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2006

Annual Report



DoIT

Division of Information Technology

University of Wisconsin

Madison

**Division of Information Technology
2005-2006 Annual Report**

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Introduction

The Division of Information Technology pursued many large initiatives in the 2005-2006 academic year and was able to implement some very important changes to campus IT. This work was done in an environment of fiscal constraint where DoIT had a budget cut of more than \$1 million, or 5.5% of the its total GPR funding this past year. In spite of this budget cut, many successful projects were completed, and an effort was made to reduce any effect of the budget cut on the campus community. It must be noted that almost all of the planning and much of the implementation of IT projects is done in collaboration with partners on campus as well as with the advice and consent of formal and less formal advisory groups.

DoIT is an organization of approximately 500 full time and 200 project and student staff. This past year twenty-one staff members retired from DoIT and thirty-five staff members left for other positions. We hired more than one hundred students to keep up with turnover during the year. We processed eighty other staff actions such as hiring and transferring reinstatements. DoIT had important turnover in its leadership ranks during the 2005-2006 academic year at the director level and at the manager level. This provided an opportunity to put in place many new managers, most of them coming from our own staff. We also made a commitment to professional development for our cadre of managers and directors and have provided much of the leadership with professional development opportunities.

We have used an onion metaphor to describe DoIT-provided infrastructure and support to the campus in prior reports. This report follows a similar organization in its discussion of accomplishments in 2005-2006. Following the discussion of some of the major efforts, there is a section with snapshots of many other activities and some specific statistics about levels of service. That is followed by brief descriptions of some of the work that is underway or needs to begin or end in the 2006-2007 academic year.

Section 1: Accomplishments

The Network

The campus network is a key component of the technology infrastructure for our campus. It is used to support teaching, learning, research and administration. It connects us to each other; allows us to support our sister universities in the UW system with Learn@UW and administrative computing applications, and it provides capabilities for our research community to partner with colleagues around the world.

Wireless



The wireless deployment is proceeding with 150 buildings now on the authenticated campus wireless network (60% complete).

Firewalls

DoIT began recommending that the campus use either Windows XP or Mac OS X built-in firewalls, or the firewall included in the Security Starter Software. A key feature of this product is that it can be either a stand-alone client on the desktop or part of a centrally managed system where an administrator controls client settings. Over this past summer we migrated six departments to our centralized firewall service and will continue doing so for the next eighteen months. Both of these projects are building blocks to enhance the security of our network and the resources it makes available. About 71% of UW-Madison students say they have installed a firewall on their computer.

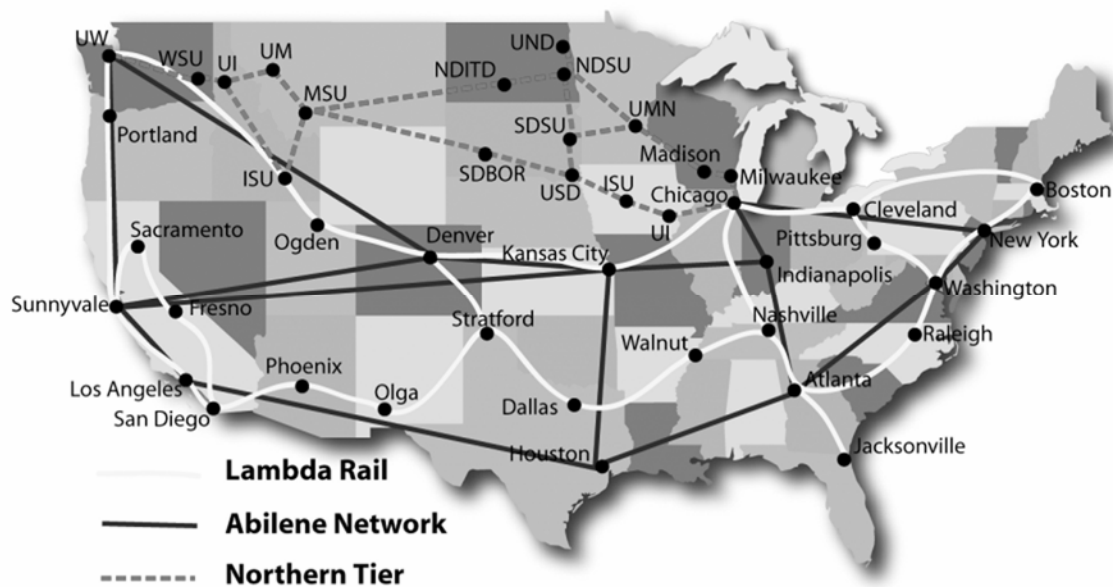
Local – 21st Century Network Upgrade

This year, we finished deployment of the 21st Century Network project - meeting our completion goal of summer 2006. This project began four years ago and has been an intensive deployment in partnership with our colleagues in academic departments and administrative divisions, most notably Facilities, Planning and Management. Completion

of the network deployment doesn't mean the 21st Century Network project is done - some buildings simply cannot enable the new technology yet, while others are being torn down or built. At the same time, we have worked out arrangements with physical plant regarding new buildings. Depending on state capital projects, we have a plan in place to upgrade the rest of the physical plant to cat 5e or 6 cable in the buildings and to the necessary fiber in the ground. We also have successfully negotiated with all but four work groups to adopt the collaborative model for network management.

Beyond Madison and Wisconsin

Last year, Madison implemented WiscWaves, our high-speed optical network connection to Chicago. This year we worked with the Department of Physics to deploy a dedicated lambda to High Energy Physics Large Hadron Collider project. Part of this task involved determining, with the Information Technology Committee (ITC), an appropriate cost-sharing model involved in making such a resource available. We anticipate increased demand from researchers to dedicated research networks – a resource that will keep the UW research community competitive for years to come.



WiscWaves has become a touchstone in the establishment of the Broadband Optical Research Education And Science network (BOREAS). This Regional Optical Network (RON) is a partnership of the University of Wisconsin – Madison, University of Minnesota – Minneapolis, St Paul, University of Iowa and Iowa State University. BOREAS connects to the CIC OmniPoP in Chicago. The OmniPoP is a gateway to various research networks, including Internet2, National Lambda Rail (NLR), ESNet and other global research networks. UW-Madison has played a major role in bringing both BOREAS and Omni pop to reality by providing project management, engineering and administrative support. BOREAS will not only support the founding partners, but will also extend capabilities to the higher education communities in our states. BOREAS is a key component in making the Northern Tier Network possible.

Engineering and Operations

A key concern of DoIT leadership has been the ability to provide business continuity in the event of the failure of computer capability caused by internal or external events. During the year we have had several incidents bring our systems down due to electrical or HVAC failures. Most recently (in July), systems were endangered because of a flash flood. DoIT has been working to develop a back-up site in WARF (Wisconsin Alumni Research Foundation). This past year we re-engineered the HVAC, electrical and network infrastructure at the site and we have successfully configured some of our core infrastructure services to operate from both data centers. All of our critical data is now both mirrored and backed up at both sites. We are in the process of designing such redundant solutions for our critical central application services such as directory services, WiscMail, My UW portal, and Bucky Backup. However, a substantial investment will be required to make this redundancy possible for all of the core services that DoIT provides. We also plan to partner with other UW institutions to see if we could provide redundant sites around the state for UW system services. This initiative is highly dependent on high-speed networking being available between UW institutions. Thus the new BadgerNet upgrade is critical to the entire UW technology infrastructure.

Server Consolidation

In the last year we have made significant progress in server consolidation and virtualization. Good examples are our VMWare project that has consolidated 70 servers across both Windows and Linux virtualized environments to provide substantial savings in electrical consumption, cooling and network infrastructure costs. We have also been successful in consolidating Oracle environments on a few AIX machines with substantial infrastructure savings. This coupled with our expanded use of workload management technology and partitioning technology in the AIX server area has allowed us to reduce the number of AIX machines from 80 a few years ago to about 23. This initiative supports the UW conservation effort – “We Conserve” (www.conserve.wisc.edu). However, because these energy savings are not realized directly by individual projects, but the university as a whole, this effort is not as robust as it could be. With a clearer mandate for conservation, DoIT could further consolidate and virtualize its server environment.

Disk Storage Enhancements

Over the past year, DoIT has made substantial strides in moving toward “Information Lifecycle Management” by introducing several tiers of storage from which customers may choose. In general the lower the tier the more expensive the storage, but that expense comes with increased redundancy, speed and reliability. These tiers are:

- Tier 1 – Highly redundant and very fast storage for mission-critical applications.
- Tier 2 – Very reliable but not as redundant nor as fast as the Tier 1 solution.
- Tier 3 – A “lower end” solution applicable for low Input /Output applications. We

also utilize this type of storage for quick access to files most recently backed up by Bucky Backup.

- Tier 4 – tape – data archiving. Retrieving data from Tier 4 is a rather slow process but the storage is very inexpensive compared to the other tiers and is thus best suited for seldom-accessed archival data.

In the next year DoIT will strive to move data more seamlessly between these tiers to provide the best value to the institution.

Database Environments

DoIT's Oracle database hosting service (the "Oracle Farm") continued to grow. This service provides a shared, secure, reliable, and high-performance database-hosting environment for many centrally hosted applications. It is a fine example of the combination of sophisticated database technology with server consolidation technology to achieve significant cost efficiencies. It now hosts more than 40 Oracle databases on two physical machines.

This year DoIT continued to take advantage of current database technologies such as innovative new Oracle features for database security, resource management, and enterprise-wide management of database systems. This year also saw the implementation and use of technology to identify "weak" (i.e., easily crackable) passwords in Oracle databases, and a significantly expanded use of Microsoft SQL Server in support of the UW system-wide Learn@UW learning management system.

Printing Services

DoIT's Digital Publishing and Printing Services (DP&PS) group has continued to expand capability while reducing staff costs and consolidating on fewer, more cost-effective and technically capable electronic printers, both color and black and white. This year saw the operation fully converted to all-digital job submission and production. Another noteworthy initiative of DP&PS is Badger Accessibility Services (BAS), a web-based accessibility resource center that provides services for locating and creating accessible audio and text documents for any learning institution nationwide. DP&PS currently serves 56 different learning institutions in addition to UW-Madison.

Security

IT environments are under constant attack and subject to constant mishap, making our systems and data vulnerable to deliberate or incidental abuse. Many of our peer universities received national press last year as the result of computer attacks or inadvertent release of data. We are vulnerable to the same kinds of incidents, and are working to put a program in place to reduce our vulnerabilities.

A new Chief Information Security Officer was hired during the past year who has brought renewed energy to build an effective IT security program. He has a preliminary plan in place to improve security in access management and desktop environments. The plan addresses security breach event management. The plan also includes a training program for IT staff across campus, risk assessments, and identification of best practices. Additional funding is necessary to move many components of this program forward, and funding sources are not yet identified.

A password policy with a phased implementation plan was developed and approved by the ITC. A communications strategy was put in place and the program is expected to be complete by March 17, 2007.

The central IT security team developed and implemented a campus- wide security campaign to bring more awareness of security concerns to our community and to provide information about “safe computing.” As a result of the campaign, almost 20,000 CDs and files were distributed during the fall semester to provide security information and antivirus, firewall and spyware tools to improve individual computing security practices.



As a result of an IT audit, an Information Technology Security Program was developed for colleges and schools that can help implement security controls at the college and division level. Focus is on disposing media; reuse procedures and consolidated log reviews, as well as a training program for Security Awareness.

The Security Officer worked with the Director of Internal Audit to begin planning a program to review electronic social security number storage on campus computers.

Unfortunately, the Director of Internal Audit retired this past summer, and the status of this collaborative effort is pending. This is an area where our campus is at serious risk for a security breach. Instead of one single repository for social security numbers on campus, many copies of this data exist in central IT systems and in computing resources all over campus. We have not yet put an environment in place where system owners believe they do not need to store these numbers in multiple places. Identification of areas of risk in systems supported by DoIT has taken place, but the same work needs to occur campus-wide. This continued risk assessment as well as identification of possible solutions will continue in this current year.

Middleware



A key initiative in support of more secure services was accomplished as part of the middleware environment in the past year. A Digital ID (public key infrastructure) service was put in place that members of the campus community could use to secure their e-mail. This is especially important when sending confidential information such as grades and health care information via email. The campus Digital ID service supports encryption of documents as well as digital signatures.

uPortal



A major middleware accomplishment this past year was the release of the new technology infrastructure for My-UW Madison, the campus enterprise portal. The University made a decision about three years ago to migrate to the open source uPortal environment, a portal technology environment built by and for higher education. As part of our work on the migration, we have become leaders in bringing about enhancements to uPortal, as well as extraordinarily knowledgeable about the technology environment. While we had hoped to migrate the environment sooner, deliberate planning and testing as well as coordination of migration schedules with key campus constituents resulted in a successful cut-over in June 2006. Much portal application implementation has been postponed waiting for the new infrastructure, and we expect to see a host of new applications becoming available in this current year.

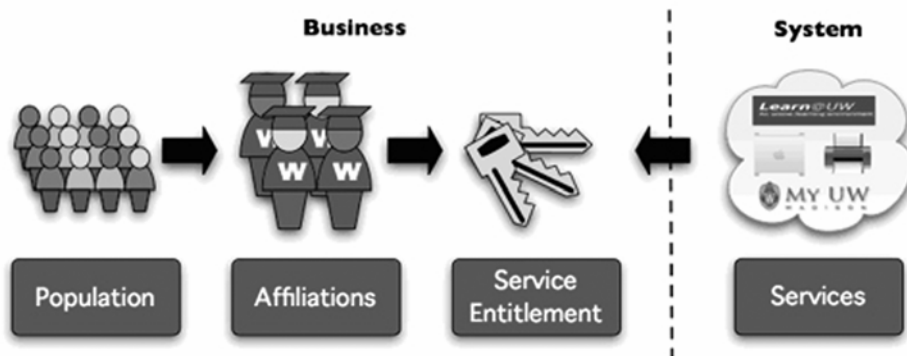
Single Sign-on

A key feature of the new portal infrastructure is web single sign-on, sometimes called Web ISO. This feature supports one sign-on in the portal environment that allows users to access all applications that they are eligible to access. There is a tradeoff between this user convenience and system security. However, efforts are underway to minimize any security risk that Web ISO might expose.

Service Oriented Architecture

SOA is a key initiative for the organization, primarily due to its potential for lowering the costs of inter-system integration. Our Application Development and Integration group has started a multi-phased proof of concept (POC) effort to better understand the various components that comprise a SOA infrastructure (middleware). This specific POC utilized a composite application that employed a series of reusable web services to present a comprehensive view of student data from a number of enterprise systems. The POC goals were successfully met using Oracle middleware. The next phase of the POC will expose the same application and the same services, i.e., prove reusability, using other vendors' middleware (e.g., Sun, Open Source). Objectives of the POC effort are to produce reference architecture and a standardized methodology guiding all future inter-system integration.

Identity Management



Important work has continued on the Identity Management Project with support of the Identity Management Leadership Group. An assessment of the current PASE (Populations, Affiliations, and Service Entitlements) project was recently completed. This review led to the selection of the Grouper/Signet software suite developed collaboratively by Internet2 and several higher education institutions. This software will provide the infrastructure for managing groups and enabling access to campus resources and services in a centralized system with delegated administration. Functional components of PASE will go into production starting in Fall 2006.

Enterprise Administrative Applications

This past year was difficult for leadership and staff supporting central administrative applications. The University of Wisconsin-Madison, as well as the University of Wisconsin System, continues to place large demands for technical support upon DoIT's administrative computing organization. Requirements range from expectations of support for planning and implementing new systems, to working with campus leadership on project shutdown, to accommodating the staff that will be without assignment as a result of the shut down. While implementation of many smaller applications and services can be counted as important successes in the past year, several big items engaged the attention of IT leadership during the year.

Peoplesoft Implementations

With UW System Financial Administration, DoIT completed an upgrade of the Oracle/Peoplesoft Shared Financial System. The system was brought forward from the unsupported 7.5 release to the fully supported 8.8 version. The upgrade project had been started and then stopped twice prior to the successful launch in November 2005. Earlier difficulties were in part technical, complicated by the age and unsupported nature of Release 7.5, and critical path issues as the Appointment, Payroll and Benefits System (APBS) attempted to go live, which seriously affected the Shared Financial System (SFS) upgrade scheduling. In March of 2005 a no-retreat, go-live decision was made with a targeted production set for Thanksgiving weekend 2005. This version provides a web interface for financial information for all UW campuses that are using the system. It also moves UW-System onto a fully supported version of the software, provided various functional extensions and improvements, and puts in production a critical base level system for Grants Management implementation. Four campuses operate their own financial management systems and provide post-transaction data to SFS. Madison remains as a mixed-use campus partially implementing SFS and partially continuing to rely on legacy systems and processes. A system-wide statement of direction issued in July 2006 will result in every non-SFS campus in the System migrating onto SFS over the next 24 months.



Appointment, Payroll and Benefits System

The end of APBS as we had known it was slow and painful. It was just this July that the decision was stated to not proceed with implementation of the Lawson HRIS. Such a decision had been assumed for several months as plans to shut the project down were underway. While DoIT had no leadership role in the system-led implementation, DoIT staff had been assigned to the team and, as indicated, DoIT was involved in the transition planning for team members. During the year, DoIT staff were also involved as project assessments were taking place. At the same time, DoIT was challenged to work with Madison HR and Payroll and UWSA payroll departments to be sure that current HR and payroll services for Madison and payroll service for the entire system were solid. DoIT also supported UW System in discussions with the State as the State made its decision about enterprise software and contracted with Oracle/PeopleSoft. This decision helped the UW make the final decision to abandon the Lawson project. Madison assisted in the final negotiations with Oracle PeopleSoft so that System-wide HR/Payroll/Benefits is now part of the portfolio of Oracle PeopleSoft products owned by the UW. Implementation planning for this product has not begun.

Grants Management System

The leadership of the Research and Sponsored Programs (RSP) unit selected the Oracle/PeopleSoft grants management system as their primary technology product. The Huron consulting firm was hired to aid in the selection and the implementation planning. DoIT was invited to participate in some of the early planning and has been active in supporting more detailed implementation planning. During the year we addressed (but have not resolved) the challenges of the necessary interfaces with the Shared Financial System and the UW Purchasing Systems, one of which is homegrown. The challenge of providing the Grants software application as a service to the rest of the UW System is also one of the unresolved issues on the table.

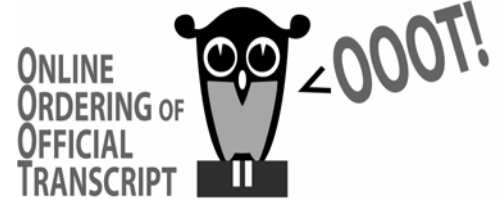
Integrated Student Information System Upgrade

As indicated, there have been many successes in application implementation during the year. A key one was the upgrade to the ISIS Oracle/Peoplesoft student system from version 8.0 to Release 8.9 that occurred in December. This implementation of ISIS, like its predecessors at Madison, led the nation in new release adoption. Release 8.9 continues the delivery of greater student web-based self service, adds important technical tools, and delivers on the initial separation of person data throughout the Oracle/Peoplesoft application systems.

The Student Services/DoIT collaboration is the most effective collaboration on campus for large system initiatives and implementations. This is a partnership that works very well.

Online Transcript Project

DoIT worked with the Office of the Registrar to develop a new online service that enables students and alumni to order official transcripts online. This project is the culmination of a two-year collaboration. The new service significantly reduces ordering and processing time for transcript requests, and features the ability to track order progress and request expedited service and delivery.



Learn@UW Course Management System

Learn@UW is used by all of the University of Wisconsin institutions. DoIT provides this service for the System with the support of the system Office of Learning and Information Technology. Performance challenges are common with this vendor-provided software. This year saw continued improvements to our ability to provide this service effectively including:

Learn@UW

- Completion of a major project to measure, test, analyze, model and improve the performance of the production system; implementation of new versions of D2L software with performance improvements; implementation of a large new cluster of database servers.
- Improved reliability and supportability of Learn@UW integration with student information systems (SIS) by implementing D2L's rewritten integration software.
- Expansion of the pilot of grade submission from Learn@UW to student systems to a total of five production campuses, with another campus currently in progress.
- Implementation of automated course creation/reoffering for Madison.
- Proof-of-concept for linking Learn@UW courses to Library Course Pages for Madison (includes e-reserves and other resources tailored to each course).

Challenges continue to exist with the vendor that provides the Learn@UW software, Desire2Learn (D2L). The newest issue is the BlackBoard patent challenge. BlackBoard claims they have a patent on almost all course management software concepts. They are suing D2L for patent violation. Additionally, the community source product, Sakai, is gaining great momentum in the higher education community of our peer institutions. The challenges in working with D2L, the growth of the community source product and the potential patent problem suggest it is a good time to be looking at the next generation of course management software support for the UW.

Services

DoIT provides a large number of technology services to the UW community as displayed at www.doit.wisc.edu.

Help Desk

Significant changes took place in the area of the Help Desk, Repair Service, and the Tech Store this year. We provided a consolidated service desk among these areas during the year. There is one walk-in desk where staff can answer questions, help with software problems and accept hardware for repair. This service consolidation has made it much more likely that problem diagnosis will consider both hardware and software issues.

Budget cuts prompted a reduction in Help Desk telephone service hours. Service was reduced from 24x7 to 19x7. New Help Desk hours are 6 a.m. to 1 a.m. seven days a week.

Tech Store

Changes to the Tech Store were implemented as a result of new purchasing capabilities made available to our community by the State Department of Administration (DOA). DOA negotiated contracts for many of the computer supplies that had been available through the Tech Store. As a result, the Tech Store experienced a decrease in revenue that required a decrease in offerings. At the end of this year, the inventory offerings of the Tech Store were reduced and the footprint of the Tech Store was reduced in size. Even with this reduction, Apple and Dell computers are still available, HP printers are still available, software products (including the WISC program) are still available, and expert help is available to assist our faculty, students and staff with their individual and departmental purchases.

The logo for the Tech Store at UW-Madison. It features the words "TECH STORE@" in a bold, italicized, sans-serif font, with "UW-MADISON" in a smaller, bold, sans-serif font directly below it. A horizontal line with a gradient effect passes behind the text.

Support for Teaching and Learning

With the Office of the Provost and other campus units, DoIT co-sponsored The Inclusive Learning Exchange (TILE) this spring. The focus of TILE was to provide information on learning object repositories that present information in multiple media formats. The event was well attended by faculty and staff from across the campus community.

DoIT staff was part of the Provost's committee to provide a report with a series of recommendations to increase technology-enhanced learning capability. The report was delivered to the provost and then to the Dean's Council during the spring semester.

The Engage Program (a program to initiate and support innovative uses of technology for teaching and learning) worked with their faculty advisory group to determine the focus for 2005-2006 and the coming year. It was determined that the focus would be on exploring the potential of simulations and games as serious tools for teaching and learning. Such tools provide rich, complex environments in which problem-based learning using higher level critical thinking skills can take place, and they provide immediate feedback to the students on their choice of solutions. Engage will provide small grants to selected faculty to explore such technology for teaching and learning.

DoIT ITA

The Information Technology Academy (ITA), a four-year, pre-college program for students of color and economically disadvantaged students, graduated its third class this year. All 13 graduates are attending college: ten at UW-Madison and one each at UW-Whitewater, MATC and Herzing. The University regards this program as a success and has asked us to double its size to 30 students per incoming class starting this 2006-2007 academic year.

This narrative has focused on some of the major happenings where new implementations or initiatives occurred or where significant changes took place in DoIT's service delivery. It is by no means comprehensive. The next section presents a list of service facts and figures for the 2005-2006 academic year.

Section 2: Facts & Figures for 2005-2006

My WebSurvey — Users of UW's online survey service created 760 surveys with more than 47,000 respondents

My WebSpace — UW-Madison's Web-based file sharing and storage system has more than 36,000 active accounts this fall, up from 24,000 in November 2005.

My UW-Madison — The campus portal has as many as 55,000 unique users per month during the school year, logging in as many as 1.6 million times per month.

WiscMail — The campus mail service routinely handles 3 million messages per day in the summer, up from 1.75 million last fall, with radically higher numbers expected after the semester begins. On an average day, almost half the mail processed by WiscMail is spam.

More than 50,000 students and 22,000 staff have WiscMail accounts.

To store all that email, the WiscMail system deploys almost 4,000 gigabytes (GB) of storage (as of April 2006), up from 23 GB used by the campus email system in 2001. (One gigabyte can store the equivalent of one and a half CDs or 750 floppy disks.) Storage needs are growing steadily at 5% per month.

Training — In 2005-06, DoIT's training group ran 175 classes, with 1,411 participants. The Software Training for Students program offered 733 instructor-led, hands-on classes last year.

Learn@UW course management system — Last Spring semester, Learn@UW was used in 915 Timetable courses, up from 810 in Fall 2005.

Security Starter CD — More than 11,000 of these CDs were distributed and 19,000 files downloaded in FY 2006.

WiscCal — In 2005-06, about 1,700 students and 4,000 faculty/staff used the WiscCal online calendaring system every month.

Help Desk calls — From August 20 through September 30 of last year, the DoIT Help Desk answered 14,541 calls, and the Help Desk Web site measured almost 250,000 hits.

DoIT Tech Store — Last year, DoIT consultants advised more than 19,000 people who walked into the Tech Store seeking technology help. Another 8,200 reached the Tech Store by phone or email and received consulting or advice from staff:

Section 3: Strategic Initiatives for 2006-2007

IT Leadership, Governance, and Funding

This current year is anticipated to be a year with some important changes in how IT is directed and funded at the UW-Madison.

One of the key personnel retirements at the end of 2005-2006 academic year was that of the UW-Madison CIO and the Director of DoIT, Annie Stunden. An interim CIO, Ken Frazier, the University Librarian, was appointed to serve until a new CIO is recruited and hired. It is expected that a search committee will be appointed in early fall and that UW-Madison will be successful in its recruitment and hiring of a new CIO. It is also anticipated that the new CIO will have more responsibility for IT campus-wide. In the past, the CIO had minimum authority for campus IT initiatives, with great authority residing in the Schools and major divisions.

As part of the transition planning, the University engaged in an IT study with both external and internal review groups. The external review group identified two key concerns, IT governance and IT funding. The governance issue is about how major IT decisions are made at Madison. And this is complicated at Madison in that UW System Administration makes many key IT decisions. The shared governance Information Technology Committee is very helpful with IT policy decisions. However, decisions to implement major system initiatives are either made in the UW System Offices or in the Directorate of a major division. They are not typically made relative to other work underway or the effect on future initiatives.

A strong recommendation of the external review team was that the IT funding model for DoIT be reconsidered. As part of the 21st Century Network Project, a major assessment and overhaul of how networking and network services are funded at UW-Madison took place.

Administrative Computing Initiatives

There are very large administrative computing initiatives underway, with many more in the queue. The largest one is the Grants Management System currently targeted for completion early in calendar 2008. Work on this system requires integration and interface work with the Shared Financial System, UW-Madison's Purchasing systems, and other systems.

Madison will be migrating to the UW-System implementation of the Shared Financial System during this same period. This work requires significant coordination with the UW System Financial Office and with the Grants Management project.

Planning will begin to implement the PeopleSoft/Oracle Human Resource Information System for all UW campuses this fiscal year. That project is likely to be directed out of the UW System office. DoIT will be called upon to be the primary technical project implementers. Governance, leadership and project planning issues should be addressed as soon as possible.

Here are the administrative ERP applications planned for the next five years:

MSN Accounts Payable/Purchase Order

- this project is preparatory to the Grants project

Procurement

- the next Purchasing project which envisions a System-wide procurement process and the eventual decommissioning of Madison's stand-alone system

LAST

- removal of Legacy Finance from the mainframe

ATS Travel Expense

SFS 8.9 upgrade

- PeopleSoft upgrade to the Shared Financial System (SFS)

Effort

- the Principal Investigator capture/reporting system effort that is necessary for grant management

Grants

- new Grants Management system to replace the current legacy ESIS system that runs on the mainframe

HR/Payroll/Benefits/Budget

- new Peoplesoft replacements for those same legacy systems

Student Payroll

- replacement for the current homegrown student payroll system

The Portal

Additional resources will be made available in the portal during this academic year. There was pent-up demand to add applications during the time when the portal infrastructure was being migrated. With the migration completed, it is anticipated that the My UW-Madison Advisory Group will identify additional application features to be added to the portal.

Service Oriented Architecture (SOA)

SOA is one way to lessen the pain and burden of system upgrades and all of their connections that require attention. DoIT has a pilot underway to demonstrate that this concept works. Assuming this is the agreed-to methodology, it should be actively implemented as part of system implementation projects.

Research Computing

Researchers are supported centrally with a good network, dedicated lambda capability, and basic technology capabilities. During this year a Researcher View (developed in concert with campus researchers) will be added to My UW-Madison. At the same time, a white paper will be developed that will identify potential areas where the research community can be better served by a coordinated and collaborative effort. Certainly issues such as research computing clusters, shared mass disk storage, and security and backup for electronic research data will be addressed as the white paper is developed. It is anticipated that pilot projects will be implemented following discussion of the white paper.

Security

As computer systems are put in place all over campus our risks increase for losing systems and data, for having data stolen, or for inadvertently making data available where it should not be available. Another concern is the social security number storage audit (mentioned earlier in this report). We can complete an audit and identify where this data is available. The commitment to do something about this proliferation of data is a bigger and much more expensive step than the audit. It goes back to an old issue of who owns what data and who is accountable if it falls into the wrong hands. This is one of the issues that will be addressed by the “governance group,” and a place where the authority and responsibility of the CIO should be defined. The plans developed by the Security Officer in concert with the campus IT community require review, and likely additions. The security plan then needs to be funded and implementation should begin.

Disaster Recovery Planning, Business Continuity Planning

Disaster recovery planning has been ongoing in the past several years. The past year has seen several incidents on the computer platform where plans were implemented. Our staff are skilled at handling the immediate, assuming the event is manageable. We have been fortunate that power or HVAC have been returned in time to prevent extended outages of basic technology infrastructure for the campus and for the entire UW System. But, we have come very close to not being able to recover in a timely manner. A back-up generator is becoming essential as the technology infrastructure has become critical for the campus. Additional investments in back-up and recovery capability in the alternate

data center in the WARF building are necessary. It would be wise to plan with some of the other UW schools for back-up emergency capability for even such simple-sounding things as an emergency web site in the event we have a challenge that brings all campus capability down. As with the Security Plan, it is time to review and update the Disaster Recovery Plan and to provide funding for its implementation.

The Network

BOREAS--the optical network being put in place between UW-Madison, the University of Minnesota, Iowa State University and the University of Iowa connecting us all to national and global network infrastructure in Chicago and with an alternative route to the world via Kansas City--will go live in February 2007. This is an extraordinary effort of the IT leadership and the network engineering staff of these four universities. At the same time, the CIC OmniPOP, the optical ring around Chicago will also begin operations, hopefully this September 2006. Our Universities have put in place network capability that will support our research and academic missions well and that will also be a resource to our colleagues. In Wisconsin, we anticipate that BOREAS will be available for use by all UW System schools. The BOREAS Operating Group (the governance group of CIOs) also anticipates that the universities in the NTNC (Northern Tier Network Consortium) will be able to take advantage of the BOREAS resource. BOREAS is changing the footprint of the national higher education network. An interesting challenge to be addressed is how network traffic is routed from BOREAS to other parts of the country and the world. Internet2 and National Lambda Rail (NLR) appear to be evolving competing national infrastructures. We are able to use both of these national resources. It is likely to take a couple of more years until the national community sorts through how to bring these together.

Hand-held Devices

Voice Services is currently working through a variety of issues pertaining to hand-held devices. There is a great demand for Blackberry-like support of hand-held devices. As this is a relatively new and changing market segment, state contracts are often inadequate for the needs of university faculty, staff and students. Increasing demand for devices that can be used for both business and personal use further complicates the situation.

Public Health Information Network (PHIN)

We expect to evaluate our continued participation in PHIN this year. Given the direction of PHIN development and a declining development budget, we may consider transferring responsibility for it to a department more closely aligned with its goals.

Summary

This discussion of 2006-2007 initiatives is by no means a comprehensive list of the work to be accomplished in this academic year. DoIT has a large list of new projects and pending projects that will be underway or completed. DoIT also has a significant portfolio of tasks to accomplish as part of ongoing operations, from answering questions at the help desk to keeping hundreds of servers current in their OS environments, to managing the network and the course management system for all of the UW System. The initiatives discussed in this section of the Annual Report are issues that require consideration and attention of UW-Madison and sometimes, UW System leadership. They are IT issues that make a difference for the entire UW-Madison community, and sometimes, for the entire University of Wisconsin System.