

Information Technology Strategic Plan Refresh for 2008

In 2007, the Office of the Chief Information Officer at the Ohio State University invited campus IT stakeholders to assist in the update of the existing Information Technology Strategic Plan. Seven meetings were held from May through December so that participants could examine the 15 initiatives, review the successes, remove those that were completed or integrated with normal university processes, explore and debate continuing needs, and fill the gaps with new recommendations. This document redefines the initiatives and recommends actions for the next iteration of the IT Strategic Plan. The information is newly organized under six major headings: **Leadership, Risk Management, Network Access and Research Storage, eLearning, Training and Support, and Enterprise Resource Planning (ERP) Systems.**

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Participatory Discussion

Campus stakeholders representing colleges and departments; full list available at cio.osu.edu/stake.html

Podcasting and Additional Technology Support

OIT Classroom Digital Media Distribution and Classroom Services, Eric Todd, leader



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The Ohio State University

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Leadership

Part 1 Establish a high-level information technology governance structure that is collaborative, advisory, and consultative; that clarifies central and distributed roles and represents the interests of both; and that promotes communications between central and distributed areas.

Part 2 Establish a high-level information technology funding structure that coordinates decision-making and resource allocation to address inequities, under-funded needs, and a lack of regular and sustainable funding for mission critical systems, services, and technology classrooms; and that addresses market forces that require the university to streamline and accelerate assessment, funding, and implementation of new technologies.

IT Governance Actions

- » Seek more engagement at the executive leadership level.
- » Determine whether the CIO stakeholder group and the Information Technology Partnership Council (ITPC) should be merged. If separate groups, define the purpose and role of each.
- » Continue the revitalization of the University Senate Council on Libraries and IT and encourage faculty participation through deans.
- » Standardize as much as possible a university-wide IT organizational structure through a detailed 3-5 year IT infrastructure development plan that aligns the IT initiatives of central with those of colleges and departments.
- » Develop collaborative software tools for communication between central and college / departmental IT staff.
- » Develop an IT directory and establish an online community of IT professionals.
- » Develop policies and procedures for sharing and consolidating software and equipment between central and college / departmental IT staff.

IT Funding Actions

- » Approach IT funding holistically and in-depth.
- » Apply the “common good” concept of services, adopted by some universities, which defines specific, sustainable funding and local IT support structures.
- » Consider technology infrastructure as essential as electricity, plumbing, HVAC, etc., and apply the concept of POM (Plant Operation Maintenance), or create a separate “technology POM.”
- » Concentrate more on strategic procurement, leveraging the purchasing power of the organization.
- » Continue to seek campus purchases and volume and educational discounts.
- » Develop a proposal for the Office of Academic Affairs (OAA) and the Board of Trustees that the next tuition increase earmark specific student contributions for sustainable classroom funding.
- » Establish an IT-targeted, university-wide tuition fee that does not lower existing fees.
- » Explore IT collaborations and cost sharing between central and colleges / departments.
- » Engage the Provost’s Budget Process Review Committee to include sustainable IT funding.
- » Identify sustainable funding as part of the classroom feasibility study.
- » Work through the Office of Development to secure funding by offering naming rights for technology classrooms and the Digital Union.

Risk Management

- Part 1** Expand business continuity planning in all units for the recovery and resumption of normal academic and business operations following an adverse event.
- Part 2** Assure the continued security of the university's critical information technology resources, assets, processes, and networks by proactively increasing awareness of and compliance with computer and network standards, best practices, professional ethics, and individual and collective responsibilities.

Business Continuity / Disaster Recovery Actions

- » Educate the university community that business continuity goes far beyond a disaster recovery plan and is significantly different. Key business processes and recovery time objectives must be identified.
- » Ensure that enough centralized, redundant backup data center capability, equipment, and power are in place to meet the IT needs of both central and colleges / departments.
- » Establish building-by-building, horizontal priority planning for business continuity, not just within organizational silos.
- » Encourage academic areas that have not yet begun business continuity plans to start by identifying business processes and securing and storing data off site. Ensure that the plans are accessible for non-IT specialists and that they address human needs by establishing a first point of outreach and a global notification hierarchy and involve multiple communication processes.
- » Develop an enterprise data center strategic plan.
- » Identify the systems in the university's IT environment, prioritize the top ten systems to reestablish in disaster recovery, and test the recovery process twice per year.
- » Standardize storage, tape drives, and platforms for the university department's hot and warm site backup. Set up an infrastructure to support a warm site assisted by the use of virtual technology.

Information Security Actions

- » Strike a balance between acceptable risk and research / instructional goals in complying with the university's new computer security standards. Review all the technology policies and standards as an iterative process.
- » Recognize that only Windows operating systems comply with all of the Minimum Computer Security Standard (MCSS). Identify security options for UNIX, Linux, and Macintosh computers, which are often key in research, content, and multimedia creation and are used for different objectives.
- » Provide more central support, or at least a partnership model for ensuring security; consolidate the number of people running networks; empower and establish more direct contact with departmental staff; and raise security awareness through training.
- » Expand the use of a Network Access Control (NAC) solution upon completion of an OIT pilot. Solicit colleges and departments to be the first adopters. Consider reducing the number of NAC-supported platforms; seek solutions to the mandate of enforcing the MCSS on a continuing basis.
- » Clarify the policy on FERPA compliance for faculty and create a dedicated training module as the university now has for other restricted data.
- » Encourage participation on and feedback to the risk advisory committee, coordinated by Business and Finance's Office of Risk Management. The committee addresses standards, policies, and procedures for a safer environment and risk assessment issues such as computer safety, networking, and protecting data.

Network Access and Research Storage

Part 1 Provide high quality connectivity for Columbus and regional campuses through regular network upgrades and appropriately sized bandwidth that ensure reliable and continuous information flow for today's data intensive services.

Part 2 Establish a universitywide data storage strategy for researchers that minimizes administrative burden, stresses the importance of data backup, encourages the use of the campus's Storage Area Network (SAN), and ensures compliance with laws and regulations.

Network Access Actions

- » Seek high-level support for centralizing network services. Continue efforts to collapse the network, build out the GigE, turn over to single mode, and centralize the firewall in Multi Protocol Label Switching (MPLS).
- » Explore collaborations and additional projects for taking better advantage of Internet2 connectivity. Continue negotiating with OSCnet and others to increase Internet1 and Internet2 bandwidth and continue working with OSCnet on last mile connectivity (formerly Third Frontier) to the regional campuses.
- » Continue research and development talks with cellular companies on the convergence of voice, data, and media.
- » Continue to explore VoIP, wireless, and cellular applications in a fixed mobile environment, both on and off campus.
- » Negotiate with cable companies for high-speed access for faculty, staff, and students in under-served areas of Columbus.

Research Storage Actions

- » Eliminate the duplication of storage services where possible: build a centralized or decentralized Storage Area Network (SAN) to avoid inefficient storage silos; combine storage mechanisms for some digital repository initiatives; establish an institutional repository that overlaps with research storage.
- » Institute an awareness campaign geared to principal investigators and researchers to stress the importance of data backup and to encourage use of the SAN. Work through departmental network administrators (DNAs) and enlist the support of the vice president for research and the Research Foundation.
- » Structure storage services so colleges and departments can manage storage and backups for their faculty and research projects. Address the additional bandwidth needed for increased use of backups.
- » Raise campus awareness that new grants require reporting on data recovery and backups.
- » Survey researchers on what the university should provide to give them a competitive advantage against other grant applicants.
- » Partner with the Research Foundation and the Ohio Supercomputer Center to deliver IT services to researchers.
- » Create a research liaison group in the Office of the CIO.
- » Capitalize on the multimillion-dollar NSF grant sought by University Libraries that would include collaborative international partners in the creation of new ideas in data storage and infrastructure.

eLearning

- Part 1** Meet eLearning needs through a support organization with sustainable funding that can provide targeted instructional technology support and resources and stay competitive with peer institutions through collaborative eLearning policies, procedures, and guidelines.
- Part 2** Continue to upgrade university pool and departmental classrooms with current technologies and learning-driven design and maintenance.
- Part 3** Establish standards and resources for storage, accessibility, transmission, and delivery of large-scale digital assets.

eLearning Actions

- » Address and resolve where needed the known learning management system issues such as interoperability, content exposed in different applications, the role of campuswide synchronous communication tools, and a review of the underlying Desire2Learn software to determine if it continues to meet the university's needs for eLearning management.
- » Publicize the various ways to proctor exams using Carmen and the new Respondus technology, and by scheduling a Student Computer Center.
- » Explore the idea of a testing center where students can take tests anytime.
- » Determine whether to recommend more Carmen or web-based videoconferencing for meetings, graduate students forums, and faculty and staff training; provide a central product solution that is platform independent.
- » Continue to bridge the current gap in synchronous connections between sites for videoconferencing courses.
- » Consider distance education's role in the future growth of the university. Provide assistance in offering credit courses in an online environment, including Carmen guidelines. Document a faculty member's experience in converting to an online course, complete with resources needed.
- » Think about learning spaces in different ways to accommodate distance learning classes.

Learning Spaces Actions

- » Continue collaborations between central services and colleges and departments on the upgrading and enhancement of classroom space.
- » Consult with faculty in developing innovative teaching and learning spaces, especially for capital projects and the major uses of buildings. Follow up after the release of the classroom feasibility study.
- » Develop an awareness program to encourage faculty to try advanced technology classrooms and provide feedback on their experiences.
- » Continue to improve the furniture in classrooms, as students have indicated that comfortable seating is important.
- » Include room conditions, such as paint, furniture, flexible environmental factors, and utilities, when upgrading classrooms.

Large-scale Digital Assets Actions

- » Involve University Libraries and the Office of the CIO more closely in the development of digital storage projects and environments, considering all the collaborative issues that impact decisions, such as data curation, working with researchers from the beginning of their projects, and an institutional repository and network storage for the entire enterprise.
- » Establish a centralized engine for robust video encoding processing and streaming that can integrate with many different applications and be used by the entire campus.
- » Create a stream process for the long-term retention and archival of working tools such as blogs, wikis, videos, and class projects, moving to wherever the Knowledge Bank grows.
- » Develop space in the Knowledge Bank to digitally archive the university's important historical materials—from committee meeting minutes to policy. Identify areas on campus to sample and library services to preserve faculty data sets through the life of a research project.

Training and Support

Part 1 Establish a campuswide technology literacy program to bring students, faculty, and staff to a basic skill level.

Part 2 Increase IT staff career development opportunities.

Part 3 Increase technical support and training for faculty teaching and research.

Part 4 Enhance user support on campus.

Campus Technology Literacy Actions

- » Define the difference between information literacy and computer literacy and determine an appropriate focus for support.
- » Unify the scattershot approach and establish a comprehensive and consistent way to bring members of the university community to the technology level needed for their jobs. Address the larger underlying issue around core competency and the need to rewrite job descriptions.
- » Begin a collaboration among Human Resources, the Office of the CIO, and possibly University Libraries to provide standard, 24/7 online training that includes basic office applications and security issues.
- » Emphasize partnerships and collaboration across colleges and departments to provide basic training for workers with little computer familiarity.
- » Determine if OIT should continue or grow the computer short courses, using the CIO stakeholders for input about faculty / staff training needs. If continued, raise awareness of the courses within the campus community.

IT Staff Career Development Actions

- » Formally establish a work group, with the involvement of the CIO's Human Resources director, to develop an IT training and career development plan, and continue IT-wide discussions across the university and technology areas.
- » Capture and grow the expertise on campus by giving staff a career path within the institution. Find ownership and funding for the process. Begin small with a framework and a volunteer subset of the CIO stakeholders group; involve OSU Human Resources, which must address the changes needed.
- » Develop a leadership program specific to IT that combines Leading Edge and CIC leadership programs and is easy to deliver to a variety of people.
- » Leverage the university's size to negotiate competitive pricing for technology training on campus.

Faculty Support Actions

- » Ensure that faculty knows about pool classroom resources and how to use the technology; provide training on specific hardware models, working through TELR and Faculty & TA Development.
- » Better integrate the management of departmental and pool classroom resources and publicize to faculty. Devise incentives for faculty to attend training on technology resources and classrooms.
- » Standardize the technology platforms as much as possible, so that all of the technology classrooms, and locally managed spaces have a common look and feel.
- » Bridge the gap between the university's current classroom technology and what faculty actually need for instruction.
- » Explore the use of Carmen as an instructional tool for self-guided faculty training, as was done for Institutional Data Policy training. Courses could cover research software, security standards, office administration, scheduling, and spreadsheets.

User Support Actions

- » Define multiple service models for support, such as full service, assisted self-service, unassisted, and partnership service. To control costs and maximize benefits, associate a fee with full service or provide incentives for self-service.
- » Continue OIT's process to improve support for college and department IT staff and their end users with changes such as: creating a web site or portal and/or specialized phone numbers so college and departmental IT staff and departmental network administrators (DNAs) can obtain up-to-date information and communicate with each other; sharing 8help trouble alerts and incident and problem management reports; and consolidating walk-in services in Central Classrooms.
- » Continue exploring ways to extend Remedy to other departments by inviting DNAs to use Remedy and by seamlessly passing Remedy tickets on to them.
- » Scale up Remedy and the bandwidth needed to enable centralized support and issue tracking for business sponsors and initiatives such as the Student Information System (SIS).
- » Explore the Remedy Service Desk module for multiple tenants or licenses, which could be units, colleges, or departments, and study how other universities are doing it; continue involvement with the Medical Center and OSCNet to share onsite advanced Remedy training.
- » Conduct a skills inventory for college and departmental IT staff and address the gaps through training.
- » Adapt OIT's staff technical training program for other departments that must train their own technical staff.
- » Explore ways to bring new campus DNAs up to speed on OSU's technology processes and best practices, for example, by introducing them to the staff of the Office of the CIO and OIT.
- » Formalize a process to make better use of expertise on campus, for example, using a common site and software such as SharePoint, a wiki, or a blog to provide topic-specific resources to which people can contribute and that can be modified.
- » Encourage faculty and staff to network and meet with those in other areas with expertise, for example, by crossing the working groups of different colleges or attending gatherings such as the PlanIT Refresh and CIO Stakeholder meetings. Capitalize on the timing of President Gee's six strategic goals to work across silos and organizations.

Enterprise Resource Planning (ERP) Systems

- Part 1** Establish ERP governance that involves all business sponsors and plan appropriately for the university's converging IT environment: the integration of the Student Information System (SIS) with the existing Finance, Grants, and Human Resources systems, and possibly OSU: *pro*.
- Part 2** Continue developing an enterprise data warehouse to maximize the use of currently available central data for reporting and planning.
- Part 3** Determine where the university should be going over the next several years in the area of Web 2.0 technologies like blogs, wikis, and collaboration and messaging tools.

ERP Systems Actions

- » Repackage the Student Information System (SIS) initiative into an Enterprise Resource Planning (ERP) strategic initiative that encompasses SIS, Finance, Grants, and Human Resources (HR), to better capture the integrated IT environment.
- » Plan for the parallel piece of ERP governance to ensure that all the business sponsors are heard and everyone is involved in the decisions.
- » Plan for infrastructure support and business processes for an integrated ERP, which makes a difference in how OIT supports them; continue a self assessment of OIT.
- » As a part of ERP planning, give faculty and staff the opportunity to be involved in early trials and provide input. Provide status reports to inform faculty and staff of progress on meeting timelines, testing, rolling out systems, and user integration.
- » Continue following the SIS timeline of rollouts, or waves: the initial go-live of admissions processes in May 2008, and tracking the class of 2009 through recruiting, application, and admission processes through May 2009.
- » Continue SIS campuswide awareness efforts, including impact sessions and town meetings.
- » Continue work on the SIS portal to support SIS and the HR system.
- » Provide centralized services for faculty and students in the area of security, privacy, and FERPA to avoid their use of third-party services. If there is no centralized service, provide them guidance regarding their rights in working with third party vendors.

Data Warehouse Actions

- » Update the data warehouse and operational data store (ODS) strategic plan, to address changing priorities and resources.
- » Determine the most effective way to transition from data storage to information delivery.
- » Ensure the integrity of the data and information in the data warehouse.
- » Raise awareness of the big success of the faculty analytics data mart.
- » Determine how much historical data should be stored in the warehouse.
- » Complete the interface for employee analytics.
- » Continue the small project called general ledger (GL) analytics so regular users do not have to keep pulling information together. Identify important pockets of information and tools, such as dashboards, to reduce digging through data.
- » Encourage user feedback on problem areas and bad data, as well as data requests, to determine what is important to users.
- » Publicize the data warehouse in support of President Gee's stated intent to demonstrate to Ohio's legislature, governor, and citizens that Ohio State is fulfilling its charge as a land grant institution and is the state university for Ohio.

Web 2.0 Actions

- » Develop an infrastructure that enables the use of technologies such as blogs, wikis, and other collaboration and messaging tools.