HDI

The IT Service & Technical Support Community

IT's Readiness for the Higher Ed Future

Getting Ahead of the Trends

by

The HDI Higher Education Forum

Faciliated and Compiled by Cinda Daly

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Introduction

> The traditional model of college is changing, as demonstrated by the proliferation of colleges (particularly for-profit institutions), hybrid class schedules with night and weekend meetings, and, most significantly, online learning….Student convenience is the future….[The] pressure [these and related changes] will put on colleges to adapt are coming at a particularly acute time….Impatience over how slowly colleges are changing is perhaps higher than ever, too.
>
> — Grant Sabatier and Martin Van Der Werf[1]

The conclusions Grant Sabatier and Martin Van Der Werf drew from their research into what higher education will look like in the year 2020, highlighted above, stirred the minds of the HDI Higher Education Forum (HEF) members. These are not secret trends; they are readily apparent in colleges and universities around the world, and higher education's IT organizations are struggling to keep pace. The HEF members are facing these issues every day as students, faculty, and business partners demand more diverse services, more creative uses of technology in the classroom, and more open support for the devices they are accustomed to using in their personal lives.

Recognizing the immediacy of these trends, and the broader pressure on IT organizations from governing bodies to help higher education remain competitive as a business, the HEF set out to provide insight on these impending challenges and guide others on how to prepare for and meet a new technological future. In a series of live and virtual meetings between February 2011 and July 2011, the HEF defined five key trends, identified the challenges and impacts associated with these trends, outlined considerations for future success, and shared some practices that have already proven effective for a number of universities and colleges.

This report is intended to help other institutions confront the future with confidence, whether they are public or private, whether they serve small, medium, or large student populations, and whether they follow residential, virtual, or hybrid models. To provide some context, each chapter focuses on a specific challenge, and includes a synopsis of the challenges and impacts technical support organizations are likely to face (if they aren't already facing them). Assuming readers would have a general familiarity with the trends, the contributors concentrated on considerations for the future and solutions that work today. While these examples are specific to higher education, the trends identified here have surfaced elsewhere in one form or another, and have topped the agenda at other industry events and Forum meetings. Many of the ideas presented in this white paper can be easily adapted to other situations and environments.

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[1] Grant Sabatier and Martin Van Der Werf, "The College of 2020: Students," *Chronicle Research Services* (June 2009), p. 3.

One driving reality is clear: IT and technical support organizations will have to find ways to continually evolve. The scope of change will vary, based on the organization's present culture, current state of technological advancement, available budget, organizational structure, and willingness to progress. In the case of Calvin College, a complete IT reorganization mandate was clear.

Navigating an IT Reorganization
Bill Vriesema, Calvin College

With low enrollment driving a 10 percent college-wide budget cut, and a reduction of our IT staff by at least five FTEs out of thirty, our IT department was ripe for restructuring. For the past two years, our leadership team has discussed ways to make our customer service delivery more efficient. Escalation between IT teams was inefficient and disruptive. Lifecycle ticket ownership was nonexistent, and a lack of communication caused frustration internally and externally. Over the past year, our CIO and human resources department invited input from every staff member as to what our "pain points" were, and ideas for improvement. Input was also given as to how we might restructure our teams to make workflow more efficient and less redundant.

In May 2011, the new structure was announced to our whole department. New teams and team memberships were identified. There were, and still are, many details to iron out as to what tasks should reside with which teams; at least ten specific areas of concern were identified. However, it was acknowledged right away that everyone would be involved in working these items out. All staff are being given a chance to be on a team to design new workflows that make sense within the new structure.

The human resources group led our new teams through two team-building seminars, which was instrumental in driving a successful transition. The first seminar facilitated DiSC, a personality and disposition testing and discussion. The second seminar administered the Strengths test, which starts with online testing and results in a personal assessment of one's talents, knowledge, and skills across five major areas.

These two discussions were very helpful for our new teams to understand how we work, and many of us learned new things about our coworkers. As our new service desk team came together, we were able to assign responsibilities based on strengths that were highlighted during discussions. Some staff who had felt pretty constrained by their duties in the past now have new duties that can help them develop their strengths while improving our service to our customers—even with an overall reduction in staff.

The restructure has realigned our teams so that all customer-facing responsibilities are now under the new service desk team, and all operation functions are under the infrastructure team. In addition, a business services team was formed to centralize all budgeting, purchasing, asset management, and project management.

Challenge 1: Classroom Design and Infrastructure

New, rapidly emerging instructional technologies are changing the dynamics of content management and delivery, and placing additional strain on technical support organizations. According to a 2008 research study by the Economic Intelligence Unit, "The Future of Higher Education: How Technology Will Shape Learning," nearly two-thirds of survey respondents from both the public and private sectors say that technology innovation will have a major influence on teaching methodologies over the next five years. The report's author, Marie Glenn, concludes that while the respondents view technology as having a largely positive impact, "technology remains a disruptive innovation," generating a variety of operational challenges as faculty learn to adopt the new technologies, and some unplanned-for consequences, such as student plagiarism and cheating.

Additionally, evolving business models have prompted school administrators to seek ways to reach a wider audience through online classes that don't carry the overhead and expense of physical classrooms. This objective is driving the need to support education on site and virtually, as well as through mobile technologies, and the trend toward offering online and hybrid classes (a model combining online with in-class content delivery). The accompanying demand that IT provide support for personal technology, in addition to classroom equipment, has resulted in a variety of challenges for both the faculty and the IT organization. Furthermore, customers have varying levels of basic technical skill and troubleshooting ability, which puts additional strain on the service organization.

Faculty members are looking to IT for leadership in this area. However, IT tends to see this trend as a hardware issue when it is, perhaps, much more a pedagogical shift than a technical one.

What impact do you think technological innovation will have on teaching methodologies over the next five years?[2]

A major impact	63%
A modest impact	36%
Little or no impact	1%
Do not know	0%
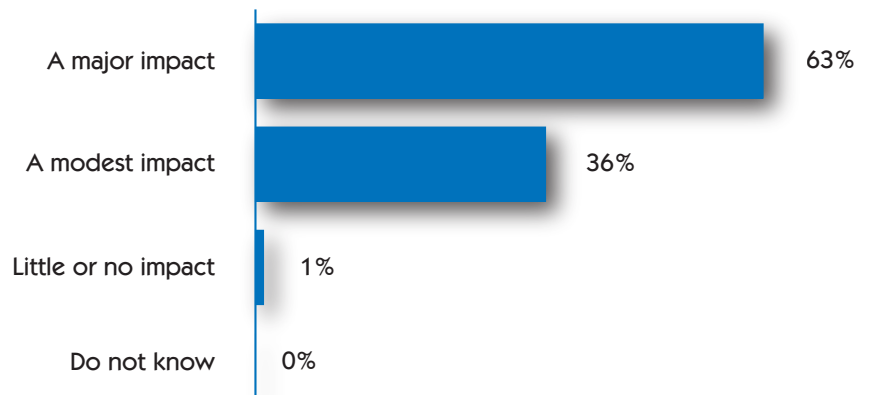
[2] Marie Glenn, "The Future of Higher Education: How Technology Will Shape Learning," The Economist Intelligence Unit (October 2008)

The Impact of New Classroom Technology on Technical Support

Legacy buildings and infrastructure present several physical challenges related to classroom fixtures, furniture, and electrical systems that don't easily adapt to or support new technologies. Furthermore, when budget decision makers include these new technologies in IT's budget, they often cover the capital expenses, but don't include budget allocations for maintaining and sustaining those resources or services. The infrastructure may be built in, but resources to support it may be lacking. Additionally, when institutions receive large donations and gifts, they may be allocated to new building projects, rather than infrastructure upgrades or building remodels. These gifts rarely address infrastructure sustainability, either. Consequently, more often than not, the IT department absorbs these expenses as additional overhead and responsibility.

On another front, and closely connected with the trend toward cloud-based computing services, some faculty members choose their own technology and services to meet their instructional needs. This may be because IT cannot be agile enough to provide customized solutions, or it may simply be that faculty members are accustomed to working on their own, making technology standardization more difficult to establish or enforce. Over time, IT is expected to support multiple solutions, straining staff resources and taxing the knowledge base, not to mention potentially introducing more security issues.

Considerations for the Future

Have a strong vision that is driven by the college, faculty, and end users. As is sometimes the case, the million-dollar technology installations moving into today's classroom are driven by the A/V consultants and contractors, not necessarily the faculty or end users of that technology. New building and renovation projects can be particularly vulnerable to this scenario. Architects build these technology capabilities into the plans, bring in large A/V contractors to design the environment, and hire integrators to provide the infrastructure, resulting in a solution that is so complex, it requires special support to maintain it.

Consider how much new classroom technology you introduce at one time. Many organizations speculate that less than 25 percent of the capability built into new spaces is actually used. As Mark Fitzgerald observes, "When we talk to many of our faculty members, all they really want is to show their PowerPoints, have mics that work so everyone can hear, and be able to show videos." While they are not averse to technology, faculty members may not really care about having two monitors and two projectors in the classroom. Consider building these technology environments in specific areas, rather than all over campus.

Host open houses for faculty orientation and training. Faculty acceptance of new instructional tools is a real consideration. Using the open house model, faculty members can come into the environment before the term begins, preview the new images, explore

the space, learn how to use new tools, ask questions, learn how to get support, and share information. It works best to schedule a couple of hours when the entire faculty can come in together and when instructional technologists can be on hand in a lab environment. But keep in mind that, at first, participation can be a challenge. Some HEF members report that often only a small percentage show up, so the first time they hear from someone is when there's a problem during class. "Some of the collaborative partnerships we do at Hobart and William Smith Colleges are helping with that," says Kelly McLaughlin. "The word is spreading. In the past, we've done an institute each January before spring semester, a small miniconference where the faculty share ideas and work with the technology. They are seeing that IT is not a barrier anymore, but really is a partner."

Determine ownership responsibility for the individual tools students need to access classroom technologies. While many institutions provide these tools for students (much like they used to supply printed textbooks), not all do, and that practice may shift. Most students bring their own PCs or other devices that can access instructional and research resources when they arrive at the institution. As such, requiring those devices on a bring-your-own basis could become the new standard. Access for students who do not have their own devices, and perhaps do not have the means to acquire them, remains a consideration.

Consider the feasibility of virtualization for granting students access to classroom technology. Closely related to the issue of ownership responsibility is the promise of virtualization and the diminishing need to own or provide a student computer. Through virtualization, institutions could provide a virtual machine that students could check out as needed to access classroom technology.

Solutions That Work

The Technology Task Force
Mark Fitzgerald, Boise State University

In late 2010, the president of Boise State University formed a "Task Force for Teaching, Learning, and Technology," with the aim of transforming how education happens on campus. One of his desires was to see every student with technology in the classroom. We are finalizing the foundations for a multiyear plan that focuses on digital content, learning with technology, and assessment. Rather than give each student a device, we have recommended that all core (i.e., foundational classes) use browser-delivered digital content. In other words, new students need to have devices they can use to access the web, to which we can deliver content.

As they progress in their academic careers, students may be required to purchase devices specified by either their major departments or other programs. This way, specific programs can focus on apps, tools, and devices that fit their needs. We are bringing the bookstore, OIT, the academic departments, and others together to establish the standards for these devices.

We have a long way to go in this process. There are a lot of infrastructure issues that we need to iron out. It will require a significant investment by the university. But, by focusing on the delivery and assessment of impact, we aim to make a difference in the lives of our students. It will be a year of preparation to get the first classes converted and fitted for this new educational model.

The Tech Fellow Program at HWS
Kelly McLaughlin, Hobart and William Smith Colleges

The digital learning team at Hobart and William Smith Colleges has launched a program called "Tech Fellows." This program was created to give student employees who have gained a certain level of technical knowledge and teaching skills the opportunity to work more closely with the curriculum. Tech Fellows provide support to faculty, fostering effective integration of technology into the curriculum. By working with faculty and students, they strive to promote active learning through the instructional use of digital resources.

Tech Fellows work independently, meeting with faculty to assess their needs. In those initial meetings, they brainstorm with faculty on technologies that will meet course objectives. They provide the faculty with feedback on the effectiveness of their technology-based assignments, and they also provide students with guidance on project work. Additionally, they offer training workshops on specific software or equipment that are fundamental to a given course. These workshops are often offered in conjunction with the faculty, during class time. Tech Fellows are required to hold office hours.

Full-time instructional technologists coteach technology-heavy courses with faculty members, so the faculty can focus on the course content while the technologist teaches the technology. It's a true partnership.

The Tech Fellow program was developed, in part, to empower student employees to serve as the technologists in this collaborative teaching model. Charlotte Lysohir (WS '12) says, "Being a Tech Fellow in a class full of your own peers is very exciting. I find that teaching others how to use programs, such as iMovie, and answering their specific questions has actually helped me to learn these programs better. It's a very reciprocal thing, really. I may not look like your typical techie, but don't judge a book by its cover. Helping students and professors with presentations and other projects has really taught me to be confident in my computer skills, as well as in my abilities to enlighten my peers."

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The BYU Learning Suite

Jared Harward, Brigham Young University

The BYU Learning Suite is a set of internally-developed integrated tools that helps faculty administer their courses and provide feedback and interaction with students. Developing its own learning suite allows the university to accomplish its two principle design and development goals: (1) to integrate university data systems with core functions, and (2) to innovate by building the tools unique to BYU. The suite replaces the commercial learning management systems currently in use on campus. It also provides students with a one-stop shop for courses either created within the suite or those housed elsewhere.

There are many tools that are part of the suite, some of which are tightly integrated, while others are only "loosely coupled." Modules that are currently under development include a syllabus builder that allows faculty to create their syllabi online, automatically load data from other university systems, and show the syllabi in the course catalog; a content authoring and delivery system; a calendaring system; a messaging system; an exam creation and administration tool; a gradebook; and a multimedia discussion board that uses audio and video recording.

The entire system is built on a foundation of university web services that facilitates data sharing between the suite and other university data stores. The system is also modular, in the sense that individual functional modules of the suite could be replaced without disrupting the interface or requiring major redevelopment.

Learning Spaces

Mark Fitzgerald, Boise State University

Based on tours of other campuses and comments from HEF members, we are changing the structure of student labs on campus. We are moving many of our computers from a traditional lab into common spaces in our student union and interactive learning center, a large classroom building. The computers in labs, collaborative areas, and classrooms will all have the same image, software, and setup. We are setting them up as an information commons, using collaborative furniture and providing many additional resources. We are also establishing a hands-on technology support center. This is where people can sit down and work with IT on integrating technology into their class assignments, troubleshooting problems, and learning what resources are available to them. It is a very large project for us. It has involved four colleges, support staff from academic technologies and OIT, and many others. After eight months of planning, we opened the doors in August 2011.

Teaching and Learning Simplified
Riyad Zienni, McGill University

McGill University is renovating the audiovisual equipment in nearly 140 classrooms. IT services is installing Crestron controllers in classrooms that either have no remote controls or have several remotes for various pieces of equipment. The Crestron controllers will be able to operate all equipment in the class from one central location, ensuring remote functions operate correctly and relieving faculty members from the hassle of manual controls. The controller also resolves the issue of missing remote controls or remotes in need of new batteries. The new Crestron units also standardize the way equipment is controlled from classroom to classroom, which makes it easier for instructors to move confidently between classrooms.

Through the Crestron units, support consultants will be able to remotely operate the equipment in each class as if they were on site. This will provide immediate assistance to instructors when needed, speed up troubleshooting and resolution time, and increase first call resolution, while allowing the instructor to concentrate on delivering an engaging learning experience.

Busy with a Number of Initiatives: Classroom Capture Technology
Joann Trottier, Saint Michael's College

We are entering the second year of a campus-wide classroom-capture technology implementation, which began with a small pilot in 2010. It has become a way for students to prepare for tests, review material, and catch up on missed classes. The faculty adoption rate for this technology has been excellent and is still increasing. Because the classroom-capture system we are using (Tegrity) is web-based, we're finding it to be easily scalable and readily available anywhere on campus. *(Refer to the addendum for other initiatives at Saint Michael's College.)*

The Rapid Response Cart
Jared Harward, Brigham Young University

With the increase in classroom technology, we know it is important that faculty are able to bypass the service desk when they are having trouble with the technology during class. There is call a hotline number posted at the TEC room podium, and we have built multiple rapid response carts to support that hotline. Support technologists take this cart to the classroom and get the classroom back up and running as quickly as possible. Even if the fundamental problem cannot be fixed on the spot, the faculty member can continue with the class with minimal downtime.

Challenge 2: Cloud Computing Services and Virtualization

The emergence of a cloud computing infrastructure and SaaS delivery models is raising more questions than answers about institutional systems and applications, turning IT support services on end. What's clear is that this trend is defined more by the questions it raises than by a crisp, clear statement of the challenge. Consider HEF member Camille Fangue's assessment of cloud computing and SaaS at her institution: "Cloud and SaaS? It isn't. This has been a real struggle for us. We have not been able to get anyone—faculty, students, or IT—to agree on what is useful in the cloud or SaaS arena. There is still a great deal of confusion, mistrust, and distrust here." It's a common state of affairs.

It is also clear that everyone recognizes that the trend toward outsourcing many local applications and services to the cloud will have a direct impact on the way institutions provide IT support to their constituents. Companies that provide SaaS solutions typically have large-scale data centers with hundreds of physical servers (and/or thousands of virtual servers), all with the appropriate administration, monitoring tools, and staff. While SaaS services may be outsourced, it is still expected that IT will provide broad support, and that IT may not have any control over these services (consider Google Apps and Moodle Rooms) or any outages thereof. What does that mean for IT services? Most IT shops have support personnel in place, but few of these shops have people in place who are experienced with managing outsourced contracts.

Navigating changes in the organization is the underlying challenge: culture changes, procedural changes, and changes associated with generational differences. What is required to successfully move legacy solutions to the cloud? Have universities built into their plans exit strategies for leaving SaaS-based partnerships? Similar to VM sprawl, will organizations see SaaS sprawl (i.e., some colleges within an institution will adopt one vendor—say, Moodle—and other colleges adopt another—perhaps Sakai)? Will this shift require retraining or a change in job duties? The challenge is to answer these questions with clarity.

The Impact of Cloud Computing on Support Services

With the range of voiced concerns about SaaS and cloud computing, coming primarily from IT organizations, it's a wonder that these technologies have managed to permeate any institution. Yet, as much as IT has to worry about the end users administering their own access rights, the reverse is also true: the IT department doesn't have to administer access rights. Resource control shifts to the hands of the true decision makers: the students, faculty, and staff. By engaging in SaaS services, experts can focus on managing particular services, while the IT manager can focus on the technology important to the business of running a university.

However, without a clear, common definition of cloud computing and SaaS-based services, the stakeholders—IT, faculty, students, and staff—may not be discussing the same things and may be trying to solve problems when they aren't even sure what it is they're trying to solve. But it's tempting to venture out. The sheer scale of SaaS solutions offers options at a lower cost per client and provides more rapid deployment than higher education IT organizations can typically provide.

So many cloud services are currently available that IT cannot always provide a clear path to the best ones to acquire, or, if they can, the best practices for using them. As a result, many faculty members are reaching out on their own, often without the authority to make acquisitions in the first place, and without a clear understanding of the solutions they need, how to integrate them with the institution's infrastructure, or how to manage the solutions once acquired. This practice puts the IT organization in an awkward position, at best. In any scenario, these emerging infrastructure and solutions choices will demand new skills of IT managers, including the finesse to negotiate vendor contracts.

Another common concern is that cloud technology has softened campus IT services standards by offering more *a la carte* options that faculty and staff can access without consulting IT. Regulatory and audit issues become a concern. It is not reasonable to assume that all faculty members engaging in cloud services will have been trained and are aware of the regulatory issues regarding access rights, data sharing, and authentication.

Finally, one of the broadest fears to overcome—grounded or not—is the belief that higher education institutions will no longer own the data resident in cloud environments, putting intellectual capital, proprietary data, and institutional research at risk.

Considerations for the Future

Identify the cloud or SaaS technologies you are already using. As part of the discussion underlying this paper, the HEF collected a list of technologies that they are already "outsourcing" or that are cloud-based. The list was quite extensive and revealing. Some of the services mentioned included Blackboard, Moodle, Google Apps, Facebook and other social networking sites, admissions recruiting services like Fire Engine Red, library resources and databases, antiplagiarism services, online incident ticket systems, customer satisfaction services like the HDI Customer Satisfaction Index Service, and so forth. It's clear that there is broad use of cloud- and SaaS-based services.

Determine how decision making can be centralized and distributed. Traditionally, IT has controlled IT services. Now, however, technology decision making is moving from central IT to individual faculty members who are deciding for themselves what tools and services they will use, simply because they can. Decide who will drive the change, IT or the center for teaching and learning. (And yes, the answer is, "It depends.")

Understand who is driving the change and why. Answering this question may help decision makers determine the consideration above. Who's driving the train? "On our campus it appears to be IT, but we have faculty and other departments really helping to guide us," says Mark Fitzgerald of Boise State University. "But it's easy for us to understand how the faculty can be fully driving it in other universities because the IT organization may be too slow to respond. We have to recognize that there are drivers and laggards in any organization and that directly affects the direction. You may just end up following the path of least resistance."

If the choices are left more in the hands of the professors, then the decision making needs to be policy-driven. Consider this scenario: a professor purchases a service to use in the classroom, negotiates the contract, and enters into an agreement with the vendor. Is that an agreement the professor, the educational curriculum department, or IT manages? Can professors do that? Should they do that? Who supports that service when the professor encounters a problem? You will need policies to guide this. In the absence of sound, clear policies, the choices will have to be driven centrally due to the legal issues and implications surrounding them.

Identify the impact of decentralized choices on university costs. Universities have enjoyed large discounts on volume purchases of solutions like antivirus software. However, when individuals make purchases, they can compromise the university's ability to negotiate volume discounts with vendors. Know these costs and understand the long-term financial implications.

Determine who provides governance and oversight, and then provide it. Oversight of cloud computing services and applications is necessary to avoid service redundancies and protect the institution from usage that may violate copyright laws and software license agreements. Establish guidelines around freeware and provide oversight for both fee-based services and freeware, including contract management, change customizations, and version control.

Determine who provides the support for cloud services and applications. The student lab aides and help desk staff are going to be asked a multitude of "how do I use" questions by anyone who comes through the door. "We don't support that" doesn't suffice anymore. Whether the services are freeware or fee-based may influence that determination: freeware support may be the acquiring professor's responsibility, while fee-based service support could rest with IT or the center for education, depending upon who has oversight responsibility.

Consider the role of business analyst instead of educational technologist. In this role, a business analyst works with the faculty on best practices, gathers the requirements, specifies the solution, and then turns the request over to the IT organization to find that solution. Following the implementation, the analyst would assist the faculty with developing or implementing best practices for delivering that content. The IT organization becomes a solutions aggregator, providing some solutions from the cloud, others from internal resources.

Plan your exit strategy for SaaS relationships. You may ask, "Why are we talking about exit strategy now?" For years, IT staff have been saying, "We can't move to this new tool because we don't have an exit strategy." It's not about an exit strategy. It's about how fast this industry will continue to change and how quickly IT organizations can adapt.

Solutions That Work

Changing Roles: The Research "Librarian"
Joshua Tooley, Abilene Christina University

Using cloud computing services leads to a redefinition of certain job roles; the help desk role, in particular, may evolve into one that is similar in nature to research librarians. Help desk analysts are knowledge workers that seek out information, as are the research librarians who focus on a specific discipline (engineering, for example). Librarians are not engineers by trade, but they understand how information is stored for engineering, which is different from how it is stored for math. They know how to find, categorize, and store information; help desk professionals understand how to search and find things and may develop specialties in a similar way to librarians. A help desk analyst may not be a very good network technician, but does know how to research network issues and find answers.

From a SaaS-support perspective, the analysts will have the relationships with the SaaS vendors. The analysts may not know a particular technology or solutions provider in-depth, but they know how to interface with those technologies and providers, find the answers to the unknown, and search for solutions and more effective applications. The new role becomes more about building relationships and archiving, organizing, and storing things differently.

Client Virtualization
Dennis Gillespie, Indiana University

During phase one of the IU client virtualization project, our committee investigated the full spectrum of virtual desktop and virtual application use cases, including solutions offered by Microsoft, Citrix, and VMware. Viable candidates demonstrated solutions for delivering desktop operating systems and applications to a variety of end-point devices, including thin clients, laptops, desktops, smartphones, and others. The committee finalized its recommendation, establishing that client virtualization was achievable and desirable as an enterprise service.

The executive leadership of our client virtualization committee asked us to extend the proof of concept as a university-funded, phased implementation for a select set of use-case scenarios. IU selected Citrix as its preferred partner for delivering virtual technologies at the enterprise level, emphasizing role-based application delivery. The budget included funding for sourcing data center hardware, personnel, and application licenses for enterprise deployment. The phased implementation was designed to deliver a production enterprise service for virtualization, measuring success for students, faculty, and staff on two regional campuses and as part of a small pool of early adopters.

In phase two, the committee is seeking to extend lifecycle replacement and simplify desktop management, creating new opportunities for school and departmental leadership to get more for their technology dollars. Ultimately, this enterprise service will modernize the computing model at IU, demonstrating new efficiencies and cost savings.

Headlines from the Hilltop: Desktop Virtualization
Rachel Mulry, Southern Methodist University

We're in the midst of several proof-of-concept projects for desktop virtualization, targeting lab environments and public machines first. The goal is to have, by summer 2011, a working lab running all thin clients. We're also hoping to develop a virtualized environment where students can access various applications needed for class from their own laptops anywhere on campus. (*Refer to the addendum for other initiatives at Southern Methodist University.*)

Boise State and Google
Mark Fitzgerald, Boise State University

In 2008, Boise State University made the decision to move its employees to Google Apps for Education. It saw this as an opportunity to extricate itself from the business of administering an e-mail system, which would enable it to focus on other projects and activities that would provide greater value to the institution. They also saw the move as an opportunity to more closely align with Boise State's strategic plan.

Since this decision was made, the staff has fielded a large number of calls from over seventy higher education institutions and other organizations. For Boise State, the discussion is much broader than whether or not to use Google Apps for Education. The discussion is representative of the future of technology in higher education overall: outsourcing, cloud technologies, collaboration, and continual development cycles. It also touches on learning styles, the responsibilities of support teams, and strategic alignment.

Moving to the cloud may take longer than you expect. Realize that there are necessary cultural changes that need to occur, and it may take some of your customers a long time to understand what Google Apps can do for them.

Challenge 3: Campus Communications

Social networks have shattered traditional channels, fragmenting established communication efforts and rendering them ineffective. With the variety of social networking sites being used by students, higher education is challenged with deciding how best to use these resources without further watering down the communication strategy. Fewer students are reading e-mail, and it's harder to reach students through traditional methods. Yet there is no "single point of communication" being adopted by either the institution or the students. To date, social networking as a communication method has been used by IT departments mostly to supplement e-mail and web page communication. As such, this method has met with mixed success.

It's unclear how much students really want to friend the help desk (or even how long Facebook will continue to be the rage). Google+ is moving in, and it's safe to speculate that another social environment will eventually supplant what students are using today. The looming challenge is how IT organizations should communicate with the students and community at large, and use the right tools to stay in front of the next big thing.

The Impact of Social Networks on IT Communications and Support

The far-reaching impact of social networks in our society at large, magnified in the higher education microcosm, is still being determined. What we know, on the positive side, is that these networks open many more avenues for reaching an audience. It is the one truly ubiquitous dynamic that impacts communication styles, direction, frequency, and speed of reach.

Higher education institutions' long legacy of controlling the message has been shattered by social networking. Without clear policies, governance, and oversight, communication between the IT organization and end users is often fragmented and ineffective. That social networks can introduce some security challenges, both to the infrastructure and to personal safety, almost goes without saying. Security is an ever-present concern. From a resource (i.e., staffing) perspective, effectively using this marketing medium and managing it as a communications device in the support services organization is a real challenge.

The IT Service & Technical
Support Community

Considerations for the Future

Assign responsibility. Coordinate all efforts through one central staff and office, giving the service desk primary responsibility for posting communications.

Be ready for the BTTWWADI gang. As you begin to establish a social media strategy and outline best practices and policies, "because that's the way we've always done it" will create obstacles along the way. Be flexible and open to change, overcoming the groups that gravitate toward BTTWWADI. Your strategy will drive—and mandate—an IT culture change.

Establish guidelines and governance. Seek to establish guidelines rather than set policies. Policies usually pass through a number of channels and approval cycles, making them difficult to implement, and they practically incite the BTTWWADI gang to rise up. Include guidelines that address communication standards, define professional content, and establish who within the IT staff can post and what they can post. Institutions will need to monitor these channels and may need to enforce policies surrounding what it considers to be the "official" communication channel for both institutional and personal use. But be flexible about any policies you put in place. If you get buried too deeply in the policy, the channel and the messages get lost.

Have students drive the initiative. Leverage students and student employees in your social media strategy, so that your organization mirrors what your community is doing and reaches them where they are. Consider the fact, however, that not all students, especially those who work in the IT department, are excited about combining work with social networking, making their personal Facebook activities the same as their work-related Facebook activities. They want to separate these worlds. Some people, however, are happy to combine and share everything.

Have a communication strategy and put sociability in the social network. Concentrate on how you can use communications to be more thought provoking and encourage socializing around IT, rather than just pushing downstream IT communications. Be careful how and when you communicate about new technology, which could imply that your service desk is in the business of supporting that technology. The line of support can easily blur, so draw your lines carefully.

Build flexibility into your networking practices and channels. Many social networking tools are just fads, especially when compared to accepted media like e-mail. What you adopt today might not be next year's popular choice. With the dynamics and tools changing so rapidly, and because BTTWWADI is such a common obstacle, built-in flexibility is a prerequisite.

Support a culture of "the service desk listens," and provide an outlet for people to share their opinions. Those opinions should help shape the social offering, spotlight feedback for improvement, and keep the channels engaging.

Integrate your tools and centralize the communication point to avoid fragmentation. Twitter. Facebook. MySpace, LinkedIn, e-mail, and more: which ones do you use, when, and why? Institute a way to embrace the ones your community uses, manage the message flow, and streamline the process so that your messages are coordinated and consistent. Weigh the benefits of posting the same message in multiple outlets, varying the text to match the style and personality of each channel. This helps ensure that your message reaches everyone, without hitting viewers with the exact same message multiple times. The (new) adage "The medium is the message" applies here: leverage the channel to match your message. For example, use Twitter to announce system outage information, post workaround instructions in the other channels.

Solutions That Work

Texas Tech IT Expands Into Social Media
Shannon Cepica, Texas Tech University

Social media is a rapidly growing business. According to recent statistics, there are over 500 million active users on Facebook, 50 percent of whom log on to Facebook on any given day. Texas Tech's IT help central hopes to reach out to its customers who use social media by launching Facebook, Twitter, and YouTube pages. Coordinated by IT help central staff and student assistants, these pages will provide customers with "how-to" videos, alerts about IT system statuses, and general tips and tricks to managing their IT resources. According to Randall King, a programmer/analyst for IT help central, these pages will also serve as an alternative outlet for reaching faculty, staff, and students in a way that may be faster and more convenient for them.

"Basically, this will be an extension of our existing services," Randall says. "People spend so much time on social media sites on a daily basis, and we want to be where our customers are located. And if they want to interact with us through those channels, we want to provide that service to them."

IT help central has already begun the process of setting up these sites, and plans to have them up and running before the start of the fall 2011 semester.

UWIT Social Media Outlets

Brett Williams, University of Wyoming

In fall 2010, the UWIT department kicked off a social media campaign that has tried to open communication with the campus community in a less formal or IT-driven manner. We wanted to have an identity that wasn't based on the average "how-to" document, but would create an actual voice for UWIT, one that was more transparent to our community and could communicate what was happening in technology and how it would affect the University of Wyoming.

Our social media team generated "the it blog" to share information with the campus community. The blog has been the driving factor for our social media strategy. Using Wordpress, we generate content for the blog using our student staff within the help desk. The students write one blog a week with a goal to get two postings a week on the site. The social media team edits the blogs as needed and schedules them to post on specific dates. The students enjoy relaying information they consider relevant to the blog. They like to do research about up-and-coming technologies and how they will impact their technical lives as students at the university. The blogs are not necessarily how-tos. They are more about what it is like to work at the help desk, how the newest smartphone will work with the wireless network, and what apps are good for students at UW.

We encourage our followers to visit the blog by sponsoring contests, using our prize budget of $40 per month. We announce contests using Twitter and Facebook, which link back to the blog. This has been effective in getting people introduced to the blog. Since we launched the blog in January 2011, we have had 7,827 views, with 138 views on our single-busiest day. We have sixty-one "likes" so far on our Facebook page, and thirty-four followers on Twitter. We are still in our infancy, but we are starting to get a following and are pleased with the impact it has had so far.

Using HootSuite, we integrate our Facebook and Twitter accounts to announce new blog entries and post information about any issues that may be happening in real time. Hoot-Suite gives us the ability to post messages simultaneously across all our social media channels and schedule our postings well in advance. We try to stay two months ahead in blog content and have our HootSuite posts to Facebook and Twitter scheduled out accordingly. As a result, we are not constantly shuffling messages, making it that much easier to manage.

Challenge 4: Technological Diversity and Mobile Technology

Mobile technology is changing the way that customers interact with the service desk, and higher education institutions are facing increased support demands for an ever-changing (and ever-increasing) number of devices and platforms. Students, faculty, and business partners are depending upon university IT to provide "standard" solutions to both cutting edge and lagging technology.

In this same study, 66 percent of the academic institutions that responded to the survey believe they are behind the curve in new technology adoption as compared with the business world. In similar research, conducted by HDI in November 2010 (HDI Research Corner report, "Supporting Mobile Devices"), 49 percent of technical support professionals report that they are struggling to keep pace.

People are arriving on campus with their own laptops and other mobile devices, expecting campus IT to assist with connectivity issues for all these devices, and to allow access to campus services, including IT services, through them. Students, and other campus personnel, may not understand that not all technology services are available for mobile connection, although they may expect them to be available. Consequently, campus IT is being challenged to make decisions about employee cell phone policies and data plans. At the same time, some departments bypass IT and purchase devices independently, expecting IT to support them.

Over the next five years, how important do you think the availability of new technologies will be to students as they choose a university to attend?[3]

Response	Percentage
Very important	73%
Somewhat important	25%
Minimally important	2%
Not important	0%
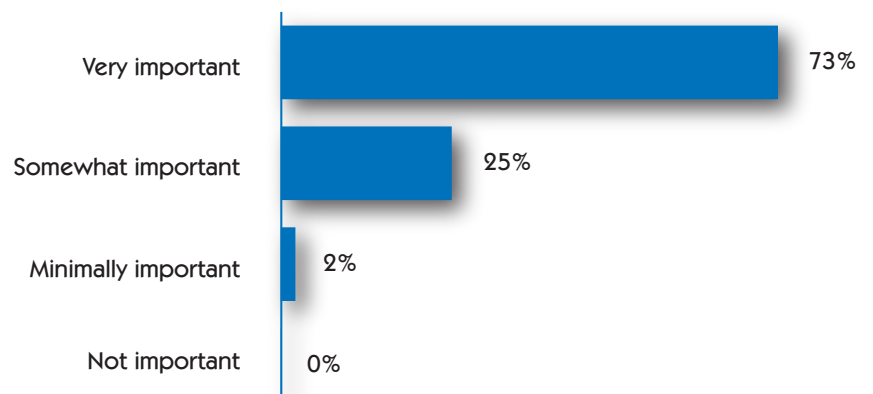
The Impact of Device Diversity

Consumer technology is driving what people want to use on campus, which is changing the nature of the help desk overall, including how it provides services. Its customers' support expectations are high, and they bring those expectations to campus, expecting the campus services to be similar to, or even better than, what they have become accustomed to from their retailers of choice. Ultimately, the campus's customer service needs to exceed that of outside service providers.

[3] Marie Glenn, "The Future of Higher Education: How Technology Will Shape Learning," The Economist Intelligence Unit (October 2008)

Telephone-based and walk-up services are no longer enough. IT organizations need to provide a variety of support channels, including web services and mobile apps. Web services need to be tested on all devices for compatibility, and app services need to be accessible from the full range of mobile devices. Keeping up is challenging.

And even as new IT services are being developed and IT staff knowledge catches up, the service desk frequently receives requests about unknown devices in the environment that the staff is not prepared to support. While the service desk wants to be flexible and helpful, there is often a trade-off when it comes to service quality. Customer satisfaction is clearly at risk.

Some mobile devices that the institution purchases on behalf of faculty and students now come with data plans. In the case of iPads, these purchases must include iTunes licenses. So it's not just a matter of supporting the hardware devices, but supporting extensions of the hardware and other software that make those devices work. This adds additional complexity, and before you know it, IT is supporting all the data plans across campus.

Finally, the increased security risks associated with mobile technology have not been effectively addressed, including the issue of storing institutional data on a mobile device. With the deregulation of IT, there are further concerns in higher education that include FERPA, HIPAA, PCI, and other compliance issues.

Considerations for the Future

Determine the level of support you will provide and manage support expectations. If you permit people to bring any device with them, you may want to provide network access for those devices and assume that they know how to use the devices they have brought. Consider this position: "If you cannot get connected to the network, call the help desk. If you don't know how to use a feature, call Apple."

Maybe "We don't support this" should still fly. You can't be all things to all people at all times. And, since individuals are already getting support on their personal devices at home, it doesn't necessarily follow—or mandate—that they should start getting that support from the institution when they arrive on campus. The bottom line is to set expectations with regard to what you can support and at what level.

Develop standard configurations for mobile devices (e.g., laptops, iPads, BlackBerry) and tie service levels to them. Determine whether you will provide best-effort service for nonstandard services or choose not to support them at all. Then document those standards and services, and publicize the reasons why the standard offerings are advantageous for the customer.

> *Example 1:* Purchase the standard smartphone because the institution has an enterprise server and monitoring in place to support that device and alert the carrier when an outage occurs. We have several replacement devices on site that can be issued when devices are damaged.

> *Example 2:* Purchase the standard laptop because we preload standard software and can reimage the laptop to that image. We test the compatibility of new software and device drivers for this model to ensure seamless support. We can provide better security on these devices using antivirus software, malware protection, encryption, theft recovery, data loss prevention, and service patching.

If a customer chooses a nonstandard device, you could require them to sign a waiver or an acknowledgement that service for a nonstandard device will be at a reduced service level, perhaps best-effort, or their service request may have to be dispatched to an outside, fee-based commercial service provider.

Consider providing a standard desktop experience through virtual desktops. The virtual desktop facilitates a level of device independence because the mobile device is remotely connected to a service. This solution would provide a consistent customer experience and support the customers' ability to select their own devices, which can be managed easily by a central support organization.

Consider separating the production network and the student network. Concentrate on how to get people to the production network.

Solutions That Work

Strategic Planning at HWS
Kelly McLaughlin, Hobart and William Smith Colleges

Hobart and William Smith Colleges just completed a campus-wide strategic planning initiative, called HWS2015. This exciting call to action from our president, Mark D. Gearan, brought together faculty, staff, students, senior staff, and trustees to make recommendations on the future of HWS. The participants were split into eight groups, one of which focused on sustaining a campus of the twenty-first century. Two major projects were born from these efforts.

One is the implementation of a new HWS OneCard system. The new card will replace the students' keys and be used to access their residence halls. Additionally, it opens the door for many other uses, such as paying for laundry and print services on campus. The entire HWS community will use the new card to purchase meals and snacks from any campus dining halls and vendors, as well as several off-campus vendors. This project began in spring 2011.

Another project that has gained momentum from the strategic planning exercise is an updated campus-wide wireless network. The current wireless network was installed in 2006, and its 240 wireless access points have served HWS well. However, HWS wants to deploy the next-generation wireless-N technology to all campus spaces by the 2012 academic year. In spring 2011, the campus invited twenty vendors to participate in a comprehensive RFP process to bring their best ideas on how to implement pervasive wireless coverage across campus. After completing a bidders' conference, the HWS team is currently hard at work reviewing vendor submissions.

Busy with a Number of Initiatives: iPad Support
Joann Trottier, Saint Michael's College

In summer 2010, Saint Michael's College piloted the use of iPads for academic work with a small group of faculty, in an attempt to learn more about their support needs as they integrated the mobile devices into classroom teaching. Due partly to the enthusiasm and creativity with which the iPads were greeted by the faculty, the pilot has been extended to the entire IT department. We fully expect to see both students and faculty using mobile devices to a greater degree in the near future, and anticipate that this pilot will be key to our ability to provide valuable support to our end users. *(Refer to the addendum for other initiatives at Saint Michael's College.)*

iPad Use at Baylor
Vicky Gerik, Baylor University

We have adopted the following processes at Baylor for the secure use of iPads on campus; these processes apply to individuals, shared usage through departmental labs for students, and our loaner program for employees. We began our iPad pilot in summer 2010 and are still in the process of full implementation. We currently maintain a FileMaker database for storing all contact information for the university-owned iPads. We will be moving this information to the new version of LANDesk that supports device-tracking capabilities. The list of defined processes and procedures includes:

- An ordering process;
- A standardized distribution process;
- A security profile for all units (individual and shared);

- A registration process for enterprise 3G data services;

- A support process;

- A distribution process for iPad apps; and

- A lost-device process

(Refer to the addendum for more details about iPad usage and support at Baylor University.)

Challenge 5: Visitors on Campus

As wireless becomes ubiquitous, the demand for wireless on campus is growing. The university has become a microcosm, attracting and inviting visitors from all areas of our society, visitors who expect wireless support in classrooms, in the business centers, and across campus. These visitors include parents, prospective students, visiting students, conference attendees, conference presenters, guest lecturers, vendors, accreditation officials, auditors, donors, sports and media personnel, nonacademic and nonadministrative institutes and centers, library patrons, etc. And all of these individuals are carrying mobile devices of all types.

Universities compete for students to meet their enrollment quotas, and so, they try to provide and support this "open" environment. There is an increasing technological complexity to meeting these needs, and trends in mobile computing and wireless access have presented challenges to IT departments that are dealing with dwindling resources and limited access to the budgets needed to provide that "open" environment. Compliance officials are working to lock down technology services even more tightly than they have in the past, making it that much more difficult for nonstandard constituents to use campus technology. Thus, campuses are having a hard time meeting the technology access needs of these visitors.

The Impact of Customer Expectations in a Wireless World

Demand for wireless access impacts IT resources in terms of infrastructure and support, in addition to presenting challenges in meeting the requirements of the Communication Assistance for Law Enforcement Act (CALEA)—who is on the network—and other security concerns. Visitors may or may not be subject to the school's acceptable-use policies and their actions while using university resources may affect the university. Examples of such actions include RIAA investigations, denial of service attacks, spam bots, virus outbreaks, black-listed Internet domains, and so forth. Clearly, security constraints and precautions have a direct impact on guest lecturers, conference attendees, and other visitors who may have had access to technology in other environments, expect it to be ubiquitous wherever they go, and experience frustration when faced with access restraints.

Campus officials do not holistically understand the complexities of this "open" environment. Visitors often come to the service desk to get help with their personal devices in order to get connected to campus technology resources. As a result, the service desk ends up in the role of ombudsman.

Considerations for the Future

Define your constituencies. Make sure you define how one's status with the college drives the technology he/she is able to use. It could be that this issue is not a technology question at all; it could begin further upstream with the status an individual has in the college database.

Get your campus constituents on the same page. Make sure your services and who may access them are clearly defined and documented on your web pages for everyone's reference. This is especially important with departments that work closely with various guests, such as a campus events office, admissions, and the provost.

Communicate directly with your visitors about what your institution does and does not offer campus guests in terms of wireless access. Guidelines could include the following:

- When visitors attempt to connect to the wireless network, allow them to access a web page that describes on-campus access availability, how and where to get it, and sets service expectations.

- Post your procedures and expectations online. This communication helps your colleagues as much as it does campus guests.

- Display visitor log-in information and options on public computer screen savers.

- Offer alternatives whenever possible. The IT organization cannot be simply the "Department of No."

- Train your support staff on access services and rights to ensure a consistent response to visitor and campus partner queries.

Be proactive. This may require a culture change. Let campus partners that are hosting visitors know what services their visitors can access, where they can access it, and where they can find connectivity information or documentation. Educate the campus staff to ask their guests up front what they expect in terms of access. Plan to meet with campus partners annually to determine what additional services or improvements are needed to enhance the visitor experience.

Integrate event registration with account activation. The events office could have the ability to assign credentials to network access or generate an IT service request to create access for registered members, creating a more streamlined, automatic process.

Consider establishing a separate wireless network for visitors: an institution-provided solution, an outsourced solution, or a "bring your own hotspot" solution. Some campuses, including Boise State University, are providing a totally separate network for guest wireless. While it can be a bit costly, it solves a host of security, compliance, logistics, and IT management issues. Alternatively, the network could be outsourced, much like home Internet service. Vendors can setup and provide access points at the event level, or at the individual level, for a nominal fee. In the future, this requirement may become unnecessary as visitors bring their own devices—smartphones, iPads, or other devices—to access the Internet via 3G, 4G, and other mobile broadband services.

Balance the values of information security with the values of usability and openness. Guest wireless access has become a necessary part of the experience at college campuses, and that experience—open or otherwise—impacts community relations and the perception of future students who may be considering attending your institution. When open access is restricted, provide alternatives, such as kiosk stations and "cyber cafes," in various areas around the campus.

Solutions That Work

A wide variety of models for guest wireless access are in play in campuses around the country. Some current varieties include:

- "Sponsored" guests. A faculty member, staff, or student uses their personal log-in credentials to create (or authenticate) a temporary account for a visiting faculty member or scholar, a parent, or a friend.

- Pay on demand. Individuals pay for an access point at the event in a way much like what airports and hotels provide.

- Group assigned. The campus events department provides credentials on a group by group basis, a common approach. The group shares the same credentials for a temporary time period.

- Open guest wireless access limited to specific locations. This access is typically provided in common areas, such as campus eateries, the library, and other non-classroom or residential areas.

- Totally open networks. Some campuses are simply providing open access.

Texas Tech IT: A Welcoming Home for Travelers

Shannon Cepica, Texas Tech University

From academic UIL meetings and track-and-field events to research summits, Texas Tech University regularly welcomes a large number of visitors. To help make these guests feel as welcome as possible, the Texas Tech IT division has implemented a wide range of IT services directed toward off-campus visitors. For visitors with mobile devices, a special wireless network (TTUguest) has been created. This network is only available during special events, and connecting to it is a quick-and-simple process (connections typically take less than two minutes to configure).

Occasionally, a guest may need access to authenticated resources, such as network drives or SharePoint sites. To meet these needs, Texas Tech offers the option to create business partner network domain accounts. To request an account, a Texas Tech-affiliated sponsor simply completes a brief online form. The IT division will then contact the guest and provide them with all the information necessary to set up their new account.

For any other IT-related needs which may arise, Texas Tech's IT help central is always glad to step up and help. From e-mail configurations and sign-in issues to virus infections, no job is too big (or too small) for IT help central's qualified support team. Making faculty, staff, students, and visitors feel at home is, and always will be, its number one priority.

Bloomington Campus Rewiring Project

Dennis Gillespie, Indiana University

The campus rewire project is part of a comprehensive Network Master Plan for IU Bloomington's communication infrastructure. The inside wire plant is predominately twenty-year-old Category 3 wiring that is obsolete and fully depreciated and can only support half-duplex 10 Mbps data networking. At IU Bloomington, approximately 72 percent of the 40,500 working outlets are 10 Mbps capable, 22 percent are 100 Mbps capable (Category 5), and six percent are gigabit capable (Category 5E and Category 6). This project aims to replace the wiring of all active jacks with new Category 6E wire, terminate all outlets on patch panels, install 50μ laser-optimized fiber in the risers to support 10Gbps, add card key access to wiring closets for security and audit purposes, and renovate old closets or add new closets, to bring all closets up to IU standards.

This upgrade is essential for supporting current and future networking needs for both voice and data connections. Installing current, state-of-the-art copper wire and fiber-optic cable will remove logjams that many users are facing on outmoded jacks and wiring, which currently limits the speed of their connections.

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Conclusion

Change is constant. No big news there. However, the accelerated change curve we are watching today—driven by brand new technology, new access points, bandwidth sprawl, increasing processing speeds, etc.—demands quicker response and built-in flexibility and adaptability. It probably became evident to you as you read through the five challenges that there are many intertwining trends, with overlapping and, at times, conflicting requirements. It's not surprising to see organizations responding by completely overhauling their strategic plans, introducing sweeping changes to their support services, restructuring their organizations, renovating old campus facilities and building new ones, using new tools—and many of these initiatives are occurring simultaneously across the nation. These are not just changing times; this is a transformative time. A time to, as Daniel Burrus advises in his newest book, *Flash Foresight: How to See the Invisible and Do the Impossible* (HarperBusiness, 2011), not just think outside the box, but completely transform the box itself.

Headlines from the Hilltop: Support Services Restructuring
Rachel Mulry, Southern Methodist University

This summer, our support services group is relocating to offices within the main campus library. This will give us increased visibility and accessibility. At the same time, the service desk team is being restructured to accommodate an anticipated increase in traffic, as well as support the various new services we are implementing. We're moving towards a more blended approach for the help desk, student worker, field support, and cellular support teams. Each team will remain a distinct entity; however, they will work together more closely than ever to handle requests.

The field support team will be responsible for monitoring and fulfilling incoming service requests (account permissions, web permissions, new sites, etc.), in addition to their regular deskside visits. They will each spend several hours a week at the help desk to fulfill these requests. We'll offer live chat as a contact mechanism and use the entire team (students, help desk and field support) to respond to those requests. We're planning on eliminating our help desk voicemail box so customers won't leave us a message, open a ticket, and try a chat for the same issue! We'll see how that goes! *(Refer to the addendum for other initiatives at Saint Michael's College.)*

The IT Service & Technical
Support Community

Addendum: Headline News

Early in 2011, the HEF steering committee defined five pressing challenges and trends for higher ed IT organizations and identified a wide variety of impacts these trends generate. In the spring meeting, the Forum participants began outlining the considerations for future success and shared some practices that have already proven to be effective across a variety of campuses. In the final meeting, the Forum members shared these "headline news" items, highlighting what they are doing in their organizations to effectively address the trends they identified in the spring. Many of those case studies are featured in the white paper. This addendum shares other stories that may help guide your institution into the future.

Building on Small Wins Breeds a Culture of Success
Chris Jones, University of Oklahoma Health Sciences Center

In recent years, OUHSC's central information technology department was invited to develop a model and business service to serve the day-to-day desktop technology needs of several small departments and organizations that did not have local technology support. The resulting information professional support (IPS) service has been both well received and highly praised for its customer service, effectiveness, and commitment to our customers.

By using our incident tracking system to quickly identify IPS customers, we have been able to use the IT service desk as our SPOC for all users, while quickly and accurately routing IPS concerns that fall outside of the scope of the service desk to the appropriate staff for remote access or on-site resolution.

The resulting success has allowed the IPS service team to expand its responsibility to cover the oversight and management of the campus desktop computing recycling program ("GreenSafe") and has recently expanded to add new customers from the OU College of Medicine biomedical sciences departments.

HSC Information Technology is OUHSC's trusted advisor on technology issues. In addition to providing core services, we collaborate with faculty, staff, and students to identify strategies and implement solutions that serve the OUHSC's mission of education, research, and medical care. We achieve this by delivering world-class services, improving operational effectiveness, creating superior customer experiences, and developing a staff of engaged professionals.

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iPad Use at Baylor University

Vicky Gerik, Baylor University

We started our iPad pilot last summer. We are still in the process of full implementation, but wanted to share what procedures we have in place to date. This is still a work in progress, but we have adopted the following processes at Baylor:

- The ordering process;
- The standardized distribution process;
- Security profiles for all units (individual and shared);
- The registration process for enterprise 3G data services;
- The support process;
- The distribution process for iPad apps; and
- The lost-device process

Ordering iPads

Apple iPads that have been approved by the department may be ordered through the Apple online store. They are delivered to ITS Installs and an appointment is scheduled with the department to install the device. There are two types of iPads available: the WIFI option only, or WIFI with added 3G capabilities. If a client wants to order an iPad with 3G capabilities that includes a data plan covered by the university, a client may contact Telephone Services directly and they will order the 3G iPad.

If a department decides to redeploy a university-owned iPad to another individual within the department, the iPad must be returned to ITS installs. Installs will properly remove all data, set up a new security profile, and deliver it to the new client. All university-owned iPads should have an ITID tag on the back. If a client does not have an ITID tag, please contact the help desk.

iPad Installation

Before delivery to the client, our campus security profile is installed on the iPad, along with other campus services, such as AirBear WPA2 and Exchange, which are configured with normal password access. Two applications, DocsToGo and GoodReader, are also installed on all university-owned iPads.

If an iPad is for checkout use, ITS will contact Electronic Libraries for all departmental usage or ITS Client Services for the employee loaner program.

Passcode Requirement

At the time of delivery, the client is shown the basic functionality of the device and guided through the process of entering a required password to use the device. The client is shown how to change or update their passcode when needed. The security profile that enforces the passcode requirement cannot be removed.

Data Service

All 3G iPads purchased by the university require data plans. If a client purchased a 3G iPad through Telephone Services, the university data plan will already be set up. If a change to the enterprise or university data plan is needed, contact the help desk. A new SIM card will be ordered and replaced on the existing device by a technician from ITS.

Most checkout iPads will be WIFI-only. If a checkout iPad has 3G capabilities, no data plan will be included. If data service is needed, an individual may purchase it and if used for university business purposes, reimbursement may be requested through normal channels for business expenses.

For the 3G enterprise (university) data plan charge, a departmental charge will be set up through Telephone Services for a monthly fee for 2GB of data. The billing cycle for the data plan begins on the 26th of each month. If a client needs more than 2GB of data before the 26th of the next month, he/she will be charged an additional fee and provided with another 2GB of data. On the 26th of the month, a new charge will be applied to the client's departmental account.

Support

Much like any other device, clients need to contact the help desk for support. AppleCare is included when purchasing an iPad device, so hardware repairs are not handled on campus. If an iPad needs repair, it is sent directly to Apple for replacement, which usually takes two to three days.

Apps for iPads

A client is allowed to download applications to the iPad for both personal and university-related business. Some applications are free and some have an installation charge. Two applications, DocsToGo and GoodReader, are installed by ITS on all university-owned iPads.

For additional personal applications, the client must pay for the application through a personal Apple iTunes account. For additional university-related applications, the Apple Volume Purchasing Program (VPP) has been very successful, and Apple is now allowing ITS to assign separate accounts to departmental representatives.

To set up an account, a departmental representative must be designated to access the Apple VPP. The departmental representative will receive authorization and training from ITS client services on how to purchase VPP cards in increments of $100 with no tax applied. The departmental representative can then purchase redemption codes as needed. The client would access the Apple App Store and click the "redeem" button to enter the code that has been provided by the departmental representative and purchase the app.

Lost Mobile Device

Any lost device must be reported immediately to ITS. During normal business hours, call the help desk. After hours, send an e-mail to lostdevice@baylor.edu. This e-mail goes directly to an ITS technician that will contact the client before any action is taken. Be sure to include, in the body of the e-mail, information as to how and when the client can be contacted, since the Baylor device will not be an option.

Teaming Up for Success
Bill Vriesema, Calvin College

As IT leaders, we know that our employees have strengths in some areas, but certainly not in others—and that those weak areas are not always improvable. With a newly restructured service desk team, I am embarking on a "test" to see if pairing two different people with opposite strengths will make a certain summer task more successful.

First, a little background. Each summer, we update our forty-five computer labs across campus with a fresh image and upgraded software; at least one-third of these are also refreshed with new hardware. Most of these are academic labs with the same base image, but layered with software specific to that department.

The lab deployment specialist responsible for this task is very task focused and does an excellent job with completing this monstrous job over the summer. However, by his own admission, documentation and communication are not his strong suits. Most of this activity does not make it to a spreadsheet, let alone a work ticket. Feedback from departments has been negative, as they are not kept up to date and have seen details fall through the cracks. This feedback has been largely draining to him, as he is driven to please and does excellent work. He just gets bogged down with record keeping. This has gone on for years, and now this function has been assigned to my area of supervision.

I recently hired a new service desk employee who I am pairing up with our lab deployment specialist. His strengths are some past lab experience, coupled with great detail and documentation skills. I need this new staff member to learn all about lab deployment here at Calvin so he can improve the workflow, organization, and communication of these tasks.

We met and formed a plan. The plan was to create a Google docs spreadsheet with all our labs listed, all the actions needed for each lab, a projected due date, a status column, and a comment column.

My new staff member will be the keeper of the spreadsheet, meeting with my lab specialist a couple of times a week for updates, going over details and roadblocks, and actually going out to labs to help complete some of the tasks with the specialist. Once a week, this spreadsheet will be sent to all department chairs, lab staff, and department assistants. Additionally, he will enter the work orders so we have adequate records of activity in these labs.

What I hope to accomplish is to keep our customers up to date regularly while helping to organize my lab deployment specialist and train my new staff member in this area. It should allow each of these two staff members to utilize their strengths more effectively, while providing better customer service.

Headlines from the Hilltop
Rachel Mulry, Southern Methodist University

In addition to our relocation, service desk restructuring, and desktop virtualization project, we're continuing to build and market our SharePoint 2010 and Lync 2010 services. SharePoint was introduced back in October and Lync was introduced in April. SharePoint is such a robust technology that we're tackling the marketing and training of it in phases.

Another major project underway is the enterprise digital display project. We're determining how to package and deploy digital displays across campus while building the infrastructure to allow emergency management and other critical updates to be displayed campus wide. We already have a few of these displays across campus and several other different solutions in place. So the plan is to convert all displays to the enterprise solution over the next several months.

OS Upgrades at HWS
Kelly McLaughlin, Hobart and William Smith Colleges

On September 16, 2010, IT services at Hobart and William Smith Colleges began upgrading all 1,444 college-owned computers to the newest operating systems (Windows 7 and Snow Leopard). Three key items were identified that would be essential in completing the project: a full computer inventory audit, a formal upgrade process, and a communication plan.

One of the most time-consuming and management-driven portions of the project was the audit. It was important that we confirmed that the inventory was correct, identified which computers would not meet the minimum hardware requirements of the OS, and replaced or cascaded existing computers to ensure we could reach full (100%) compliance.

The physical process of upgrading a computer was a challenge in this particular situation. HWS had decided to skip the Windows Vista upgrade due to the myriad of very well-publicized issues with that particular version of Windows. Because of this, our technicians were required to visit each computer and back up the user's data. A process was written (and used by each technician) to provide consistency in service. The process expedited each upgrade to an average of 2.5 hours for each computer.

Various levels of communication were used as the project progressed. Initial communications were general and targeted toward the entire community. In the middle stages, the individuals who remained were broken into groups that we targeted with more detailed e-mails, providing specific dates for potential upgrade appointments. As the list became smaller and the deadline came closer, personal phone calls and targeted e-mails were used.

The project continues. Currently, IT services has completed 92 percent of all the faculty/ staff upgrades and approximately 50 percent of all public/lab computers. We expect to complete this project sometime this summer as we work through our annual lab reimaging.

CIB Addition to Growing Technology Park

Dennis Gillespie, Indiana University

The Indiana University Cyberinfrastructure Building (CIB) is the latest addition to the growing technology park at 10th Street and the Indiana State Road 45/46 Bypass. As the new home for the majority of Bloomington's University Information Technology Services (UITS) staff, the CIB is designed to visually represent IU's cutting-edge technology environment and its commitment to innovation in service of the university's teaching, learning, and research missions.

Facts and figures about the CIB:

- **Size:** Approximately 123,000 gross square feet
- **Structure:** Three stories and a partial basement
- **Cost:** Estimated at $37M
- **Construction:** Around eighteen months
- **Standard:** Minimum of gold LEED
- **Landscaping:** Ecologically enhanced to capture water
- **Trees:** Existing trees preserved to greatest extent possible
- **Atrium:** Reception and seating for over 100
- **Events:** 250-person reconfigurable, multipurpose space adjacent to atrium

- **Food:** Coffee and popular *a la carte* items available on site
- **Workspaces:** 630 workspaces for Bloomington-based staff and 50 *ad hoc* workspaces for IUPUI-based colleagues
- **Common areas:** Around 125 seats total, in floor hallways near windows
- **Focus rooms:** Thirty-seven private meeting spaces for one to four people
- **Meetings:** Formal and informal conference rooms, plus team and workshop spaces

Major Changes
Richard Trench, Saint Joseph's University

Saint Joseph's University is currently undergoing some major changes. There are three major constructions: the Library Commons, the Maquire campus, and a new resident hall. We've created and filled the CIO position in IT. We have implemented a 24×7 help desk in information technology, with the assistance of SunGard, and we will merge the student and faculty/help desk in summer 2012.

The Library Commons will further our mission as a place of inquiry, a place of dialog, and a place of academic rigor and engagement. It will further our mission as a place of discovery designed to support all student learning styles, from collaborative work to quiet study. It will become the intellectual hub of our vibrant campus.

The 37,000-square-foot Library Commons will be a bright, welcoming, flexible space, responding to all learning styles and providing around-the-clock research and technology support. A center for learning and discovery, the facility will also be equipped with generous spaces for displaying works of art from students and prominent artists. The Library Commons is expected to open by spring 2012.

The Maguire campus, a 38-acre contiguous parcel along City Avenue, represents an astounding 58 percent increase to the University's current footprint and adds the following: 286,000 square feet of space, fifty-two classrooms and 113 offices, eight laboratories, 14.5 acres of playing fields, and 319 much-needed parking spaces.

The Villiger resident hall will create a new 400-bed residential community that is attractive and productive in fostering vital living-learning environments for first-year students. It will consist of five floors, with two wings on each floor that will house approximately forty students. Each wing will have study lounges for individual and group learning and social activities. Additionally, on every floor between the two wings, there will be a large social lounge that provides a shared common space to promote community and interaction between the residents in the building. The ground floors will a feature a large fitness center, laundry facilities, a shared kitchen, and twoguest rooms. The Villiger resident hall will be opened for residents in August 2012.

A new position in information technology, CIO, was created and filled in May 2011. The CIO reports directly to the university's president and attends all cabinet-level meetings. This position directly connects IT to the cabinet and ultimately, to the president.

In November 2010, the information technology group partnered with SunGard to provide 24×7 phone support service to students, faculty, and staff. SunGard continues the service after hours. In addition, in fall 2012, the faculty/staff help desk will merge with the student help desk to provide better and faster service to everyone.

Busy with a Number of Initiatives
Joann Trottier, Saint Michael's College

We recently completed a two-year business continuity project that resulted in the creation of an off-campus disaster recovery site. On June 17, we simulated a disaster and are now effectively running our entire network, file storage, and telephone operations out of the remote site. We plan to operate from the remote site through December 2011. The remote site not only gives us the ability to maintain operations in the event of a disaster, but will give us the flexibility to perform system replacements and upgrades to our college site without impacting services for our users.

We are also nearing completion on a unified communications project. This project involved implementing Exchange Server 2010 and replacing our telephone system with a VoIP solution. We are now able to leverage soft phones from our computers and receive voicemail messages though Outlook. We are in the process of implementing a fax solution that will leverage our network MFP fleet to send faxes and our Exchange mailboxes to receive faxes.

Within the last year, we have implemented a secure printing solution and have replaced our copier and printer fleets with Energy Star-compliant MFPs and network printers. We have centralized printing services through our printing and mailing services department and have on-site vendor support to manage supplies, training, maintenance, and service of the fleet. This solution has allowed us to set duplex by default, print in black and white by default, and delete unwanted print jobs before printing. We are leveraging scan-to-e-mail in an effort to reduce print volume. We are able to provide secure printing by leveraging our OneCard system and active directory for authentication. We plan to phase out office desktop printers within two years.

We are in the process of upgrading our desktop fleet to Windows 7 and Office 2010. We had a small pilot of approximately twenty participants in March and deployed 150 new laptops and tablets to faculty and staff in May. We plan to upgrade the balance of our fleet within the next eighteen months. We are in the process of implementing LANDesk and plan to leverage LANDesk to move to a single image, deploy this image to existing computers, and deploy software applications to the desktop.

We reorganized our IT department in January 2011. Teaching and service, central to the mission of the college, are also at the core of the IT department's mission statement. In addition to our regular examination of ways in which we can improve our operations and delivery of services to the campus community, there are other influences that impact and shape our service model. These include fiscal realities; the increasing demand from internal and external organizations for more accountability for various aspects of IT performance; and new technologies that are emerging and converging at an unprecedented rate. This reorganization involved combining instructional technology services and user services to create the Technology Learning Center team; combining network operations, telecommunications, and desktop development to create the IT data center team; and creating a new position for IT procurement and compliance.

About the HDI Forums

The HDI Forums are strategic groups of leaders that meet several times per year to network, exchange ideas, discuss support center issues and challenges, and share benchmarking ideas with peers who work in similar industries or share similar responsibilities. Industry groups include customer technical support, desktop support, executive leadership, government, higher education, healthcare, law, legal, retail, and support center leadership. For more information, call 800.248.5667 or visit **www.ThinkHDI.com/Forums**.

About HDI

HDI is the world's largest IT service and technical support membership association and the industry's premier certification and training body. Guided by an international panel of industry experts and practitioners, HDI is the leading resource for help desk/support center emerging trends and best practices. HDI provides members with a vast repository of resources, networking opportunities, and the largest industry event, the HDI Annual Conference & Expo. Headquartered in Colorado Springs, CO, HDI offers training in multiple languages and countries. For more information, call 800.248.5667 or visit **www.ThinkHDI.com**.