OSU PlanIT Priority Initiatives and Actions

Group A: Already In Progress

Action 1: IT Support for the Community Extend Help Desk hours and enhance the Help Desk Web site to provide the ability for users to perform needed services themselves without having to use Help Desk staff – reset passwords, forward e-mail, investigate status of previously reported problems.	**Proposed Leadership:** • Office of the Chief Information Officer ○ Office of Information Technology • Colleges • Departments

Description:

Improve customer service by increasing the Office of Information Technology Help Desk staffing hours to add weekend coverage –12 hrs on Saturday and on Sunday – and 2 additional hours in the evening until 12:00 midnight.

Build a 7 X 24 "Find IT Help" database containing answers to commonly asked questions and guidance and procedures on common activities. All user requests for services that can be handled without staff intervention will be converted to self-help functions. This way, users will not have to call the Help Desk or wait until the Help Desk is open to receive a needed service, and will be able to obtain the service online. A "Find IT Help" will be expanding and evolving with time, will be able to accept questions and responses submitted by the user community. Expansion of Remedy to distributed IT staff is included in this action.

Benefits:

a. Better prepared, supported and engaged students, faculty and staff
b. Less down time – more productivity
c. The university community will know how to obtain needed services and information
d. The services will be easily obtainable and will meet the expectations of the users
e. Better work conditions
f. Less down time
g. More capability
h. Confident and less frustrated users

Metrics:

a. Help desk 24X7 X365
b. Self-help Web information system created
c. Number of users using self-help
d. Customer satisfaction indicators from poll data

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Costs and Funding Sources:
- Help Desk staffing costs weekdays $200,000; weekends $440,000
- 2 Full Time Web System Engineers/Programmers - $160,000
- Existing Chief Information Officer funds and new funding requests

Action 2: Integrated Information Systems
Select and implement an enterprise-level Course Management System.
	Proposed Leadership:
	• Office of Academic Affairs
	  ○ Office of the Chief Information Officer
	  ○ Office of Teaching Enhanced Learning and Research
	• Colleges / Regionals

Description:
Over the past several years, faculty members have exponentially increased their use of technology to manage course information and communications. As the tools evolve, needs expand, and costs escalate there is increased opportunity to pursue solutions that streamline processes and support while laying the groundwork for the next-generation academic environments. This action will select and implement a user friendly, feature rich, and fully scalable enterprise-level e-Learning solution to serve needs of the academic community.

Benefits:
a. Direct Academic Plan connection
b. Consolidation to one system would mean efficiencies over 4 current CMS
c. Capacity to handle entire student population
d. Common look and feel to students and faculty

Metrics:
e. Implementation of one enterprise level Course Management System

Costs and Funding Sources:
- $1.5 million cash
- $500,000 annual rate
- The upgraded system is unfunded

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Action 3: Integrated Information Systems
Develop and implement the Ohio State University Knowledge Bank. Establish standards for accessibility, transmission and delivery of digital assets such as large data sets including images with other faculty, students and funding agencies.
	Proposed Leadership:
	• Office of Academic Affairs
	  ○ Ohio State University Libraries
	  ○ Office of the Chief Information Officer
	• University Senate Council on Library and Information Technology
	• Office of Research
	• Colleges / Regionals
	• Departments

Description:

Campus community members need simple, seamless access to a broad range of diverse campus digital information assets and resources. Students need easy integrated access for effective learning, faculty need easy integrated access for productive instruction and research, and staff need easy integrated access to provide optimal support and administration for faculty and students. In addition, the broader community needs appropriate access to Ohio State University's digital resources to promote growth and economic development throughout Ohio. The Knowledge Bank will provide a managed digital repository for intellectual property, tools and engines to federate that repository with collaborating on and off-campus digital libraries and collections, and a web-based portal to identify, integrate, and deliver digital assets from all sources.

Faculty need the capability of file sharing across departments or colleges or universities to leverage research in teaching environments. The use of firewalls and other security measures have restricted this capability to the point that it is impeding the ability to actively collaborate.

Benefits:

a. Improved access to scholarly communication
b. Integration of content to drive knowledge and the development of instructional materials
c. Archiving and preservation of digital output
d. Mechanism for automatic preparation of P&T reports
e. Fulfillment of land grant outreach mission
f. Reduced growth in cost and better synergies and economies of scale realized though cooperative efforts
g. Leveraging of institutional knowledge capital (e.g., innovative re-use of research and learning materials)
h. Enhanced instruction and research effectiveness

Metrics:

a. Amount of intellectual property submitted to the repository
b. Campus use of the portal engine
c. Effectiveness of Knowledge Bank relative to other Higher Education efforts
d. Amount of grant and corporate support for Knowledge Bank

Costs and Funding Sources:

- TBD

Action 4: Integrated Information Systems

Develop an enterprise data warehouse using currently available central data.

Proposed Leadership:

- Office of Academic Affairs
  - Office of the Chief Information Officer
- Colleges / Regionals
- Departments
- Office of Business and Finance

Description:

The answer to complex administrative questions oftentimes requires the analysis of information, which is housed in numerous administrative data sources throughout the university. This action is to build a storehouse of information that enables members of the academic community to quickly and easily access information, which can be used to anticipate and respond to the constantly evolving needs of students. An enterprise data warehouse is a means to integrate multiple data sources to provide a holistic information view of the institution and facilitate quick, easy, and timely access to information through user-friendly tools for data analysis and reporting. Data warehouses enable collaborative decision-making and limit proliferation of duplicate local databases and spreadsheets of questionable accuracy. This action is to build a storehouse of information that enables members of the academic community to access information, which can be used to anticipate and respond to the constantly evolving needs of institutional stakeholders.

Benefits:

a. Easy to use, accurate, and manageable information for colleges and departments
b. Greater use of BRIO reporting tools
c. Better planning and decisions
d. Better information to statewide decision makers and the general public

Metrics:

a. Use of reports that deliver information when and where needed in an easy and accurate format
b. Increased number of departments using the data warehouse to obtain information

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Costs and Funding Sources:
- $1 million cash
- $600,000 annual rate
- New funds

Action 5: Smart Classrooms Develop and implement new learning-driven design and maintenance guidelines for university classrooms, both pool and departmental classrooms.	**Proposed Leadership:** • Office of Academic Affairs ○ Office of the Chief Information Officer • Office of Business and Finance • Classroom Readiness Committee • Office of Disability Services • Colleges / Regionals

Description:
The success of the Academic Plan depends on the university's instructional infrastructure. The central classroom infrastructure must be reviewed in the light of current pedagogical directions. New design guidelines must recognize issues such as Americans with Disabilities Act (ADA) compliance, the emerging need for reconfigurable learning environments, and concepts such as studio classrooms in addition to issues such as lighting, window treatments, equipment noise levels, and easy-to use environmental controls.

Benefits:
a. Enhanced e-Learning capabilities.
b. Improved teaching flexibility
c. Improved participant ergonomics
d. Move beyond lecture/presentation classroom models (where appropriate)
e. Move towards a wireless campus
f. Improved ability to benefit from peer-to-peer academic interaction
g. Improved overall ability of the Classroom Pool to act as an effective teaching and learning tool
h. Improved core learning elements (ability to effectively see, hear and feel comfortable)
i. Institutional pride (Per the academic plan: We must equal or surpass our benchmark institutions in the use of technology for teaching, learning, research and overall effectiveness).
j. Improve the faculty working environment
k. Improve the student experience

Metrics:
a. Number of technology classrooms that are added/upgraded
b. % Rooms that meet minimum design guidelines

	Costs and Funding Sources: • Cost of participants' time and support to develop the guidelines	
Action 6: Smart Classrooms Increase the university's technology-enabled classroom inventory by seven rooms per year over the next five years to increase support for modern technology enhanced learning.		**Proposed Leadership:** • Office of Academic Affairs o Chief Information Officer • Office of Business and Finance • Classroom Readiness Committee
	Description: The success of the Academic Plan depends on the university's instructional infrastructure. Classrooms equipped with the tools for technology-enhanced learning are a critical part of this infrastructure. As of spring 2003, approximately 24% of the pool classrooms are technology-enhanced. This action will add 35 newly equipped technology classrooms to the university's inventory. Thus, instructors in hundreds of additional courses will have the facilities to Benefits thousands of students by employing technology resources and e-Learning techniques in daily class work. Classroom enhancements will include capable computing equipment with appropriate software, reliable high-speed wired and wireless network connections, high quality digital media and projection equipment, and quick access to technical support.	
	Benefits: See #5	
	Metrics: See #5	
	Costs and Funding Sources: • $275,000 per year for 5 years • New central funds	
Action 7: Reliable Network Provide high quality, connectivity for faculty, students and staff on the Columbus campus. Upgrade and appropriately size network bandwidth from inside buildings in order for faculty to take advantage of the Internet2 capabilities in the support of research. Provide network reliability and continuous information flow for data intensive services, such as video and collaborative computing. Additionally, as more university services become web-based, provide network access to those Ohio State University employees without access to a computer during working hours.		**Proposed Leadership:** • Office of the Chief Information Officer o Office of Information Technology o Enterprise Networking

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Description:

The on-campus action consists of five components:

- Backbone improvement to address part of the end-to-end capacity problem, part of the reliability problem and part of the service guarantee problem;
- Completion of in-building wiring and electronics upgrades to address the rest of the end-to-end problem and the remaining service guarantee problem;
- Provision of a separate ultra-high speed network for research use;
- Provision of a network of wireless access points for main campus; and
- Provide convenient access to the network to those employees (e.g., Physical Facilities, Residence and Dining Hall employees) who normally do not use nor have access to a computer during working hours so that they can access university services online.

In many campus buildings, the network infrastructure will not permit heavy transmissions of data to and from collaborative researchers due to the lack of bandwidth. While the Internet2 project is well underway linking universities, we need a similar project to improve the quality and sizing of connections faculty use with each other inside the university. The final building delivery network needs to be as robust as the main sonnet backbone.

To fully realize the Benefits of e-Learning, the delivery of multimedia content needs to be managed and assured. For Quality of Service (QoS) to function, every piece of equipment in the path from one end to the other must be capable of recognizing and enforcing QoS, so this action is to require investments in both the backbone network and the edge equipment that is owned by departments.

Benefits:

a. Faster on-campus connections for all users – faculty, staff and students
b. Ultra-high speed network enabling researchers to have outstanding connectivity to resources such as Ohio Supercomputer Center and Internet2.
c. Quality of Service will enable the use of IP based video and audio services, facilitating digital convergence.
d. Greater classroom utilization of technology
e. Vendor standardization simplifies troubleshooting and upgrades (Central and some distributed IT staff)
f. Quality of Service may permit better bandwidth management, reducing or controlling the rate of Internet bandwidth growth. (Central IT)

	Metrics: a. Universal availability of 100 Mbps to campus buildings b. Existence of gigabit or faster backbone and QoS in the network – core through desktop c. Existence of redundant fiber paths to key buildings **d.** Existence of 1 or 10 Gbps dedicated research network connections to selected buildings
	Costs and Funding Sources: • Backbone upgrade project: $800,000 - $1,000,000 - Existing CIO funds and new central funds • Building wiring and electronics upgrade project: would vary depending on number of buildings needing to be upgraded. - Existing CIO and department funds • Redundant fiber links to buildings: depends on availability of fiber - Existing CIO funds • Ultra-high speed research network project - $500K (estimated) - New central and distributed funds

Action 8: Campus CyberSecurity, CyberResponsibility & Business Continuity Create a new program to establish and maintain an integrated enterprise-level mission continuity framework. Document and maintain a high-level enterprise technical architecture to depict data flow and physical architecture configurations for improvements in asset management, debugging efforts, security, and business continuity planning.	**Proposed Leadership:** • Office of Academic Affairs o Office of the Chief Information Officer • Office of Business and Finance • Colleges / Regionals

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Description:

A strong indicator of an organization's strength is its ability to successfully respond to unforeseen circumstances. Disasters have the potential of seriously threatening the viability of our University. The repercussions may be devastating as enrollments drop sharply; gifts, grants, and research activity slow down; and the institution's overall financial health suffers. Although no level of preparedness can totally eliminate the risk for all possible eventualities, we need to consciously choose our commitment to preparedness. Key to our success is the coordination of various aspects of mission continuity that already exists across the university in some form or another.

Funding for this action will support the creation of a new program to establish and maintain an integrated enterprise-level mission continuity framework for The Ohio State University. The mission continuity program will serve to coordinate risk management, disaster preparedness, emergency response management, disaster recovery, and business continuity activities across the university. Understanding that each of these areas are at varying stages of implementation at OHIO STATE UNIVERSITY, the program will seek to (1) assess and coordinate these functions across the university; (2) supplement areas not currently being addressed; and (3) advise the university executive leadership on enterprise strategy and operational status. The goal of the program is to minimize or eliminate service interruptions to critical research, teaching, learning, and outreach processes. Experts who can provide the necessary leadership, consultation, communication and training to the university community will staff the program.

The university IT environment and its interrelationships have not been completely documented. Creating this view will allow all units to see how they fit into the whole university and how they can work better together. Due concern for total infrastructure security should guide the development of this document.

Benefits:

a. Colleges and Business Units have a plan for what to do in the event of a disruption
b. Users of university services can know that critical processes will be supported in times of adverse conditions
c. Improve chances of survival of university in the event of a catastrophic event.
d. Coordination of backup and recovery services to optimize value
e. Increase likelihood of being able to meet regulatory requirements
f. Sense of security
g. Protection of university image

Metrics:

a. Key units with mission critical processes have plans for those processes by December 2004
b. All units have comprehensive Business Continuity Plans by June 2006
c. Plans are tested and updated on a periodic basis

Costs and Funding Sources:
- $350,000 for annual salary, benefits, and operations for 3 FTE staff and 2 graduate research assistants: 1 Director of Emergency Management and 2 Business Continuity Analysts
- $160,000 in cash for initial office start-up, external consulting and software purchases
- Unfunded

Action 9: Collaborative Environment	**Proposed Leadership:**
Develop and maintain a communication plan and strategy to improve two-way communications between central and distributed IT.	• Office of the Chief Information Officer • Colleges / Regionals • Departments • University Relations

Description:
All forms of communication – written, verbal, and electronic – need to be improved. This action is to create and implement a communication plan that documents venues and occasions for the dissemination of information between the central and distributed IT organizations. The plan will clarify the purposes, means and circumstances for current, timely and targeted communication with the purpose of improving opportunities for collaboration and consultation, and enhancing mutual understanding and trust.

Benefits:
a. Better decision making on the part of both the central and distributed IT organization
b. Decrease all IT unit complexity
c. Increase all IT unit services
d. The development of a trusting and sharing environment on the part of both the central and distributed IT organization
e. Mutual respect and understanding among the central and distributed organizations
f. Team spirit instead of finger-pointing on the part of both the central and distributed IT organization
g. Better service to all customers

Metrics:
a. Number of formal meetings between central and distributed organizations
b. Number of joint projects between central and distributed units
c. Regularly updated CIO web site
d. Number and type of communications

Costs and Funding Sources:
Cost of participants' time and support to develop and implement the strategy to improve communications

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Action 10: e-Learning Strategies Develop, maintain and revise policies related to e-Learning, including Intellectual Property (IP).	**Proposed Leadership:** • Vice President for Research • Office of the Chief Information Officer • University Senate Council on Libraries and Information Technology • Distance Learning Task Force
Description: The university community reports that a lack of policy guidance on intellectual property issues has impacted the development of e-Learning efforts at OSU. While intellectual property issues relative to patents and faculty participation in the commercial exploitation of discoveries have been recently addressed, issues relative to the intellectual property involved in distance and technology instruction have been neglected. This initiative will establish an Ad Hoc task force on these intellectual property issues. The task force will include faculty members with experience in distance and technology education as well as representation from Colleges, Legal Affairs, OTL, the CIO Office, and other appropriate offices. The task force will develop a set of guidelines to help implement the current policy in the light of modern instructional technology advances and practices. The guidelines will be developed with campus input, will be presented to the University Senate Library and Information Technology Council for advice and input, and will then be submitted to the Office of Academic Affairs for approval as interim guidance for faculty members and administrators.	

Benefits:

a. Ohio State will successfully meet the e-Learning needs of its students and the citizens of Ohio and beyond by providing targeted and support resources to its academic community supported and resources to its academic community.
b. Faculty will have the requisite training and resources to integrate technology into teaching and learning and students will enjoy the convenience and quality of technology-supported learning opportunities. Staff will have the requisite training and resources to support their client's needs effectively.
c. Supportive and clearly delineated policies and procedures will allow Ohio State to offer quality e-learning, especially distance learning, that is competitive with its peer institutions and meets the needs of its user population
d. Students taking courses at Ohio State will have one-stop access to services and resources regardless to whether they come to campus or access the University at a distance.
e. Ohio State's academic community will have the computing power and infrastructure required to support a broad spectrum of educational technology methodologies and practices.
f. There will be equitable rewards, incentives and compensation for faculty who adopt e-Learning
g. Individuals with special needs will have increased access to education
h. Ohio State will become learner-centric focused as more serious attention is given to students' preferences and requirements for integrated, comprehensive, personalized, online self-services
i. The land grant outreach mission will be better realized
j. Distance education will be valued and recognized by faculty peers, and academic leadership
k. The scholarship of teaching will gain importance and be rewarded
l. The student body will be technology literate and better prepared for career and advanced education opportunities
m. Employers that place a premium on the flexibility of anyplace-anytime online instruction will contract with Ohio State for their e-Learning needs
n. Reduce the cost and effort needed to assess and develop e-Learning proposals
o. Support faculty rights
p. Improve the university climate for e-Learning
q. Increase e-Learning productivity and effectiveness
r. Positively impact retention of faculty working with e-Learning
s. Help enable fulfillment of the land grant outreach mission

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Metrics:

a. Better support for faculty in developing and delivering e-Leaning
b. Approved revisions of outdated policies
c. Increased adoption of e-Learning by faculty
d. Increase in students enrolling in online courses or degree programs
e. Improved quality of online offerings
f. Increase in faculty comfort with developing and sharing distance and technology education materials
g. More faculty being promoted for development and creative use and research in instructional technology
h. Expansion of number of central and departmental IT staff supporting faculty using technology enhanced instruction
i. Smaller class sizes and increased accessibility to classes (fewer closed out courses) leading to increased student matriculation rates and a greater number of students graduating in a shorter period of time
j. Higher order learning in undergraduate level courses supported by technology integration
k. Stakeholder satisfaction
l. Increase in faculty comfort with developing and releasing distance and technology education materials (OSU Poll)
m. Increase in development and release of distance and technology education materials
n. Approved revision to the official policy which recognizes eLearning for its role

Costs and Funding Sources:

- Cost of participants' time and support to develop the policies

Action 11: e-Learning Strategies	**Proposed Leadership:**
Increase and enhance the technical and instructional technology design support to assist faculty in the design of quality e-Learning materials and also establish a sustainable funding strategy to ensure adequate support for e-Learning.	• Office of Academic Affairs ○ Chief Information Officer • Colleges / Regionals • Office of Business and Finance • Outreach committee • Faculty and Teaching Assistant Development Office

	Description: The Ohio State University's Academic Plan clearly delineates the role of instructional technology in advancing Ohio State as a national leader and world-class institution and concludes "we must equal or surpass our benchmark institutions in the use of technology for teaching, learning, research, and overall effectiveness." In order to meet this goal, funding needs to be identified to support the academic community's educational technology support needs, provide investment loans to viable distance learning programs, solve problems such as closed sections, leverage research into the classroom, and explore and implement new and emerging learning technologies. In addition to funding, a sustainable funding strategy is required to expand and advance the use of instructional technologies and assure the quality of delivery and academic rigor for both resident and distance courses. Faculty using technology to enhance their courses requires training, resources, professional support, and intrinsic and extrinsic incentives. There also are opportunities to develop and deliver revenue-generating distance learning programs however, investment loans must be provided to fund the upfront development costs. In addition, campus and state policies must be reexamined and revised to support new educational models for delivering education.
	Benefits: See #10
	Metrics: See #10
	Costs and Funding Sources: • Cost of participants' time and support to develop the strategy, guidelines, and plan • $736,000 for FY04 and $375,000 for FY05 • $750,000 cash over two years • New funds

Action 12: Campus CyberSecurity, CyberResponsibility & Business Continuity
Increase campus community awareness of security issues, practices and responsibility.
	Proposed Leadership:
	• Office of the Chief Information Officer
	  ○ Office of Information Technology
	  ○ TELR
	• Colleges and Regionals

	Description: Better educate the university community on computer security, privacy, and information technology responsibility issues so that community members can better control their own personal information protection and privacy, improve university units' security, and protect both individuals and the university from liability. We will use both locally developed materials such as the Safe Computing Web Site and materials from the CIC Security Working Group MIST project to provide basic security information in a variety of formats: WebCT, streaming media, videotape, and instructor led workshops, etc. We will also work to include security and privacy materials in both new student orientation and freshman experience courses.

	Benefits: a. Colleges and Units improve security of data, systems and network privacy b. Increase likelihood of being able to meet regulatory requirements c. Enhance the sense of personal security d. Protection of university image as a secure place.
	Metrics: a. Reduction in the number of personal and unit privacy invasions
	Costs and Funding Sources: • Staffing could be done with internal reallocation plus $100,000 for one FTE in a user education and training program - Existing CIO funds • $100,000 (estimated) for materials and incentive program, depending on scope - New central funds
Action 13: e-Learning Strategies Develop, maintain and review administrative policies, services and logistics for support for e-Learning – from market analysis to design and delivery through maintenance and support. E-Learning is an umbrella term representing a continuum of educational technology integration. It originates with the supplemental use of technology in the classroom, through blended or hybrid uses comprising a mix of face-to-face and fully online instruction, to fully online synchronous and asynchronous distance learning environments delivered to remote learners.	**Proposed Leadership:** • The Provost • Deans • Faculty • Department Instructional Committees • University Outreach Committee • Continuing Education
	Description: Realign internal resources to build an organization to provide and coordinate support for e-Learning that complements college initiatives and is learner centered. Effectively use university resources to support the e-Learning needs of the academic community and to interface closely with college and department faculty and staff in supporting their constituents.
	Benefits: See #10
	Metrics: See #10
	Costs and Funding Sources: • Cost of participants' time and support to develop policies – implementation and the associated costs should be considered separately

Group B: Next in line

Action 14: Integrated Information Systems
Complete a detailed evaluation of processes and systems that support student administration functions. Recommend a plan for implementing an integrated student information system.
	Proposed Leadership:
	• Office of Academic Affairs
	  ○ Office of the Chief Information Officer
	  ○ Office of Enrollment Services
	• Office of the Treasurer
	• Colleges / Regionals
	• Departments

Description:

Ohio State University's current student systems and business processes are barriers to achieving the vision articulated in the Academic Plan. Major student administration functions, such as admissions, financial aid, registration, records, fees, deposits, disbursements, advising, and instruction, are currently supported by an inefficient and sometimes outdated patchwork of disparate systems throughout the university. This environment poses significant challenges to student management, instructional support, and institutional planning. Students are required to visit various independent administrative offices to conduct their business, a multitude of systems support faculty activity, and data required to more effectively manage the institution must be harvested from several disconnected sources. The underlying technology of many of the systems is rapidly becoming obsolete and the costs required to maintain and modify for emerging institutional needs are increasing.

This action seeks to implement a solution that supports the full student lifecycle. Its primary goal is to build an integrated system that can provide campus community members with accurate, timely, and useful information thus enabling effective student management, instructional support, and institutional planning. The action is broken into two major phases: (1) complete an evaluation of requirements, cost justification, and plan of the overall project; and (2) proceed with implementing an integrated student information system, including organizational development and process reengineering. One of the outcomes of phase one activity will be to identify and recommend options for proceeding. Understanding that budgetary constraints may limit our ability to pursue a full system replacement in the near term, strategies will be developed for implementing incremental improvements to the current legacy systems, such as the creation of a student portal, web services, and data warehouse.

Benefits:

a. Reduced systems support costs through consolidation and centralization
b. Additional revenue from more strategic enrollment management and maximization of e-Learning opportunities
c. Savings from new self-service capabilities aimed at students and faculty
d. Additional federal and state funds through data analysis and more accurate reporting.
e. Flexibility to respond to business rule changes
f. Effort savings from further automation and less manual involvement
g. Streamlined student services through reengineered processes and more decentralized data ownership and processing
h. Integrate teaching and learning with student services and institutional data
i. Lessened Frustration
j. Increased utilization of first faculty/staff contact by student
k. Improving the sense of community by enabling cooperative/non-duplicative activity

Metrics:

a. Completion of Business Case and Option Analysis
b. Completion of short and long term plans
c. Identification of funding and budget sources
d. Creation of a SIS Improvement project

Costs and Funding Sources:

- Phase 1: YR 1 – YR 2, $2 million cash
- Phase 2: YR 3 – YR 5, $48 million cash, plus an additional $4.1 million annual rate for staff, software, and hardware maintenance. This amount assumes a full system replacement and includes annual inflation increases.
- Unfunded
- Estimated costs are meant to indicate rough order of magnitude. They are based on the experience of comparable institutions. Accurate estimates for a full system replacement can only be determined upon the completion of Phase 1

Action 15: Support for Research	**Proposed Leadership:**
Encourage Ohio State University administration to ensure all administrative and financial systems upgrade and implementation goals include the need for such systems to minimize the administrative burden on research faculty and foster an environment that is in compliance with pertinent laws, rules, and regulations that govern sponsored research.	• Office of Academic Affairs ○ Office of the Chief Information Officer • Vice President of Research • Colleges / Regionals • Departments

	Description: Administration of research projects is time consuming and expensive. Principal Investigators often spend a relatively large percentage of their time processing paperwork in order to meet pertinent laws, rules, and regulations that govern sponsored research. Software such as the PeopleSoft Human Resources, Financials, and Grants system currently being implemented, has the potential to reduce the burden of administration on faculty researchers. This action recommends that all systems projects, which have a potential impact on Principal Investigators, should actively pursue goals that cost-effectively minimize burden while ensuring compliance. The automaton of administrative processes can yield significant benefits to Principal Investigators who can, as a result, devote more of their time to conducting their research. Current examples of possible system enhancements include: (1) automating the university's purchasing system to function like "rules software", where the user would be informed immediately on line when inputting purchase requests if the proposed purchase are unallowable, or if there are insufficient funds on a particular grant or contract; and (2) enabling the reconciliation of research appointments before payments are made. This involves including the encumbrance end date in the Human Resource system to create accurate payroll commitments on sponsored projects.
	Benefits: a. Research faculty – easier startup and continuing costs for project administration **b.** Central Research Administration – more projects, more overhead and more recognition for research faculty
	Metrics: a. Research Faculty satisfaction with project administration
	Costs and Funding Sources: • Current funds
Action 16: Support for Research Establish a university wide data storage strategy for research use.	**Proposed Leadership:** • Office of Academic Affairs ○ Office of the Chief Information Officer • Vice President of Research • Colleges / Regionals • Departments
	Description: There are several ways to provide data storage for research. One way of improving file sharing would be to have an enterprise storage area network (SAN). The university needs to develop a university wide storage strategy that will make the sharing of data and files easier as well as secure. There are negative impacts on bandwidth and positively impacts Total cost of Operation (TCO) and business continuity that will need to be addressed.
	Benefits: See # 15
	Metrics: See # 15

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Costs and Funding Sources:
- Cost of participants' time and support to develop the strategy, guidelines, and plan
- New funds $500 – 900,000 depending on size required for SAN for research

Action 17: Campus CyberSecurity, CyberResponsibility & Business Continuity Develop and implement campus CyberSecurity and CyberResponsibility strategies and guidelines to secure the campus network and protect critical campus information technology resources, assets, and processes.	**Proposed Leadership:** • Office of Academic Affairs ○ Office of the Chief Information Officer • Office of Business and Finance • Colleges / Regionals • Major administrative units

Description:
We are challenged to provide our academic community with ubiquitous and pervasive access to the data network while providing adequate protection from problems such as viruses, spam, and cyber-terrorism. We must effectively secure the university data network, both to protect university's information technology assets and processes and to support the university community's privacy and productivity. We must also coordinate with national and state higher education CyberSecurity efforts to ensure collaborative efforts and maximize our protection investment. We must also coordinate these efforts with our business continuity efforts. In addition we must develop awareness and education materials to ensure that campus community members understand both their rights and their responsibilities in cyberspace. To implement this action, we will use the university's HIPAA security approach as a model for a campus-wide group led by the Office of the Chief Information Officer and including information technology and physical security experts, auditors, and academic and administrative unit representatives. The group will develop a strategy, guidelines, and implementation plan with both broad campus input and external input and then oversee implementation and ongoing operation.

Benefits:
a. Reduced probability that the campus network will be slowed or halted by an attack
b. Reduced risks of data loss due to malicious attacks on servers
c. Less system administrator time spent rebuilding computers that have been attacked
d. Increased compliance with research grant rules that stipulate proactive use of fire walls
e. Faculty, staff and students will NOT see slowed network performance
f. Departmental computing staff and the campus community will become more knowledgeable about security issues
g. Best practices in secure system administration will be established

Metrics:

a. Decrease in the number of computers that have to be removed from the Internet due to break-ins
b. Increase in the number of departments that have firewalls between their network and the campus backbone
c. Decrease in the number of security incidents reported
d. Existence of security best practices documents for the most commonly used server software and operating systems
e. Existence of training materials and an established training schedule to educate staff about securely administering computers that are attached to the campus network

Costs and Funding Sources:

- Cost of participants' time and support to develop the strategy, guidelines, and plan plus $100,000 for 1 FTE for ongoing assessment, monitoring, external coordination and planning

Action 18: Campus CyberSecurity, CyberResponsibility & Business Continuity Better secure the central Ohio State University data network from both external and internal threats.	**Proposed Leadership:** • Office of the Chief Information Officer

Description:

To implement this initiative we must take both proactive and reactive steps. Proactive elements include more intense network scanning for vulnerable computers, more intense network monitoring for intruders and attacks, increasing firewalls, and developing a rigorous defense in depth. Reactive elements center around incident response – distributing news about new threats or vulnerabilities, analyzing compromised computers to determine what form of attack was used and working with system administrators to help them improve their security practices. This work must be coordinated with business continuity efforts.

Benefits: See #17

Metrics: See #17

Costs and Funding Sources:

- $200,000 for annual salary and benefits for two FTE staff: one in incident response; one in firewall installation and configuration
- $25,000 for additional intrusion detection hardware and software
- Existing CIO funds and cost recovery for new services

Action 19: Smart Classrooms Establish regular and sustainable funding to support the continuous maintenance and periodic upgrade of technology-enhanced pool classrooms. Attention also needs to be directed at the departmental classrooms as well.	**Proposed Leadership:** • Office of Academic Affairs ○ Office of the Chief Information Officer • Office of Business and Finance • Classroom Readiness Committee • Colleges / Regionals

Description:
This action is to identify a sustainable funding stream to maintain and continuously improve the university's technology classrooms. This will both protect the university's investment and ensure that instructors and students are able to Benefits from modern technology in future years. While not within the scope of this action, it is important to note that the classroom physical environment is as important to instructional outcomes as effective technology. Student learning is enhanced by clean, cared for classrooms with effective and well-maintained environmental conditioning.

Benefits: See #5

Metrics: See #5

Costs and Funding Sources:
- $250,000 per year for 5 years
- New central funds

Action 20: IT Support for the Community
Provide increased technical support and training to faculty to assist in the delivery of instruction in the classroom and in the conduct of their research, and enhance the Classroom Pool Web site to include the option of adding and displaying departmental classrooms on the site.

Proposed Leadership:
- Office of the Chief Information Officer
  - Office of Information Technology
  - Office of Teaching Enhanced Learning and Research
- Colleges / Regionals
- Academic Departments

Description:
Many faculty members would use technology more often in the classroom if they felt that they were better supported and that they could be confident that the equipment in the classroom is reliable and available. Too often faculty have to fend for themselves when it comes to technical assistance in the conduct of research. This action is to increase the staff available to assist faculty in setting up and running technology in the classroom and to solve technical problems when they arise during the class period. Additionally, to provide more information to faculty about technology-enhanced classrooms, enhance the Classroom Pool Web site to include the option of adding and displaying departmental classrooms on the site. Assistance will also be available to faculty for technology problems in research labs. Technical staffs are non-existent in many departments and where departments do have technical staff, they are overwhelmed with Local Area Network (LAN) duties. Historically, the university has imposed these duties on graduate students to the detriment of their studies. A working estimate support ratio is one technical staff member for every 15-research faculty. This action is to also develop technical staff with a diversity of skills.

Benefits:

a. Better prepared, supported and engaged students, faculty and staff
b. Less down time – more productivity
c. An "enabling environment" that encourages the use of new technologies for instruction
d. Developed faculty instructional technology skills and competencies
e. Develops a supportive faculty working environment
f. Help students learn how to use and critically evaluate the technologies that are used in their fields of study
g. Better work conditions
h. Less down time
i. More capability
j. Confident and less frustrated users
k. Encourage productivity and high performance, departments and colleges will establish mechanisms for motivating and rewarding their faculty
l. Status of teaching with enhanced technology will be elevated throughout Ohio State
m. Better served departments and units

Metrics:

a. IT Swat Team created
b. Number of IT staff receiving training
c. Number of IT staff receiving certifications
d. Customer satisfaction indicators for poll data

Costs and Funding Sources:

- $200,000 to increase central classroom support
- New funds for up to 50 new departmental technical staff - $3 million in annual rate
- New and reallocated central and distributed funds

Action 21: Integrated Information System	**Proposed Leadership:**
Select and implement a student portal and content management system.	• Office of Academic Affairs ○ Office of the Chief Information Officer • Colleges / Regionals • Departments • University Relations

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Description:

With the recent advances in web technologies, university constituencies have increased expectations of our ability to provide information they need to interact with the university quickly, accurately, and easily. Ohio State University's current interfaces are too complex for the majority of end-users, web information is difficult to find and often out of date, and few mechanisms exist for ensuring that web content is periodically reviewed, updated or retired. Portal technology can address these needs. A portal is a web-based application consisting of a unified front-end to an integrated set of services which together provide easy access to information, applications, and people. Enterprise-level content management software provides more effective mechanisms for posting and maintaining web content. Such software can enable decentralized control with centralized support.

This action proposes the implementation of an enterprise portal architecture and content management system for faculty, students and staff. The proposed phases of the project are as follows:

Phase 1 – Complete a business case, engage key stakeholders, and initiate the project

Phase 2 – Purchase product, assemble team, implement single sign-on solution, develop basic portal architecture, create portal application for students that promotes remote availability, "one-stop" shopping, and an emphasis on self-service

Phase 3 – Develop enhanced services within portal, implement content management solution

Phase 4 – Extend portal services to Faculty, Staff, and Administration (i.e. Human Resources employee self-service)

Benefits:

a. Increased reliability and navigability of student web services and information.
b. Improved communication with each university constituency.
c. Decreased reliance on email for mass communications.
d. More effective mechanisms for maintaining services and posting web content. Allows decentralized control, but centralized support
e. Flexible and scalable technical architecture that is responsive to changes
f. Shared component/service infrastructure for easier management and reuse
g. Improved image of OSU
h. Decreased frustration among constituencies

Metrics:

a. Creation of a single student web portal that can be personalized and customized for the needs of each university constituent group
b. Decreased time to post or update content
c. Decreased cost to maintain our web content and services

	Costs and Funding Sources: • Phase 1: YR 1, $100,000 cash • Phase 2: YR 1 – YR 2, $1 million cash, $430,000 annual rate (on-going) • Phase 3: YR 3 – YR 4, $2 million cash, $320,000 annual rate (additional on-going) • Phase 4: TBD • Unfunded
Action 22: IT Funding Develop a lifecycle support model for campus wide IT projects and initiatives that recognizes the Total Cost of Ownership and the impact on central resources. The model can be shared with and replicated by distributed units.	**Proposed Leadership:** • Office of Academic Affairs ○ Chief Information Officer • Office of Business and Finance
	Description: The Ohio State University needs to develop an IT lifecycle support model that captures the full cost of development and operation of facility or service. All projects and initiatives that impact central resources should use this lifecycle model and include estimated life of the project, initial and continuing cost, staff requirements and impact on any other systems or units.
	Benefits: a. Focus on maximum utilization of resources b. Planned utilization of resources **c.** Level playing field
	Metrics: a. Use of lifecycle or total cost of ownership models for funding recommendations **b.** Metric for level playing field
	Costs and Funding Sources: • Cost of participants' time and support to develop the strategy, guidelines, and plan
Action 23: IT Support for the Community Expand collaborative, multidisciplinary, interdisciplinary teams of central and distributed IT representatives to work on mutual areas of interest such as training, storage, security, networking, system performance, and server support communication of IT resources.	**Proposed Leadership:** • Deans • Office of Human Resources • Colleges / Regionals • Departments • Chief Information Officer ○ CIO Human Resources • Continuing Education

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Description:
This action is to build upon and expand existing collaborative working groups and to create a framework to bring together groups around special projects. Trained and skilled information technology staff resources are critical to a sound technology infrastructure. IT staff need to demonstrate competencies to include both training and annual resources to support instructors using technology in their teaching and research. This action is to create an IT staff training and career development program that will ensure that the OHIO STATE UNIVERSITY technology infrastructure and community are supported by staff with up to date technical skills. This program will include training that leads to professional IT credentials and certifications.

Benefits:

a. Less down time – more productivity
b. The services will be easily obtainable and will meet the expectations of the users
c. IT staff that are better prepared and more efficient
d. Department, unit and central systems are better maintained and supported
e. Improving the pool of qualified IT staff
f. Retain IT staff and plan for the future staffing needs
g. Less frustration
h. Better work conditions
i. Less down time
j. More capability

Metrics:

a. Number of IT staff receiving training
b. Number of IT staff receiving certifications
c. Customer satisfaction indicators for poll data

Costs and Funding Sources:

- Cost of participants' time and support to participate on the teams
- 7% of IT staff budget, as a benchmark for training
- Initial start up for staff in Office of Human Resources, creation and analysis of technical assessment tool and curriculum planning - $100,000
- Annual cost - $750,000
- Existing Funds for training
- New Funds for Office of Human Resources

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Action 24: Collaborative Environment Establish a collaborative, advisory and consultative IT governance structure, comprised of both central and distributed representation, to coordinate decision-making and resource allocation. Clarify central and distributed IT roles, positions and services to reduce confusion and duplicated services where possible and to improve understanding among the university community of where to access needed services.	**Proposed Leadership:** • Office of the Chief Information Officer • University Senate • Office of Academic Affairs • Office of Business and Finance • University Senate Council on Libraries and Information Technology • Colleges/ Regionals • Departments

Description:

Since IT affects all individuals and units on campus, a common policy body should be created. The body must provide for representation and a voice in decision-making for all areas of the university community. This group will evaluate IT resource allocation and advise and recommend strategies to make the best use of IT resources at the university. Additionally, this group can become an effective voice for advocating for resources in order to fulfill the initiatives of this plan and the university's Academic Plan.

A lack of clarity about who provides what service and where the lines of responsibility start and stop exists both inside and outside of the IT community. As the business component of the technical architecture, this action is to clearly define the roles and responsibilities between central and distributed IT units. By defining, reviewing and rebalancing IT roles and responsibilities across the university, an environment is created where central and distributed resources complement rather than compete with each other.

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Benefits:

a. Better decision making on the part of both the central and distributed IT organization
b. Better able to balance resources on the part of both the central and distributed IT organization
c. Better able to leverage opportunities for purchases and the sharing of resources on the part of both the central and distributed IT organization
d. Decrease all IT unit costs
e. Decrease all IT unit complexity
f. The development of a trusting and sharing environment on the part of both the central and distributed IT organization
g. Mutual respect and understanding among the central and distributed organizations
h. Team spirit instead of finger-pointing on the part of both the central and distributed IT organization
i. Better service to all customers
j. Better coordination of services
k. Better understanding of who does what so customers know where to seek assistance
l. More efficiency of IT operations
m. Decrease in duplication of services
n. Higher economies of scale
o. Sharing of Remedy across IT
p. Open lines of communication

Metrics:

a. Creation of a common governance structure
b. Creation of the priorities
c. Shifting of resources to meet priorities
d. Number of formal meetings between central and distributed organizations
e. Number of joint projects between central and distributed units
f. Regularly updated CIO web site
g. List of roles and responsibilities
h. List of defined services and source of funding for the services

Costs and Funding Sources:

Cost of participants' time and support to develop the structure

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Action 25: IT Training and Computer Literacy
Build on the information technology skills assessment tool for students used by Undergraduate Studies and expand its use for the assessment of faculty and staff skills as well.
	Proposed Leadership:
	• Office of Undergraduate Studies
	• Office of Human Resources
	• Office of the Chief Information Officer
	  ○ Office of Information Technology
	  ○ Office of Teaching Enhanced Learning and Research

Description:
Assessing the skill level of users is the first step in the development of any training program to ensure that the needed training is made available. This action is to take the tool that was developed and applied to the incoming freshman class of 2001 and to broaden its use to include faculty and staff. While the Undergraduate Studies tool was considered to be a one-time event, this action is to periodically assess the information technology skill levels.

Benefits:

a. Faculty and staff that are better prepared and more productive
b. Students who are skilled and better prepared are more efficient and confident and will perform better academically
c. IT savvy students are better prepared and more competitive for careers and advanced educational opportunities
d. Improved security for individual students
e. Ability to work with students on equal footing
f. Less faculty and class time spent on remedial technology training

Metrics:

a. Creation of the assessment tool
b. Creation of the "boot strap" class
c. Creation of the "up date" class
d. Annual assessment tool scores comparison
e. Success stories
f. Ability to change our environment to meet our new students expectations for a higher education experience

Costs and Funding Sources:

- $30,000 cash
- Existing central funds

Action 26: IT Training and Computer literacy
Create a technology literacy development program to bring students, faculty and staff to a basic skill level. Use the data gathered by the assessment tool in Action 5 to streamline a training program to meet the needs of Ohio State University students, faculty and staff. This program can be based on NetTutor with additional materials to address the skills identified in the assessment tool and to expand its applicability to faculty and staff as well. Additionally, build awareness of the availability of NetTutor within the campus community.
	Proposed Leadership:
	• Office of the Chief Information Officer
	  ○ Office of Information Technology
	  ○ Office of Teaching Enhanced Learning and Research
	• Office of Human Resources for Faculty and Staff
	• Office of Undergraduate Studies
	• Ohio State University Libraries
	• Faculty and Teaching Assistant Development Office
	• University Senate Council on Libraries and Information Technology

Description: Based on the assessment above, create the training program to cover the gaps in skills and number of students, faculty and staff to be covered. Such an information technology-training program will provide training to develop skills that enable an individual to use computers, software applications, databases, and other technologies to achieve a wide variety of academic, work-related, and personal goals.

The training program will also support faculty development efforts that empower faculty to incorporate technology tools in their teaching and research. Faculty competencies for web-based distance education include being able to competently use the technology in the course including course authoring software, communication technology such as e-mail, chat rooms, listservs, browsing the Internet or accessing electronic resources.

Students' IT literacy training will encompass communication skills (e-mail & sending files), information management (moving, sorting and protecting information, security and privacy, and rights and responsibilities), research and discovery (browsers and evaluating information) and software applications (word processing, spreadsheets, graphics software) according to their discipline of study.

The goal of the training program is to provide for students a living and learning environment that ensures their attainment of "technology literacy" upon graduation from Ohio State.

Benefits: See # 25

Metrics: See #25

	Costs and Funding Sources: • $500,000 cash • $75,000 ongoing • Existing central funds and new fund requests

Action 27: Reliable Network
Provide high quality connectivity for faculty, students and staff to and from extended campuses. Provide low cost connectivity for faculty, students and staff from off campus locations, such as in the Columbus university district.
	Proposed Leadership:
	• Office of the Chief Information Officer
	  ○ Office of Information Technology
	  ○ Enterprise Networking
	  ○ UNITS

	Description: The off-campus action consists of three components: • Backbone improvements to address part of the end-to-end capacity problem, part of the reliability problem and part of the service guarantee problem; • The Office of the Chief Information Officer to work with Internet common carriers for peering arrangements for low cost Internet connectivity options for faculty, students and staff.
	Benefits: See #7
	Metrics: See #7
	Costs and Funding Sources: • Backbone upgrade project: $800,000 - $1,000,000 - Existing CIO and new central funds
Action 28: IT Funding Overhaul the university's current IT funding models and mechanisms to address the issues of funding inequities, under-funded needs, and a lack of regular and sustainable funding for mission critical systems and services.	**Proposed Leadership:** • Office of Academic Affairs ○ Chief Information Officer • Colleges / Regionals • Office of Business and Finance
	Description: The university needs to review and appropriately revise current campus IT funding models and mechanisms to address the issues of funding inequities, under-funded needs, and a lack of regular and sustainable funding for mission critical systems and services. Other issues to be addressed are the optimal balances between central and distributed IT resources and between generally funded and charge back services. An important input to this review should be an evaluation of funding models and mechanisms at our peer institutions and other leading higher education institutions around the country.

Benefits:

a. Focus on maximum utilization of resources
b. Planned utilization of resources
c. Level playing field
d. Students, no matter their field of study, will experience the same level of service and connectivity across campus

Metrics:

a. Change in funding model
b. Metric for level playing field

Costs and Funding Sources:

- Cost of participants' time and support to develop the strategy, guidelines, and plan – implementation of the model and the associated costs should be considered separately

Action 29: IT Interoperability	**Proposed Leadership:**
Develop IT hardware, software, architecture and support standards, which can be deployed throughout the campus to achieve interoperability. Establish an attractive program that induces university colleges and departments to coordinate hardware, software and network components purchases.	• Office of Academic Affairs ○ Chief Information Officer • Colleges/ Regionals • Office of Business and Finance • Purchasing and Retail Services • Senior Fiscal Officers

Description:

To improve the university's information technology effectiveness and efficiency, we should develop a coordinated and coherent set of IT standards, which can apply to commonly used tools. While any specialized local requirements like academic programs or systems needed for a discipline must be accommodated, the long-term goal should be to reduce costs, improve interoperability, and ease of use and maintenance. Common tools and access on a broader scale is more efficient and easier to support at lower cost. There are options for all units of the university to participate in a coordinated procurement program. This action is to coordinate university hardware, software and network component purchase to leverage the university's buying power.

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	Benefits: a. Better coordination of purchases, use of technology, and systems among us all b. Reduce the cost on a per unit basis c. Creation of prime vendors d. Reduction of costs for the whole institution e. Coordination of better service f. Ability to standardize service across hardware, software regardless of location g. Open lines of communication h. Alignment of central and distributed IT organization i. More standardization means less problems to troubleshoot **j.** Streamlining training for IT staff and users
	Metrics: a. List of guidelines and standards b. List of defined services c. Amount of reduced costs or savings by supporting fewer platforms or software d. Interoperability is improved e. Volume of purchases through program **f.** Money saved
	Costs and Funding Sources: • Cost of participants' time and support to develop the standards