-processing needs."

Fortunately, Chris Burnley, Randolph's CFO and Gosnell's boss, shared his concerns. "When you stepped into the data center, replete with server fans, hard drives, and an AC system to keep them all cool, you would have thought from the decibel level that the room was one jet engine shy of liftoff," remarks Burnley.

In making his case for a new data center, Gosnell tapped into Randolph's own focus on conservation. The college has an environmental studies program, an organic garden, and a chicken coop. Amid all that, the energy-guzzling data center stood out like a Humvee on a street full of bicycles.

But Gosnell couldn't rely on the green factor alone. On a campus feeling the budget crunch due to recession-fueled dips in enrollment, he had to show that he could save some green, too.

So Gosnell and Burnley, together with the network and systems administrators, decided on a simple solution that would pay for itself. With an initial investment of $86,000, the school settled on Dell EqualLogic hardware and VMware software and planned to virtualize 25 of its existing servers. According to the team's initial calculations, Randolph would save 56 percent in total ownership costs (including energy consumption) over a three-year period, as well as more than $200,000 in server refresh costs.

To pay for the new equipment—at least partially—Gosnell repurposed money that he already had in his budget for replacement servers. To identify additional funds, he also launched an examination of the other operational areas within IT. Gosnell ticks off some of the actions he took to reduce spending: "We eliminated a planned purchase of a software package by doing the programming in-house; we reduced the amount of Smartnet coverage on a number of our less critical Cisco switches; and we temporarily reduced the amount of money planned for conferences and travel by using webinars and online offerings." Out of a discretionary budget of about $234,000, Gosnell uncovered a staggering $72,000 in savings.

The savings didn't stop there: The virtualization project proved so easy to implement that the IT team virtualized 25 additional servers. Now, the setup consists of three physical servers running 50 virtual ones, and the school is anticipating $30,000 a year in electricity savings.

"We all concurred that this [project] was the opposite of Murphy's Law," marvels Gosnell. "If anything could go right, it did."

THANKS TO VIRTUALIZATION, Randolph College was able to cut its 50 servers down to just three—and the school is anticipating $30,000 a year in electricity savings.

Going Their Separate Ways

Gosnell seized his opportunity during the honeymoon phase of his career at Randolph. Opportunities can also exist in the midst of a bitter breakup. For Doug Herrick, senior director of infrastructure services at **Thomas Jefferson University** (PA), divorce was the last thing on his mind prior to 2005.

Randolph has an environmental studies program, an organic garden, and a chicken coop. Amid all that, the energy-guzzling data center stood out like a Humvee on a street full of bicycles.

TJU, an academic medical center, had shared a data center for years with Thomas Jefferson University Hospital, a separate teaching hospital with its own IT group. The setup was pretty cozy: While the consolidated data center was housed in the basement of a TJU-owned building, the hospital IT group maintained the facility, charging TJU on a cost-share basis.

As at Randolph, it was obvious that TJU's data center was in need of an overhaul, but the politics of the situation were complex. Even so, the two groups coexisted harmoniously until TJU moved forward with an $18 million electronic medical record (EMR) project for Jefferson University Physicians, a nonprofit physician practice comprising TJU teaching faculty. Suddenly, the aging data center became an immediate concern. "Going paperless was somewhat daunting for folks," says Herrick. "They were very concerned that, if they became dependent upon this EMR service, all of [its] systems and servers...were sitting in this obsolete data center."

Independent consultants brought in to examine the data center—including cooling, electricity, and the site itself—concurred: The infrastructure was, indeed, a ticking time bomb, at least where EMR was concerned. What's more, an investment of $6 million to $8 million would have been necessary to bring it up to speed.

So the project team handling the university EMR implementation turned to the hospital IT group for the next move. The answer? Silence.

"We kept saying, 'Alright, what's the game plan here?'" recalls Herrick. "We were going to go live on this EMR in a few months and we really couldn't have our systems there. The hospital, unfortunately, didn't feel this was something it really needed to address." So Jefferson University Physicians management—with the help of the IT department at TJU—decided to move on.

After examining all the possibilities, TJU's tech group, known as Jeff IT, decided on an innovative, if unorthodox, data center solution: It migrated its computing assets to a 100 percent-outsourced Tier 4 data center and disaster-recovery facility at DBSi in nearby Valley Forge, PA. The one-time costs for the move totalled $357,000, which included new hardware and electronics, new servers and storage, software, construction, and more. The ongoing operational costs are comparable to what TJU had been paying the hospital to share its old data center—a far cry from the millions required to operate a data center in-house.

"No one at our school had done this before; no one had outsourced a data center," says Herrick. "People were saying, 'Are you crazy?'" For Jeff IT, though, getting out of the data center operations business just made sense. "These days, with the economy, you have to ask yourself: What is your mission-critical goal? Is it to run a data center, or is it to provide services?"

Herrick credits his CIO, Bruce Metz, with flexing the political muscle necessary to bring the administration on board. "He went out on a limb to do this," Herrick says. "When you have an organizational break like this with your partner institution, there's a lot of risk. If something goes wrong, you're going to have the 'I told you so' folks lining up left and right."

Luckily, Metz's political capital was spent wisely: The new, outsourced data center provides greater computing power with a 67 percent smaller footprint—thanks, in large part, to virtualization—and a reduction in energy costs of 40 percent. What's more, the move took place in less than 18 months, with virtually no disruption in service.

So far, no one is saying, "I told you so." According to a recent customer-satisfaction survey, 69 percent of TJU faculty and 76 percent of staff and administration think systems uptime since the move to DBSi has gotten "better or much better." **CT**

ONLINE EXCLUSIVE: Four higher education CIOs share their top tips for green data center success.
campustechnology.com/0411_greentips

Jennifer Grayson *is an environmental journalist based in Los Angeles. Don't miss Eco Etiquette, her weekly green advice column for* The Huffington Post *(*huffington post.com/jennifer-grayson*).*

Resources

CDW-G *2010 Energy Efficient IT Report*: newsroom.cdwg.com/features/feature-11-08-10.html

DBSi: dbsintl.com

Dell EqualLogic: equallogic.com

The Green Grid: thegreengrid.org

Uptime Institute: uptimeinstitute.org

VMware: vmware.com

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Student Lifecycle Management 3.0

TopSchool has launched version 3.0 of its software-as-a-service student lifecycle management suite, *TopSchool SLM*, and will be rolling out new features throughout 2011. Among the first features available are a module for recruitment and marketing; TopX, a set of web services that allow institutions to integrate real-time data across campus systems; flexible term structures; and a customizable online application. In addition, the system will provide a placement and career services module; mobile apps, the first of which will allow students to access grades, course schedules, and account balances; an executive dashboard, which will present data such as conversion rates by lead source, enrolled student profiles, and non-completing student profiles; and a modular structure to allow schools to order lifecycle management components a la carte. Contact vendor for pricing. *topschoolinc.com*

Classroom AV Cart

Classroom equipment maker **Elmo USA** has introduced a new AV cart that combines a projector, document camera, and several other interactive presentation tools into a single mobile unit. The *CRT-1* measures 37.25 (height) x 27.75 (depth) x 24.75 (width) inches, and features a locking front panel, two locking drawers, and wheels. The cart comes bundled with Elmo's *TT-02RX* document camera, *CRP-221* projector, and the company's new *CRC-1* switcher, which can remotely power on or turn off devices and adjust both the image and audio settings of AV equipment. Also included are a 25-watt amplifier and two 5-inch speakers. MSRP: $3,499 ($2,750 without the projector). *elmousa.com*

Projector for Under $600

Epson's new *PowerLite X9* LCD projector offers XGA resolution, 2,500 lumens of brightness, and a contrast ratio of up to 2,000:1. It projects a 30-inch image at a distance of 2.9 feet and a 350-inch image at a distance of 34.4 feet. Other features: 1.2x optical zoom lens, plus or minus 30-degree vertical keystone correction (manual), integrated 1-watt speaker, and 5,000-hour lamp life in economy mode (4,000 hours in regular mode). AV inputs include component/RGB, S-video, composite video, and stereo minijack. The unit also includes a USB port. MSRP: $599. *epson.com* CT

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Trendspotter

Moving to Mobile!

Campuses respond quickly as the higher ed mobile marketplace takes shape.
By Mary Grush

GIVEN THE TREMENDOUS adoption of mobile devices and applications in the business and consumer markets, the rising interest in and support for mobile apps on the part of colleges and universities should come as no surprise. And while mobile technology adoption is in its infancy in higher education, we've already seen a substantial move toward the deployment of mobile applications on campus in the past two years.

According to the fall 2010 Campus Computing Survey, more than 70 percent of the surveyed CIOs and senior IT leaders "agree or strongly agree" that "mobile [LMS] apps are an important part of our campus plan to enhance instructional resources and campus services." (Currently, the majority of mobile apps in higher ed are tied to learning management systems, although their features often extend beyond the LMS.)

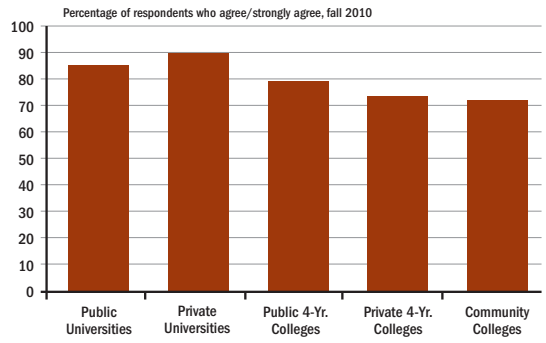
Still, the move to mobile apps on campus remains in the early stages: Just 13 percent of the more than 525 campuses that participated in the Campus Computing Survey reported that they had activated mobile LMS apps as of fall 2010. However, another 10 percent say they will go live with mobile LMS apps this academic year, while nearly a quarter have a mobile app strategy under review. From these data we can see both great interest in mobile applications, and a strong indication of a growing movement in the activation of mobile apps.

What enables this quickening pace toward mobile applications in higher education? The answer may lie, in part, in a change underway in the education marketplace. "The first mobile apps for higher ed were launched just two years ago," says Kenneth C. Green, founding director of The Campus Computing Project. "The first wave of apps came from the LMS providers. However, as of winter 2011, both administrative system/ERP and LMS providers now offer colleges and universities a wider range of applications, resources, price points, and strategies to assist campus efforts to 'go mobile.'"

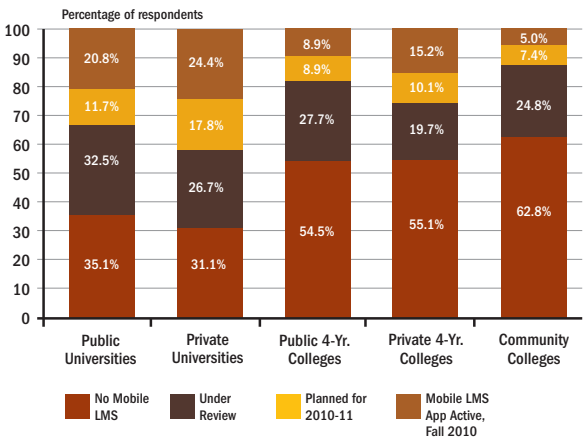
Green sees a promising future for mobile apps in higher education. "Students of all ages increasingly expect their colleges and universities to provide the kinds of app-based resources and services they utilize and enjoy as consumers," he says. "Mobile apps provide easy, anytime access to instructional resources and campus services. Indeed, mobile apps are the new campus portal, as buttons on a smartphone screen replace the bookmarks on an internet browser or the hot links on a campus portal." **CT**

Editor's note: Casey Green will give a keynote at Campus Technology 2011, CT's annual summer conference, held this year in Boston, July 25-28. campustechnology.com/summer11

"Mobile Apps Are an Important Part of Our Campus Plan to Enhance Instructional Resources & Campus Services"



Activating Mobile LMS Apps, Fall 2010



Source: Green, Kenneth C., *Campus Computing 2010: The National Survey of Computing and Information Technology in American Higher Education*, *campuscomputing.net*

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