

UBIT news

spring 2012



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A Greener Shade of Blue in Information Technology

By Tom Furlani, Interim Associate Vice President and CIO, furlani@buffalo.edu

UB has a long and proud history of leadership in environmental stewardship. Research in alternative energy sources, environmental engineering and solar energy are good examples, but also included is the application of green technologies and practices to information technology. For example, the UB 2020 IT Strategic Transformation, which continues today, has paved the way for green IT practices throughout the

university. Examples are server virtualization, cloud computing and virtual computing which allows students, faculty and staff to access applications directly on their laptop or home computer without the need for dedicated computing labs.

Given the ever-increasing role that information technology plays in education and research, it is not surprising that applying green IT to improve data center operational efficiency has become a major focus for many organizations, including universities. Unfortunately, many existing data centers, including those at UB, were built when energy efficiency was not as important a driver in data center design as it is today, and therefore in most cases they are not operating as efficiently as their more modern counterparts. Making matters worse is the fact that demand for computing and storage capacity is steadily growing, and institutions such as UB are in the unenviable position of looking for ways to reduce their environmental footprint and operational costs while also expanding services.

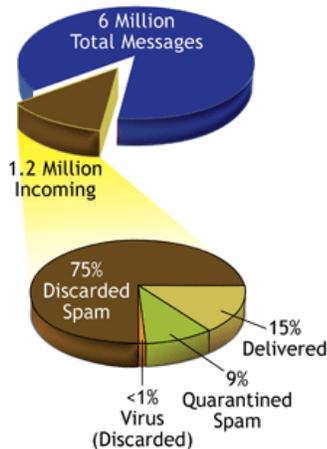
It was with the competing goals of reducing our environmental footprint and expanding compute capacity that the Center for Computational Research launched a series of **green IT projects** a little over 2 years ago. With funding from the New York State Energy Research & Development Authority (NYSERDA) and a National Institutes of Health (NIH) S10 equipment grant, I am happy to report that we were able to achieve a remarkable seven-fold increase in CCR's research computing capacity while simultaneously decreasing the data center's total energy consumption by 20%. Impressively, as of January 2012, these strategies have saved the university more than \$278,000 in electrical costs and resulted in a reduction in greenhouse gases of more than 550 metric tons. Results of this project can be found at the link <http://nyserda.ccr.buffalo.edu>, which includes "Cost Savings" and "CO₂ Savings" odometers that present up to the minute summaries. The technologies and strategies utilized here are readily transferable to other existing data centers, and indeed are being deployed in the recently relocated CIT data center.

Of course, green IT is not the only thing that has occupied CIT and the Nodes over the past several months. As the newsletter shows, we have been quite busy working on new and updated technologies aimed at providing improved and expanded services to our students, faculty and staff, including an innovative new learning environment in the School of Management, new self-help course capture technology in the School of Social Work, and a much needed refresh of CIT's UBUnix timeshare environment (which was UB's "cloud computing" solution long ago, when clouds referred only to things found in the sky).



Did you know...

When you average the daily incoming, outgoing and Listserv email:

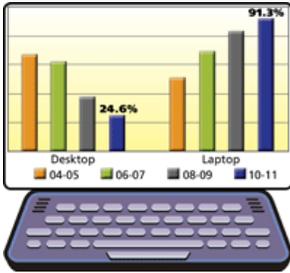


Over three-quarters of incoming email (900,000 messages) is spam that never reaches your inboxes!



Did you know...

Nearly all students now use laptops



Over 90% of UB students use laptops, while desktop ownership steadily declines. Students also report relying more on multiple mobile devices.

I hope you find the information in this newsletter useful. As always, we look forward to comments and suggestions for future topics as well as feedback on IT services and initiatives in general. You can find previous issues of the newsletter on our Web site: <http://www.cio.buffalo.edu>



Jacobs Hall 214 Learning Space



Did you know...

Security Matters



Click on the social media icon to visit a website filled with tips on how to use social media safely - and to your advantage!

School of Management Classroom "Goes Global"

By Professor Rajiv Kishore, rkishore@buffalo.edu & Lisa Stephens, stephens@buffalo.edu

How can you tell when a collaborative classroom design is effective? In the case of the new Jacobs Hall 214 Learning Space, the students are quick to smile and share what they like about the room: "I don't have to bring a laptop;" "We can videoconference with students from all over the world;" "It's a really quiet room, it's easy to hear the instructor;" "It's a really attractive room - the lighting and furniture is nice!"

Several staff and professors from the School of Management collaborated with CIT's Network and Classroom Services to create a high tech, flexible environment around three guiding principles:

- Provide and control technology: create a hands-on technology-based learning environment with a desktop for each student to both enable and limit technology use depending on instructional activities and objectives;
- Arrange seating for collaboration: create a team-based learning environment using cluster-style seating in the classroom (rather than traditional lecture hall seating) for promoting teamwork both among students in the classroom, and with those connected globally;
- Collaborate globally: connect the classroom and student teams transparently through video-conferencing and other common web-conferencing technologies for promoting collaboration with universities abroad and gaining access to industry guest speakers from anywhere in the world.

Problem-solving skills, team-based work, and an understanding of global issues and cultures are increasingly important in today's business environment. This classroom provides a great combination of hands-on problem solving using high-end technologies (such as access to SAP's Enterprise Resource Planning software) and a team-learning environment that also allows global collaboration using the latest telepresence technologies.

One innovation incorporated as a "proof of concept" was using specialized paint for whiteboards. "The faculty requested a way to maximize white board space, and this allowed three of the four walls to be used as white boards" said Dave Costello, Assistant Dean and IT Director; "We were able to save money and provide the faculty exactly what they needed."

In order to maintain the integrity of the student computer configuration at each workstation

the IT staff implemented Faronics' "Deep Freeze" software. Classroom computers are configured with the software each instructor requires, but when the students log off at the end of class, the computer is returned to its original configuration with a simple reboot. Dave Costello explained, "This has saved the IT staff lots of support hours by not having to constantly reimage machines. The machines are always ready for the next class coming in the door!" Instructors also value having control over student's use of computers, restricting access to class-related exercises, because the workstation monitors are otherwise retracted beneath the desktop during lectures.

This classroom has been used in Professor Kishore's *Management of Globally Distributed Services* graduate class to connect with an MBA class in South Korea for a collaborative team project (with paired teams), and to have a senior executive from IBM deliver a guest lecture from Singapore into his class. It was designed to enable the use of SAP and other technologies in the school's new MBA option on *Global Services and Supply Management* and its MS programs for real-time, hands-on problem solving and collaborative learning activities, whether the students are in Buffalo or abroad.

TechQual+ is Coming to UB!

By Rick Lesniak, lesniak@buffalo.edu

How do we know when we're doing a good job? How can we measure it? Your speedometer tells you how fast you're going, but not if your engine is running well! IT has lots of "speedometers" to measure traffic and service access, but it's far more difficult to figure out if faculty, staff and students are receiving the right kind of services. The Office of the CIO is preparing to pilot TechQual+ before the end of the semester to gain insight on how faculty, staff and students perceive the quality of UBIT Services.

Dr. Tim Chester, CIO from University at Georgia, spoke at UB this past November about the perception vs. reality of service effectiveness in large university IT organizations. "Very often, good IT service delivery goes unrecognized because it's transparent and rightly assumed - while occasional service problems get amplified due to a variety of issues often unrelated to the technology itself," he said. "Use of specific outcomes-based assessments can really help to guide service planning, prioritization and project execution."

Dr. Chester was inspired by the very successful use of the LibQUAL+ survey used by over a thousand research libraries, so he adapted and developed a similar tool for use by IT providers. The key to this survey tool is that it's web-based, contains over 20 standard IT measures, can be tailored to faculty, staff, IT staff and student roles, and provides very quick analysis. TechQual+ also offers a peer institution database for service comparisons that will help with long-term benchmarking. The current plan is to pilot and learn about TechQual+ by first surveying UB IT staff, then begin offering it to faculty and students.

Invitations will be issued to a sample population, but the responses will be anonymous in order to promote candor. Over time, a significant portion of UB faculty, staff, administration and IT staff will receive an invitation to participate in TechQual+. "UB has a long history of surveying students, faculty and researchers regarding IT service needs, and we look forward to piloting this tool to learn more about how we can continuously improve IT services, communication and collaboration" said interim CIO Tom Furlani. You can learn more about TechQual+ by visiting the EDUCAUSE ECAR [report](#).

Student IT Experience Survey Report

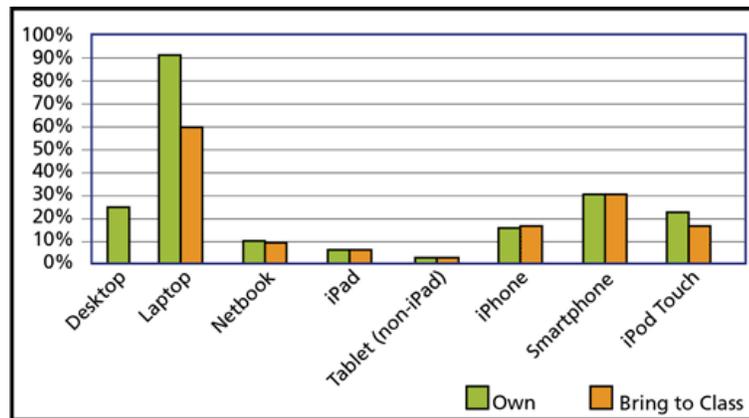
By Lisa Stephens, stephens@buffalo.edu

Students overwhelmingly confirmed in the 15th annual UBIT Student IT Experience survey that they increasingly rely on multiple devices and platforms. "We're living in a very fluid IT environment," said CIO Tom Furlani. "It's incredibly helpful when students take the time to respond to this survey so we have feedback and suggestions to better plan IT support for their living,

learning and research needs - we listen to what they tell us."

Over 2,400 students participated in the study, which was a substantial increase over last year's survey, and we are very thankful for the response. Three-fourths were undergraduates, with graduate and professional students also represented across the campus. Overall, compared with previous years, service satisfaction was up, dissatisfaction was down, with neutral responses rising slightly. Over three-quarters of students report being *very or somewhat* satisfied with UBl earns, public workstations, and iPrint - all high volume and high profile services. These rates are holding relatively steady over the past 4 years.

As the plot below shows, over 90% of students own laptops, yet only 60% bring them regularly to class, with many choosing instead to rely on mobile devices (tablets and smartphones) to take notes or capture reminders for class. Adoption of Apple™ products rose slightly (likely due to increased use of iPads), but the smartphone use is pretty evenly divided among Android and iPhone, with Verizon the slightly favored carrier.



"We're actively working on substantially increasing the deployment of mobile apps to improve the quality of the UB experience for students, faculty, staff and alumni. This includes specific apps targeted at UBl earns and the HUB, as well as a general purpose app that ties into core functionality such as the library, athletics, food services (menus), campus maps and student bus schedules." said CIO Furlani.

The *My Virtual Computing Lab* (MyVCL) pilot, which allows students, faculty and staff to access public computing lab software directly on their own workstation or laptop, is a resounding success. Students were asked, "Assuming equal access to software, printing and file saving from public sites or MyVCL" which they would prefer - nearly 2:1 liked the flexibility MyVCL offers. Scheduled and unscheduled learning spaces continued to be valued as well. A slight preference was expressed toward "first come - first served" spaces in hallways and foyers, especially near dining spaces, but many student also desired more spaces that could be scheduled online for access to whiteboards and large table space for project work.

In an effort to reduce the overall length of the survey this year, only two qualitative questions were asked: *What technology resources can UB provide to be more helpful to your study and research needs?* and *What would have made it easier for you to get started with IT at UB?* All of the responses were reviewed and sorted. Suggestions for improvements were passed on to IT service teams, and a number of students reported that website information or brochures about IT services written in non-technical language would help them get started, particularly during orientation. The IT Policy and Communications Team is currently working on improvements based on these suggestions for incoming students in 2012.

Many thanks to the students who participated in this year's survey to help improve IT services for all! Visit the [UBIT Scoreboard](#) site to read the [final report](#).

UBIT Alert is Re-Worked!

By Lisa Stephens, stephens@buffalo.edu

When something seems funky with your computer, how do you know whether the problem is confined to your particular machine or part of a larger campus service issue? You can start by checking UBIT Alert at www.ubit.buffalo.edu/alert.

UBIT Alert has long been a source of information for IT staff and others when IT service issues arise. The alerts range from announcements about routine maintenance and service notices to timely updates during an unplanned outage.

In the past, IT service alerts have largely been written and posted by CIT staff seeking to inform their departmental IT colleagues of service issues and planned maintenance. However, if you have ever read one of these alerts and thought "what the heck are they talking about," rest assured that you are not alone! Not too surprisingly, these Alerts quickly became a topical focus during a series of meetings with faculty regarding their understanding of IT services. Barbara Rittner, Associate Dean in the School of Social Work, summed up the challenge. "We understand that it's important for technical people to communicate with each other in precise language that they understand, but faculty, students and non-IT staff need just enough detail to understand what a service issue means to us in non-technical terms. It will save a lot of effort in the long run if I don't have to call my local IT person to interpret a technical alert."

Out of these meetings, a new online UBIT Alert messaging process was designed so everyone on campus could tell "at a glance" whether a service is unavailable, slow, or experiencing instability - in clear, non-technical language.

The new UBIT Alert website contains a collection of over 80 Alert templates covering the most common types of IT service maintenance and outages. The templates may be used both by technical staff when requesting an Alert, and by the staff responsible for posting an Alert. The headlines (which appear as the subject in the emailed Alerts) use common service names and a controlled service status vocabulary to quickly convey the nature of a service change. The messages themselves have been revamped for clarity and consistency. Most include:

- The anticipated timeframe the service is affected
- The current status of the service and implications for campus use
- Who is affected on campus: faculty, staff, students, technical staff or campus area
- Who is NOT affected (if reason for confusion exists)
- A brief, non-technical definition of the service
- When an update can be expected (if a resolution is not posted first)
- A separate "Technical Details" section containing a more precise technical explanation to assist departmental IT staff or to request action
- Contact information if additional information is required

As the UBIT Alert system is refined, the vision is to expand and improve the Alert template collection with feedback from CIT staff. There are also plans to create a graphical "dashboard" that uses symbols to indicate whether any major campus IT services (Email, UBlerns, HUB, MyUB, etc.) are experiencing difficulties - and that may be the quickest way yet to tell if the "funky" is at your desktop or elsewhere. To be even more useful, the dashboard will also be available on mobile devices.

Please tell us what you think!

UBUnix Lives On

By Rick Lesniak, lesniak@buffalo.edu

The concept of "time-sharing" computing resources was first made practical in the early 1960's. It allowed multiple people access to costly computing resources by swapping their "jobs" in the processor queue, instead of limiting just one person/program on a computer. This model persists as a cost effective strategy for sharing computing resources.

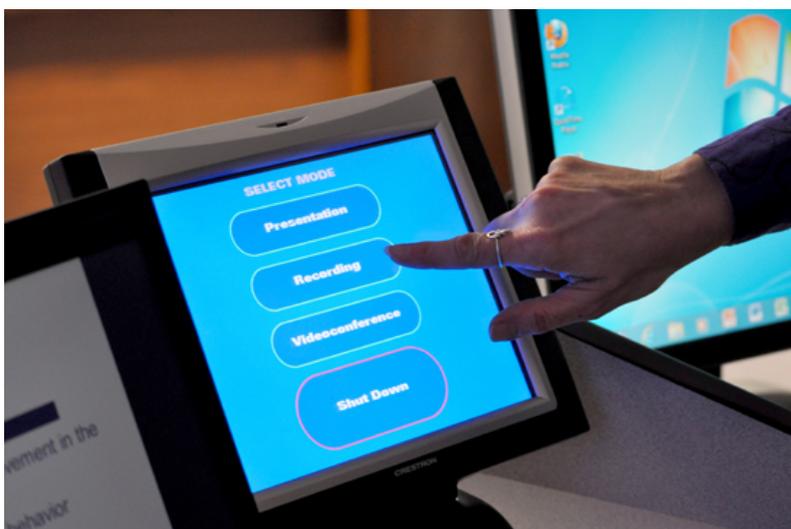
But with the ubiquity of technology devices in today's ultra-connected society and proliferation of "cloud" resources, is the concept of time-sharing still legitimate? Is there still a place for this remote access model for instruction and research at UB?

It's true that virtually all computing done today is focused at the personal computing device level, including smartphones and tablets. The economics that drive resource sharing focus on scarcity, but also on managing vast resources accessible through the Internet.

UB has provided UBUnix, a central time-sharing environment, for over 20 years without much change - except for some security updates. Over the past few years, usage statistics reflect an increasing interest in this environment for instruction and research, owing to the retirement of similar environments at UB. UBUnix provides access to costly analysis and synthesis software that requires more processor power than personal devices can provide, so in a way, UBUnix represents one of UB's first "cloud" services.

This past winter UBUnix received an update to the Red Hat Enterprise Server operating system, for which software developers continue to develop their products. The new UBUnix, retaining the same name, now has six times more CPU power and double the memory of the older system. UBUnix-old—the name of the old system— will remain available until mid-March 2012 to assist the migration process, barring unforeseen circumstances. Complete details on the new system are available on the UBIT web site at www.ubit.buffalo.edu/ubunix.

For those devoted to UBUnix there have been some obstacles. The Pine email program, for example, is no longer supported or available, but for the most part migration has been a simple and transparent process. For the devotees, knowing their UBUnix environment will continue to be supported may be reason enough to celebrate!



Social Work faculty can now use "one touch course capture"

Social Work Faculty "Self Help" Course Capture

By Steve Sturman, sturman@buffalo.edu

Small screen magic at the touch of a button! Course capture is now easy within the School of Social Work. Following orientation and practice sessions, full-length and mini-lectures are being self-recorded by faculty in 206 Parker Hall without technical assistance. "It's easy to use, and I like being able to re-record something immediately" said Charles Syms, Clinical Associate Professor. "I use the room all the time for my online course and the students like it too - they prefer seeing a person on video rather than listening to a disembodied voice over slides."

The School of Social Work has previously received **national accolades** for their use of educational technology in the "**Living Proof**" audio podcast series that provides information to people challenged by a range of life events - from caring for aging or chronically ill family members to dealing effectively with grief or trauma. This new learning space now takes video to a new level.

One use of a "mini lecture" video would be a short clip that introduces students to a particular client interview technique. These can be pre-recorded and played back as part of a classroom lecture, but they can also be posted on the Web. Students really appreciate the opportunity to go back to the video in order to review and become more familiar with the material. Professional development lectures are also captured and shared with students and colleagues around the country, as well as pre-recording the occasional lecture for on-campus students when a professor is required to be out of town for research or a conference.

The room itself is set up to be flexible: it's used as a technology classroom, a conference room that can manage both video and webcast connections, and has moveable furniture. One corner features some comfortable furniture that replicates a professional office environment, similar to what a social worker would use during a counseling session.

There is a capture station "rack" in the back of the room so an assistant can manage the capture and display technology on behalf of the instructor when requested. The School is planning some additional investment to update the room, and our faculty look forward to producing many more hours of course and continuing education content.



Thanks to everyone who submitted their ideas to the first IGNITE competition. Pictured from left: Jim Giardina, Anthony Smith, Paul Francavilla, Ann Marie Landel, Mark Ferguson, Robert Ballacchino, Rob Colantuoni, Lisa Flaherty, Jerry Bucklaew, Gary Koterias, Greg Nolte and Paul Nguyen.

IGNITE Winners Announced

By Lisa Stephens, stephens@buffalo.edu

How can new ideas be encouraged? IGNITE them! CIT's Network and Classroom Services (NCS) division sponsored an internal, team-based competition to encourage new innovations and offer a chance to further develop an idea. IGNITE's acronym: (I)nnovate - (G)row - (N)etwork - (I)deas - (T)eamwork - (E)xcellence was modeled after similar programs in use at Federal Express and PricewaterhouseCoopers.

Each team had just five minutes to present their proposal to a panel of judges, who then responded with five minutes of additional questions before scoring each team. Following presentations, an audience of peers was also invited to vote for their favorite idea, and the team with the highest combined score claimed victory. A panel of judges recently selected the "weTouch" proposal submitted by Greg Nolte, Gary Koterias and Paul Nguyen to be further developed as part of an IGNITE competition.

Team "weTouch" proposed using the Apple iTouch as an inexpensive communication tool to keep support staff remotely connected. Greg Nolte said, "Soon we'll be able to communicate to the technicians in the field via an inexpensive iPod on UB's wireless network, where cell phones and walkie talkies do not work. Our next step is to find out how effective the iPods are."

Tom Furlani added, "This is a professional development opportunity that goes beyond traditional job skills and emphasizes teamwork. Congratulations to Kathleen Murphy, our new Chair of the Professional Development committee for offering what I hope is the first of many new staff development opportunities and doing so in a fun and engaging manner."

For more details about the IGNITE competition, please visit: www.ncs.buffalo.edu/node/237.