

1. Introduction

In Fall of 2006, Provost Sabah Randhawa convened the University IT Committee (UITC) to review OSU's information infrastructure and

develop a shared institutional vision for the teaching, research and administrative needs of OSU for the next decade that helps the university achieve its long-term goals. The UITC will help the University in periodically reviewing and revising this vision, a process that will be integrated with the other planning and budgeting processes for the University.

This document presents our strategic vision for IT at OSU. Section 2 describes the scope and objectives that guided our formulation of that vision. The next section lays out a series of guiding principles that we believe should underlie all University IT decisions. Section 4 presents our vision statement and describes it in the context of OSU's academic, research, and outreach programs, as well as the administrative functions which support those programs. A final section lays out the process that will be used by the University in identifying and responding to new IT opportunities as they arise. Background and supporting information has been organized into a series of appendices.

2. Scope and Objectives

2.1. Scope of "University IT"

Digital information and the technological infrastructure that supports it has become essential to all activities associated with the University's core missions of research, education, extension, as well as institutional administration. Recognizing the integral role of IT in all University processes, the Committee defines the scope of IT at OSU very broadly, as "everything involved in creating, storing, using, or being controlled by streams of bits."

Our definition subsumes the traditional definition characterized by the Information Technology Association of America: "The study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware." It goes well beyond that, however. IT at OSU also includes the processes and the tools for such activities as creating and sharing information, collaborating in real-time with colleagues at other physical locations, engaging students through interactive learning experiences, monitoring/controlling physical environments, fostering awareness of accomplishments, etc. In some cases, the participants may not even realize that they are being supported by complex IT systems.

To help illustrate the breadth of this scope, the UITC developed a set of *visionary scenarios* describing the broad types of functionality that we believe should be supported by OSU's IT infrastructure within the next 3-5 years. The scenarios, which are presented in Appendix B, are not intended to be exhaustive. Rather, they should be understood as representative of what the OSU community needs – and should be able to expect – from institutional IT support.

2.2. Stakeholders

The University community is also very broad and complex. Accordingly, the UITC identified the stakeholders for University IT as falling into four tiers:

- **Central-campus stakeholders** include undergraduate and graduate students, faculty, researchers, administrative staff, and extension/outreach staff. These users require access to a full suite of IT facilities and services, including networking and telecommunications, email and other communications services, shared data/web/computational servers, computing labs, a broad range of information management and software services, backup and archival functions, etc.
- **Greater-campus stakeholders** include OSU employees who work at OSU facilities that are not part of the central campus, such as extension offices, extended-campus, branch campuses, off-campus research centers, and the OSU Foundation. While these users are not supported as comprehensively as their on-campus counterparts, they require a range of basic IT services such as networking and telecommunications, payroll/HR-related services, data management, email, site software licenses, etc.
- **Statewide-campus stakeholders** include employees at OUS and regional campuses. These users need access to information housed at OSU but shared with its sister institutions, such as financial and employment records.
- **Off-campus stakeholders** include all the other groups served by OSU, including alumni, high school students and counselors, other prospective students, donors, accrediting agency staff, state and federal legislative staff, governor's staff, and members of the general public. They require access to a variety of OSU-related information and services, via web sites, email pass-throughs, maillist services, etc.

We recognize that all these stakeholder groups are important to the University and should be able to expect reliable and appropriate IT services.

2.3. Objectives

The goal of the UITC is to create an IT master plan that advances the missions and strategic interests of the University. OSU's IT infrastructure and services are developed, deployed, and maintained by many groups at all levels of administration. Our objective in articulating a high-level vision for campus IT is to provide a foundation for informed planning and coordination at all levels.

Because the University's missions are broad and complex, it is natural that there will be unevenness in the extent to which different groups require and adopt technological changes. This can lead to a proliferation of services at different levels, resulting in redundancy or potential incompatibilities. In some cases, centralizing such services could improve their efficiency and reliability. In others, the flexibility and innovation possible at the unit level outweigh any advantages of centralization. The Committee recognizes and respects that there are tradeoffs with both approaches. Our objective is to balance the University's needs for individuality versus commonality.

Finally, we note that technology of itself is not necessarily cost-efficient. While we advocate improving IT infrastructure and services in all mission areas and at all levels of administration, we emphasize the importance of considering advances in terms of their effects on human efficiency and productivity. New technology will not be adopted successfully – indeed, can even be counter-productive – unless there are also deliberate efforts to assess how and why IT is used and to address the relevant policies and procedures. Another of our objectives, therefore, is to identify processes

for assessing the impact of proposed IT initiatives on the effectiveness of University students, faculty, and staff.

3. Guiding Principles for Information Technology at OSU

To frame its discussions and recommendations, the UITC identified a set of principles that lay out the relationship of IT infrastructure to the University's broader goals, activities, and stakeholder communities.

Information technology is fundamental to advancing the strategic goals of the university

Technology is an essential tool needed for achieving the strategic goals of OSU. Selection of information technology priorities must support the mission, vision, and goals of the university, and must be understood across the institution. The future success of the University will depend to a large extent on the degree to which information (related to all its missions) can be integrated, shared, and acted upon.

Information technology is not an end in itself; it is a tool to meet other ends

The purpose of IT at OSU is to support the activities involved in meeting the University's mission. Employees should be trained to make optimal use of technology, and the university should create a culture in which information is shared as much as possible.

Information technology must be secure and reliable, while respecting privacy and academic freedom

A reliable, secure IT infrastructure that respects privacy and enables academic freedom is critical to support the work of the university. Reliability, security, privacy, and academic freedom are closely interrelated and decisions must be based on assessment of the impact on all four. Technological solutions must be able to allow and enforce different levels of access for different user groups.

The University is responsible for providing a basic level of robust service to all information technology users

While it is recognized that different communities of users have different types of IT needs, there are fundamental services that should be available to all users. This "baseline" level of IT service will naturally evolve over time.

The information technology environment must accommodate innovation and experimentation

As a premier research institution, the University must continue to evolve its infrastructure while ensuring stability for its core services.

The University's information technology environment exists in a much broader – and unmanaged – information environment

This broader environment makes use of our information and also provides information we need, thereby adding opportunities and challenges for IT at OSU.

Information technology at OSU requires support across the institution

Although some IT services are provided centrally, IT responsibilities are shared by many units and individuals on campus. The combination of centralized and distributed services enables the Information Services group to focus on efficient and effective fundamental services, while other groups extend that support in order to meet more specific needs. This approach requires high levels of communication and coordination among the various units providing IT services.

4. A Vision for Information Technology at OSU in 2013

OSU will be a leader in using information technology to support its academic, research, and outreach programs in ways that foster excellence, innovation, and collaboration.

A major research university necessarily operates with a diversity of needs and priorities. A shared vision for IT must focus on the infrastructure and services that support the institution's diverse needs and priorities today. At the same time, it must remain responsive to tomorrow's technologies and evolving user requirements and capabilities.

Our vision for OSU's IT infrastructure of 2013 is that it must...

- Provide campus-wide shared network infrastructure and related services and utilities.
- Provide end user support with a service model that is responsive to the broad diversity of disciplines, needs, and priorities of a major research university. Under this model
 - Baseline IT Services are funded centrally.
 - Units layer on additional IT services to meet unique local needs.
 - Unit-level and central IT experts collaborate to develop standards, coordinate their activities, identify new needs, and respond with appropriate IT planning and deployment.
- Include user training and support that enables effective, appropriate use of IT and encourages users to help shape the evolving suite of IT tools.
- Develop and support training and education for IT professionals to maintain their skills and knowledge in a rapidly-changing IT landscape
- Provide students and teachers with learning tools, training, and services that both encourage and support instructional innovation.
- Foster interdisciplinary and inter-institutional research and large scale collaborative projects.
- Provide highly integrated administrative systems, business processes, and IT that are sensitive to both central and departmental needs.
- Be responsive to the concerns, requirements, and regulations related to information integrity.
- Be supported by robust plans for disaster recovery and business continuity.
- Have continuous innovation and improvement as its hallmarks, ensuring that
 - Emerging technology is leveraged and deployed in a timely manner.
 - Service levels improve continuously.
 - IT infrastructure is nimble enough to have constant impact on OSU's missions.

A representative (but not exhaustive) set of visionary scenarios was developed to inform the Committee's discussions and will be found in Appendix B; they provide examples of the specific types of IT services that will be needed by the University over the next few years.

Our general vision is outlined in more detail in the following subsections, which address the three missions of the University (academic, research, and outreach) and the administrative programs that support those missions.

4.1. IT Support for OSU's Future Academic Programs

Teaching and learning are essential to the OSU mission and providing an excellent environment for those processes is a major goal of the University Strategic Plan. Technology is radically changing the way students work and learn, providing many new opportunities for innovation in pedagogy and instruction. OSU must ensure that its future IT infrastructure and associated systems are ready to

support new demands for teaching and learning. – including environments driven by student-owned personal devices and capabilities.

4.1.1. Framing Questions

1. What IT infrastructure and associated support systems do faculty and students need in order to improve instruction and facilitate learning?
2. What IT services are needed to support the creation and sharing of instruction-related information by both teachers and students?
3. How can OSU's IT infrastructure support better communication among faculty, students and others involved in the educational process?
4. What incentives will encourage faculty to learn about and experiment with new pedagogical techniques?
5. What infrastructure and practices are needed to facilitate effective and durable learning assessment processes?
6. How will the University be proactive not only in monitoring new instructional technologies and techniques, but also in raising faculty awareness of these developments and reducing barriers to their adoption?

4.1.2. Strengths/Assets

- A centrally funded course management system (currently Blackboard)
- Individual units have made significant investments in IT infrastructure
- Centrally-funded initiative to assist faculty in integrating technology into instruction (Technology across the Curriculum program)
- Over 150 centrally managed technology-enhanced classrooms on the main and Cascades campuses

4.1.3. Opportunities/Challenges

- Inadequate resources, both in terms of new investments and in leveraging values of past investments in instructional infrastructure. In particular, if TRF is eliminated, how will we even maintain the current level of funding?
- No consistent structure for training or offering incentives for faculty in use of instructional technology or new pedagogical techniques
- Lack of standardization in sharing or coordination of instructional facilities (classrooms, labs, IT, etc.) across units
- Difficulty or inconsistencies in locating and acquiring the kinds of information necessary for instruction or learning
- Poor leveraging of student owned (or developed) technology, information and expertise
- Barriers to integration of learning and instructional resources into personal technology environments

- No explicit mechanism for addressing inadequacies in student access to information technology
- Opportunity to use technology to change the learning experience and to augment direct engagement with students
- Insufficient preparation for students in use of common IT systems and software necessary for instructional activities, resulting in exacerbated inequities across instructional programs
- Redundancy in resources and effort spent gathering and maintaining materials related to instruction and learning
- Difficulty of extracting the assessment information needed for accreditation and continuous improvement of academic programs

4.2. IT Support for OSU's Future Research Programs

The inherently diverse nature of OSU's scholarly and creative activities requires an equally diverse (and flexible) IT infrastructure to foster research advances and to remain competitive. Our vision does not address specific needs of individual research groups. Rather, it focuses on the campus-level IT infrastructure and strategy that provides the foundation on which individual units can layer localized support for researchers.

4.2.1. Framing Questions

1. What level of centrally-funded IT infrastructure will best position the University for a competitive edge in pursuing sponsored research?
2. Can improvements in IT services reduce barriers to cross-departmental and external research collaborations?
3. How can OSU's researchers have better off-campus access to data and software resources while still maintaining adequate system security?
4. To what extent should the University use IT services to create repositories promoting access to research output?
5. How can the University encourage innovation in applying information technology to research?
6. How can we manage the IT infrastructure so as to encourage tech transfer without compromising the research process?

4.2.2. Strengths/Assets

- A culture of collaboration with colleagues at other institutions and participation in national and international research programs
- Land Grant mission drives the application of IT as a mechanism for promoting the use of OSU's research output in engagement and outreach
- Network bandwidth capable of meeting most current needs

4.2.3. Opportunities/Challenges

- Maintaining a research environment that fosters innovation in the application of IT technologies and is welcoming of new and user-driven applications

- IT that supports research collaboration across disciplinary and unit boundaries.
- Assuring that OSU's networking infrastructure has sufficient capacity to guarantee researchers' access to the bandwidth needed for data transfer and national/international collaborations.
- Creating IT-based repositories of OSU's research output that promote wide dissemination.
- Providing an IT infrastructure that positions OSU researchers with a competitive edge in seeking sponsored research funding.
- Providing access to local and remote high performance computing resources.

4.3. IT Support for OSU's Future Outreach Programs

Outreach and engagement are essential functions if the University is to remain competitive in an expanding information and knowledge marketplace. Technology has already made radical changes in the way people access University information, take advantage of learning opportunities, and develop effective partnerships. OSU must ensure that its IT infrastructure and services are ready to support both current and evolving demands for extension, outreach, and engagement.

4.3.1. Framing Questions

1. How can we leverage IT to ensure that OSU's outreach and engagement programs respond to end-users' needs and capabilities?
2. What IT infrastructure and services will enable faculty and staff to improve outreach and engagement programs?
3. What IT services will make University partnerships – both internal and external – more effective? Can improvements in IT services reduce barriers to partnership and collaboration?
4. How can OSU's IT infrastructure support better communication among faculty, students and others involved in the outreach and engagement process?
5. What incentives will encourage for faculty to learn about and experiment with new technology-mediated outreach techniques and opportunities?
6. How will the University be proactive not only in monitoring new outreach and access technologies and techniques, but also in raising faculty awareness of these developments and reducing barriers to their adoption?
7. What infrastructure and practices are needed to facilitate effective outreach and engagement assessment processes?

4.3.2. Strengths/Assets

- Alignment of OSU Extension and OSU Extended campus into a continuum of engagement from information access and learning object development through full on-line credit courses
- Distributed network of human agents in place that augments IT-based services – and serves as a conduit of feedback from clients
- Proven business model promoting the use of technology with on- and off-campus learners
- 100+ years of experience in adopting new technologies to address the needs of people on- and off-campus

4.3.3. Opportunities/Challenges

- Limited ability to overcome tradition as new opportunities arise
- Limited support resources for a telecom network that includes offices in every county
- Limited resources for desktop support and expansion at off-campus sites
- Availability of resources to scale up outreach and engagement services when success creates new demands
- Integrating expectations and identifying IT demand among the two newly aligned units (Extension and Ecampus)
- Striking the proper balance between IT- and human-based delivery of outreach and engagement activities so as to maximize their value to the recipients

4.4. IT Support for OSU's Future Administrative Programs

The administrative and business processes of the university need to be easily accessible to all units, offer flexible reporting capabilities, and ensure financial accountability by maintaining a comprehensive audit trail. To do this, the processes must be tightly integrated with a robust and flexible IT infrastructure that is capable of accommodating the University's constant growth, change, and increasing complexity.

4.4.1. Framing Questions

1. What IT infrastructure and associated support systems do administrative staff need in order to improve overall efficiency and effectiveness?
2. What is the administrative analog of the Baseline IT Services – i.e., which administrative IT services are needed by all units and should be funded/provided centrally?
3. What technologies are available for improving processes, and how will workflow be affected by each?
4. How do we increase awareness of the many administrative information systems used across campus, in order to improve utilization/penetration and reduce duplication?
5. Which administrative IT services should be provided centrally, and which at the unit level?
6. What actions – and new forms of training – can be undertaken to improve administrative IT support at the unit-level?
7. How do we ensure that OSU's enterprise-level software is flexible enough to grow in response to evolving technologies and needs?

4.4.2. Strengths/Assets

- Core network infrastructure (up to each building) is good
- Core administrative software (Banner) is the national industry standard for large universities

4.4.3. Opportunities/Challenges

- Need a formal process to review new business software purchases for compatibility or ability to integrate with existing enterprise-level systems – and a campus inventory of such packages and their capabilities
- Diversity of databases and computing systems currently used to support the administrative functions of the University. These vary in age and ability to integrate with Banner.
- Availability of technical expertise and planning to help units gain full value from enterprise-level software
- Structured model for generating and/or redirecting financial resources to IT
- OSU is embarking on a pilot business center project
- OSU Capital Campaign could be leveraged to free up funding for IT investment
- Arrive at a campus-level (global) understanding and tracking of how IT dollars are being invested.

4.5. Strategic Priorities in Moving Ahead

In identifying OSU's strengths, assets, opportunities, and challenges in each area, the Committee recognized that some issues are both pervasive – cutting across all aspects of IT infrastructure and services – and strategic. Realizing our vision will require:

- Adequate resources and funding models, both in terms of new investments and in leveraging the significant ongoing investments (centrally and by individual units)
- Fostering innovation by faculty/staff/students and Information Services in using and supporting new technology
- Ease in locating and acquiring information necessary for accomplishing key tasks (on the part of faculty, staff, and students alike)
- Standardization in sharing or coordination of facilities and infrastructure across units
- A plan and resources allocated for ongoing maintenance and enhancement of the core network infrastructure

Further, there are aspects of software and infrastructure that currently are addressed implicitly – if at all – in IT planning and decision-making. The Committee identified the following as elements that need to be dealt with explicitly in the future:

- **Life-cycle planning:** What cost models will ensure that IT investments are protected from failure/obsolescence? How can ongoing maintenance and periodic technology refresh be factored into purchase decisions?
- **Software compatibility:** To what extent, and at what levels (campus, College, individual unit), if any, should new software purchases be reviewed for compatibility or ability to integrate with existing systems?
- **Open-source:** For centrally-funded IT, what is the right balance of off-the-shelf vs customized software – or onsite vs. outsourced services? How should individual decisions be made? When do we make a strategic decision to contribute back to the community via open source software?

- **Intersection with policies and processes:** IT is inexorably linked to the policies that govern its use and the processes it enables. What mechanisms can be put in place to ensure that policies and processes are explicitly addressed as part of IT decision-making? To what extent can IT planning be leveraged to motivate periodic reassessment and improvement of policies and processes?

5. Identifying and Responding to IT Opportunities

It is important that OSU become better at identifying key IT opportunities and responding to them in a timely fashion. Therefore, the UITC recommends to the Provost that a formal process be put into place for documenting, evaluating, funding, and carrying out proposed IT initiatives that demonstrate clear strategic advantages to, and long-term impact on, OSU’s IT environment..

We recognize that innovation often begins at the level of individual units, which have significant flexibility and can be sensitive to rapidly evolving needs. This makes units a good testing ground for pilot projects that, if successful, lead to wider campus demand. Consequently, we believe that the process for strategic IT initiatives include mechanisms for “bottom-up” as well as “top-down” initiatives.

This initiative process should be followed for any IT-related proposal that will require new sources of funding at the campus level (but does not apply to projects funded out of existing unit budgets). The process applies whether the new funds are needed to develop a new type of infrastructure or service, for recurring costs to maintain infrastructure/services that have already been instituted, or for both.

5.1. Eligibility and Proposal Format

To be strategic, an IT initiative must make a significant contribution to the IT environment of OSU and be aligned with the University’s strategic priorities. Moreover, since it will divert funds from other strategic efforts, an initiative must accrue benefits for a significant proportion of campus stakeholders. Smaller or more targeted initiatives should be identified and funded at other levels (e.g., by a College or a group of units working together). While the UITC doesn’t want to be too prescriptive about what constitutes eligibility, a good rule of thumb might be that a proposal should clearly have the potential to benefit thousands of OSU stakeholders. The proposal must also show evidence that stakeholder needs have been accurately represented, in terms of both what is proposed and the group that will carry out the initiative. It must also be supported by at least one senior officer of the University, who will be responsible for submitting it.

There is no funding that has been set aside to support strategic IT initiatives, so there is no specific timeframe for proposals.

Proposals may be submitted by any senior officer of the University (member of the Provost’s Council or the University Cabinet), and should be addressed to the Provost, who will forward them to the UITC. The proposal should be no longer than 6-8 pages and formulated in terms of fourteen criteria, as shown in the table below.

Proposals that do not fully address each criterion will be returned without review.

1. Problem Statement	What specific opportunity – or existing problem – does this proposal address?
2. Goal and Benefits	What is the goal of the proposed initiative? If it were supported, what

	benefits would be accrued at the University level? What is the expected lifetime for the infrastructure/services developed by the project?
3. Stakeholders Affected	What University groups will be affected, and how? How has the proposed initiative been communicated to them, what were their concerns, and how does the proposal respond to those issues? Address negative as well as positive impacts.
4. Proposing Groups	What University groups are proposing the initiative? How have they taken into account the needs of the stakeholders who will be affected?
5. Effects on Policies and Procedures	What University policies and/or procedures will be affected, and how? Be specific about where policies/procedures will need to be established or revised in order for this initiative to have full impact
6. Technical Considerations	What are the technical merits of the proposed approach, and how did you establish its feasibility and usefulness? What alternative approaches were studied, and how was your choice selected? How will you accommodate changes in technology, or need, that occur during the implementation period? What provisions are included for complying with the Rehabilitation Act and Americans with Disability Act to ensure access?
7. Development Costs	What financial, infrastructure, and human resources will be required to implement the proposal? Which ones can be covered from existing sources, and which require new funding? What issues of software compatibility are involved, and to what extent will open-source vs. commercial software be used?
8. Adoption Costs	What additional costs will be incurred by units who wish to adopt the infrastructure/servers (e.g., need for special expertise, FTE for system and/or user support)? What additional, implied costs will be incurred if the project is successfully deployed across campus as a whole (e.g., increased network bandwidth needs)?
9. Ongoing Costs	What financial, infrastructure, and human resources will be required on a recurring basis? Which ones can be covered from existing sources, and which require new funding? How do you envision usage growing or changing over the next 5 years? What are the anticipated recurring needs over at least that 5-year period, including technology refresh and user support? What cost model is being proposed to ensure the effort can be continued into the future?
10. Project Implementation and Management	What is the timeline for implementing the project? What are the key milestones and deliverables? How will progress be tracked? What documents will be created to address requirements, specifications, implementation, and maintenance? By whom, and at what points in the project?
11. Responsibilities and Coordination	Who will carry out the initiative? Who will participate, and how will you ensure the affected groups are represented? What responsibilities

	will participants have, and how will their efforts be coordinated?
12. User Support and Training	What kind of training and/or support will be needed for users of the infrastructure/services to be developed? Characterize who will need the training/support and how much each user type will require. How will these needs be met? Who will have responsibility, and how will the services be funded?
13. Assessment	What metrics will be used to assess progress? At what points will progress on implementation be reported, and what process will ensure that their recommendations are acted upon?
14. Consequences of Delay	If the initiative is not funded at this time, what will the repercussions be?

5.2. Evaluation Process

The UITC will be responsible for reviewing and evaluating proposals for strategic IT initiatives. Because no funding has been designated specifically for this purpose, the outcome of the evaluation process can be no more than a formal recommendation to the Provost. It is he/she who will determine whether funding is allocated, and under what circumstances.

Proposals will be addressed to the Provost and forwarded by him to the UITC. The Chair of the UITC will do a pre-screening of proposals to ensure that all criteria have been addressed; if so, it will be referred to the Committee. A subgroup will be designated to do an in-depth review of the proposal and report back to the larger group, but the UITC as a whole will decide the response. Because the group meets infrequently, there will be a minimum of one month delay from the time a proposal is received by the Chair until a decision is reached.

The evaluation will include explicit consideration of each applicable criterion. It will be summarized in a written statement that also discusses how the proposed effort fits into the context of the University's strategic priorities. In evaluating the proposal, the UITC will engage the IT Coordination Committee and/or the Faculty Senate's Computing Resources Committee where appropriate.

The process will yield one of three outcomes, which will be formulated as a recommendation to the Provost. If the Committee finds the proposal to be well-founded and strategic, it will recommend that the project be funded, perhaps including a suggested cost model and/or indication of relative priority. Alternatively, the recommendation may be that the UITC initiate discussions with the proposing group to clarify points, refine the proposal, or suggest the inclusion of other groups. The third outcome would be to recommend returning the proposal as not appropriate for central funding at the present time.

The Provost will make a decision on the proposed request upon receiving UITC's recommendations and after consultation, as needed, with appropriate individuals and/or groups, including the Provost's Council and the Faculty Senate Executive Committee. The Provost, in turn, will inform the UITC of his/her decision and notify them of any further actions.

Appendices

A. Committee Charge and Membership

B. Scenarios Representative of Where OSU's IT Infrastructure and Services Should Be by 2012

Appendix A. Committee Charge and Membership

Committee Charge (as defined by Provost Sabah Randhawa)

Committee Member Responsibilities. UITC members will be expected to represent the very best interests of the University, not advocate for their units. The advisory nature of the UITC means that this group makes recommendations, but does not serve in a decision-making capacity. Committee members are asked to commit to active participation, including a regular meeting schedule. Staff support will be provided to the UITC.

Terms of individual members will be staggered to assure renewal and continuity within the UITC. The committee membership will include:

- 3-4 faculty members from academic colleges appointed by the Provost in consultation with the President of the OSU Faculty Senate
- 1-2 deans appointed by the Provost
- 1-2 department heads appointed by the Provost
- 1 member from a Center, Institute or Program, appointed by the Vice President for Research
- 1 student representative appointed by ASOSU leadership
- 2 representatives of central services (they will rotate among business affairs/services, student affairs, academic affairs, information services, university advancement, research, etc.; the cognizant VP will nominate the representative)
- 1 representative of the Faculty Senate Computing Resources Committee
- 1 representative from the ITCC
- The Vice Provost for Information Services
- 1 representative from OSU Extension Service
- 1 representative from OSU Extended Campus
- 1 representative from OSU Cascades Campus

Committee Charge and Focus. The initial charge to the UITC for 2006-07 will be to develop a shared institutional vision for the teaching, research and administrative needs of OSU for the next decade that helps the university achieve its long-term goals. The UITC will help the University in periodically reviewing and revising this vision, a process that will be integrated with the other planning and budgeting processes for the University.

The primary focus of the UITC is campus networks and University's basic information infrastructure needs. It is critical that the University plans for and provides secure, reliable and scalable networks, and ensures that networks and related services are used effectively to deliver its teaching and learning, research, and engagement goals.

Committee Deliverables/Responsibilities

- The UITC will develop and maintain an information and instructional technology vision and strategic plan for OSU which is integrated with the University strategic planning and budgeting process.
- The UITC will develop and implement a process for assessing technology change as it affects student learning, instructional methods, research, outreach, and administrative processes.
- The UITC will review proposed charges for technology related to networks and related services and provide advice on those proposals to the University Budget Committee.

- The UITC will help in improving communications throughout the University regarding IT policies, initiatives and use.
- The UITC will approve information technology policy for the University. Where policy requires approval by the Provost or the President, and/or the Oregon University System, the UITC will consider the policy, and forward a recommendation to the Provost for its consideration.

Process. The UITC seeks input and counsel from various sources such as the Provost’s Council, Faculty Senate and its committees, various other OSU committees and groups, technology managers, and interested and qualified individuals.

Following the first year of the UITC, university leadership will assess the charge and effectiveness of all university IT and IS committees, including the UITC, the CRC, and the ITCC.

Current Committee Membership

Cherri Pancake	Chair, Information Technology Coordinating Committee
Mark Abbott	Dean, College of Oceanic and Atmospheric Sciences
David Barner	University Advancement
George Boehlert	Director, Hatfield Marine Science Center
Sandie Franklin	Campus Administrator, OSU – Cascades Campus
Jeremy Frumkin	Valley Library
Kathy Howell	Co-Chair, Faculty Senate Computing Resource Committee
Henri Jansen	Chair, Department of Physics
Todd Kesterson	New Media Communications
David King	Head, Extension and Experiment Station Communications
Ilene Kleinsorge	Dean, College of Business
Sam Lee	ASOSU Student Representative
Mark McCambridge	Vice President, Finance and Administration
Tom McLain	Head, Department of Wood Science and Engineering
Curt Pederson	CIO and Vice Provost, Information Services

Appendix B: Scenarios Representative of Where OSU's IT Infrastructure/Services Should Be by 2012

	<i>Scenario</i>	<i>Services Needed</i>	<i>Implications for Policy / Process</i>
A	Planning/ maintenance/ enhancement of campus-wide IT resources is managed proactively , and ensures that infrastructure is up-to-date and secure	<ul style="list-style-type: none"> • Sustainable funding for core campus-wide infrastructure • Resources set aside for the purpose of reviewing, evaluating, and consolidating redundant services where appropriate • Resources set aside to investigate and deploy alternate technologies as they become important (e.g., VoIP telecommunications, business intelligence capabilities) • Resources set aside to support ongoing professional development/training, so staff responsible for IT infrastructure stay updated on current and emerging technologies • Up-to-date, campus-wide security infrastructure (e.g., encryption software, intrusion detection systems, and network upgrades to support security activities), including dedicated personnel and regular training for campus- and unit-level IT staff 	<ul style="list-style-type: none"> • Institutional commitment to developing and maintaining up-to-date, robust, and secure campus IT infrastructure • Establishing of formal advisory groups (or new role for existing groups) to assist in assessing trends, needs and technologies • Periodic updating of policies governing equipment depreciation • Campus-wide security planning that involves user stakeholders and personnel responsible for implementing security at both campus and unit levels

B	<p>Student and employee information is maintained uniformly across the institution – entered only once and updates are seen by all groups needing access to the information</p>	<ul style="list-style-type: none"> • Master record created at Admission level for incoming students (unless student was also an employee). System must be utilized as primary information management tool by Financial Aid, Housing, ID Center, Registrar, Student Health, Student Accounts, advising offices, instructors, etc. • Master record created by Human Resources for new employees (unless employee was also a student). System must be utilized as primary information management tool by Payroll, Benefits, ID Center, Telecommunications, employing departments, etc. • Single sign-on capabilities with standardized authentication/authorization mechanism • Availability of master system information at unit level for updates (although new records cannot be created at that level) • Support for exporting data as read-only (to be displayed in other formats) in real-time • Regulated access to preserve confidentiality and compliance with Privacy Act • Ability of student/employee to view certain records for correctness, with Help screens providing instructions on how to request/make corrections • Understandable procedure instructions, help screens providing relevant instructions during data sessions, and periodic training for unit level specialists 	<ul style="list-style-type: none"> • Institutional commitment to integration and increasing automation of institutional data processes • Policy establishing institutional commitment and trust at all levels to utilize a shared data management tool • Policies and procedures defining the relationship(s) of students/employees to department(s), college(s), and other units, including multiway affiliations • Resources secured for system upgrades, maintenance, development of user-friendly procedures and online help, and training
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C	<p>Academic departments (and other units) routinely access and use accurate, comprehensive institutional information that enables leaders and faculty to manage personnel and financial resources. Most faculty- and department-level management, reporting, request, and approval processes are entirely electronic</p>	<ul style="list-style-type: none"> • Access for faculty and department/unit leaders to accurate and up-to-date management information (not data) presented in easily understood formats that meet unit-level or programmatic needs • Electronic initiation of routine personnel and fiscal actions, electronic approval and quality monitoring at appropriate levels, and completion within a timely manner • Electronic support for internal research proposal preparation and approval, and for followup electronic grant/contract management actions • Ability to accomplish routine reporting functions at all levels electronically, with outputs available for specific purposes as needed 	<ul style="list-style-type: none"> • Institutional commitment to integration and increasing automation of business and research processes • Executive level commitment to develop and support efficient, effective electronic unit-level management systems that meet unit as well as university needs • Policy establishing institutional commitment to accuracy, efficiency and timely maintenance of personnel, fiscal, research and reporting databases and management systems
D	<p>Staff and faculty, at home or on the road, are able to remotely access any information (software, files, etc.) that is accessible on their desktops at work</p>	<ul style="list-style-type: none"> • VPN, or its successor, and two factor identification (remote machine makes contact; if it is recognized (registered), the system initiates a call back challenging the user for identification with a random question/answer dialog based on info provided beforehand by the user) • Support for Windows Remote Desktop (on XP or its successor) • Campus network supporting high-speed interface to external connections (user responsible for the off-campus network service) • Campus and/or unit firewalls do not interfere • Trends in future delivery of applications may mean that software must be available via "application virtualization" (e.g., SoftGrid). 	<ul style="list-style-type: none"> • Campus-wide software agreements that allow for home use. Includes dealing with current restrictions that some software can only be installed on OSU owned equipment (e.g., ArcGIS), or that the license is tied to on-campus network (e.g., Xwin32) • Policy that draws the line between application support and system support, especially on home computers

E	Faculty can interact with collaborators in real-time regardless of location	<ul style="list-style-type: none"> • Streaming, multicast audio/video • Secure FTP and file exchange services • Instant messaging service • Appropriate hardware readily available to any faculty member • Sufficient bandwidth supported between campus locations and campus switch (off-campus connections are responsibility of the user) 	<ul style="list-style-type: none"> • Sufficient flexibility in campus security policies to minimize lockouts • Policy governing IT/computer support for off-site computers used by faculty • Re-examination of policies paying for faculty off-site (e.g., home) bandwidth • Re-examination of service/security policies for faculty off-site computers
F	(On-campus) classroom environments facilitate active participation among students and teachers	<ul style="list-style-type: none"> • Real-time polling (e.g., student understanding, student opinion) with basic analysis capabilities • Availability of a common real-time polling device that serves a student for all his/her classes (not one device per student per class) • Shared virtual workspaces where student groups can share files and other types of information • Streaming audio/data for remote presenters, so that off-campus teachers, industry reps, field staff, etc. can offer information or opinions • Archive of shared work products for review by students as well as teachers • Temporary cellphone/IM jamming to reduce external distractions 	<ul style="list-style-type: none"> • Campus policy on when/where/how cellphone/IM reception can be disabled • Campus standard for polling devices and analysis software • Policy on when/how students acquire polling devices • Mechanism for quickly/easily making streaming connections to off-campus locations • Policy on when/where/how long student work will be archived - and who has access • Policy on shared workspaces and how they affect academic honesty policies

G	<p>By signing in on the OSU website, students are presented with information customized to their identities. The student can immediately access online courses, register online for the following term's classes, pay fees, reserve study rooms, etc.</p>	<ul style="list-style-type: none"> • Single sign-on capabilities with standardized authentication/authorization mechanism • Web-based portal for accessing student-related information • Online fee payment system • Content management system capable of accessing/integrating all types of “student-related information,” including payment facilities and study room reservation 	<ul style="list-style-type: none"> • Campus security and privacy policies supporting web-based sign-on, access to various sources of student-related data, and fee payment • Adoption of OpenID, Shibboleth, or other standard authentication/authorization system by all groups managing student-related information • Resources devoted to implementing and supporting a campus-wide student information portal
H	<p>A student logging into the Library website is presented with a suite of services related to his/her current courses, major, and research interests. These include not only links to course websites, but iTunes-like access to relevant information (including customized pull from library resources, “alerts” when new info becomes available, and a drag-and-drop “Research Locker” where he/she can organize, access, and share those materials)</p>	<ul style="list-style-type: none"> • Single sign-on capabilities with standardized authentication/authorization mechanism • Web-based, iTunes-like portal for accessing and storing learning and research materials • Virtual workspaces where students can organize and store their materials • Access control mechanisms allowing a student to share selected materials with other (designated) students • Ability to hook into off-campus services • When needed, ability to transfer sensitive data to/from hosted services 	<ul style="list-style-type: none"> • Campus security and privacy policies supporting web-based sign-on, access to various types of internal and external materials, and sharing of materials among students • Resources devoted to implementing and supporting a campus-wide student resources portal

I	<p>Scholarly works (papers, data sets, theses, instructional materials, etc.) produced by faculty and graduate students are organized, preserved, and accessed through a campus-managed scholarly repository. The resources are accessible via web search engines as well as normal library searches</p>	<ul style="list-style-type: none"> • Single sign-on capabilities with standardized authentication/authorization mechanism • Authorization mechanism supports multiple classifications/roles for a given user • Customizable digital repository system • Affordable, scalable storage starting at around 100TB • Comprehensive data backup service, including off-site storage • Data set description and organization (perhaps through a data services librarian) 	<ul style="list-style-type: none"> • Campus security and privacy policies supporting deposit, preservation, and access to scholarly works of all types • Policy establishing institutional commitment to the long-term preservation of its scholarly output • Campus-wide protocol for assessing the value and relevance of scholarly work in some structured way • Resources devoted to implementing and supporting a campus-wide scholarly work repository • Would benefit from campus-wide approach to data storage/backup
J	<p>OSU extension staff working in each county – and their constituents/clients – have web-based access to shared workspaces</p>	<ul style="list-style-type: none"> • Interactive workspace facilities including video, shared whiteboard, PPT presentations, recorded video clips, chat, and status queries/postings (e.g., “I have a question”) • Availability of shared transient and archived workspaces that are web- (not just VPN-) accessible from off-campus • Easily accessed by volunteers and other people not directly employed by OSU, as well as extension faculty/staff • Guaranteed bandwidth to extension offices (other off-campus connections are responsibility of the user) 	<ul style="list-style-type: none"> • Campus policy supporting web-based access to shared workspaces • Policies governing use of shared workspaces by non-OSU employees, such as volunetters and local advisory board members • Security and storage policies addressing the needs of off-campus faculty, staff, and collaborators who are not OSU employees

K	<p>The general public has IT-based opportunities to learn about OSU accomplishments, on the web or on-campus at public kiosks or viewing facilities</p>	<ul style="list-style-type: none"> • Availability of public information kiosks, with information transfer from a central source • Creation of virtual tours of OSU facilities, services, and research/extension/public relations products • Engaging, highly interactive systems (e.g., video clips, Q&A, discussion fora) • Direct, up-to-date IT linkages to University Advancement and the campus publicity apparatus. 	<ul style="list-style-type: none"> • Policies distributing the responsibility for public outreach • Policies and procedures that ensure close, IT-based linkages among OSU’s extension and outreach, research, and education programs
L	<p>All OSU stakeholders (including public, opinion leaders, alumni) have interest-specific access to university information (e.g., learning modules, athletics updates, info on grant opportunities, alumni communications, up-to-date scheduling/calendar info) through an individually customizable web portal</p>	<ul style="list-style-type: none"> • Website with secure access for individuals both on- and off-campus • Centralized content management system with portal capabilities • Ability for users to register to receive new info about specific areas/topics “pushed” to them • Ability to identify needs/interests of users and feed them back to module developers • Specialized search capabilities within OSU-specific or discipline-specific resources • Support for departments/units in the development of content modules 	<ul style="list-style-type: none"> • Policy establishing institutional commitment to provide stakeholders with customized access to University resources • Security policies that allow authenticated access by off-campus stakeholders • Marketing campaign to attract stakeholders to this type of system • Resources devoted to developing and updating info modules on a frequent basis
M	<p>It is possible to track who had access to a particular room in the hours leading up to a theft</p>	<ul style="list-style-type: none"> • Video/sensor/lock devices track all access patterns • The system is robust enough to withstand power outages • Centrally managed, common software manages the devices • Centrally accessible archive maintains tracking data 	<ul style="list-style-type: none"> • Campus-wide standards exist for the devices and management software • All new or refurbished facilities include the needed infrastructure

N	<p>When a software server is compromised, the threat is detected and the machine taken offline within 30 minutes. If the software service(s) is critical, recovery or a workaround is put into place and full service resumes within 4-5 hours; if the service is not critical, service resumes within 1-2 days</p>	<ul style="list-style-type: none"> • Automated detection of "potential compromise situations" that apply to software as well as hardware servers • Detection software capable of contacting a human if a judgement is called for, in a timely enough manner that the human can get the machine offline within 30 mins of the original compromise • Detection/reporting mechanisms robust enough to withstand power outages • Mechanisms for quickly disabling any software service, on any machine 	<ul style="list-style-type: none"> • Policies governing which unit is responsible for monitoring, and possibly disabling, each software service (including backup procedures) • Procedures, in effect 24x365, ensuring that a human is contacted quickly when a shutdown judgment call is needed (including on-call rotation and availability of backup staff) • Policies establishing which services are critical/non-critical, and their relative priority for being restored • Procedures ensuring that services are repaired/resumed within the required timeframe
O	<p>Electrical, steam, natural gas, and water consumption are monitored in real-time, with the data accessible to the campus community for purposes of education and to encourage best practices</p>	<ul style="list-style-type: none"> • Where possible, integration of meters with building management systems to simplify data collection; elsewhere, digital meters that can still be monitored automatically • Ability to monitor consumption at industry-standard intervals (e.g., electricity every 15 mins) • Ability to monitor with sufficient specificity (each building separate, with sub-meters used for major point-sources like motor testing labs) • Tools that monitor “green” infrastructure (e.g., renewable energy projects, green buildings) specifically for learning purposes • Archive of historical data, accessible for tracking and reporting purposes in formats that support a variety of users and uses 	<ul style="list-style-type: none"> • Institutional commitment that campus IT groups manage and support network-based energy management tools as part of their core function • Policy identifying which computers are reasonable for remotely managing energy settings • Procedures for collecting, storing, and managing energy data • Institutional policies requiring monitoring capabilities in any new construction • Institutional policies for establishing when point-source sub-metering is required • Resources devoted to developing the monitoring system for existing systems

P	<p>Institutional data is stored at secure locations (with protection from natural disasters), with the ability to recover data and resume normal operations in a timely fashion</p>	<ul style="list-style-type: none"> • Data backup at off-site locations. (private companies, other OUS institutions or new OUS data center) • Local or off-site redundant system (fail-over mode) • Ability to locally restore backed-up data from remote locations • Secondary location for personnel and equipment to restore critical services, with adequate bandwidth • Alternative power sources • Bandwidth adequate to support off-site backup without degrading normal usage 	<ul style="list-style-type: none"> • Policies for determining critical services and priority order for reestablishing service • Policy for establishing criteria for storage of sensitive and secure data in off-site locations • Procedures for restoration of services within time frame as established by priority order
Q	<p>A network of remote observing systems collects data and pulls it to a service that uses the data to drive environmental forecasts. Services are provided primarily in research (rather than 24x7 operational) mode, although a variety of services and users are "test driving" the system</p>	<ul style="list-style-type: none"> • System must allow advertising and location of a network of potential services • System must support brokering between providers and consumers. • System must support policy-based authentication and policy-based access to services • System must provide high-speed communications between a variety of network providers without any bandwidth "shaping" based on file size • System must support information services to be implemented at the "edges" of the network (i.e., not require centralized services) • System must provide resilient roll off in service quality in the face of overloading (through service requests or degradation of physical infrastructure) • System must maintain logs of system activities 	<ul style="list-style-type: none"> • Architecture that supports a wide range of non-OSU services and users • Campus security model based on peer to peer architectures • System supporting a wide variety of new services based on networked (i.e., not centralized) systems • Policies permitting rapid movement of data and information among a variety of systems, both on- and off-campus