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Division of Information Technology
Budget Planning White Paper

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March 13, 2009

The University of Wyoming has made tremendous strides in providing students with an exceptional and affordable education. The Division of Information Technology, through providing infrastructure and vital services to the university, is essential to the success of the institution, as well as to its students, faculty, and staff. The university, in its third academic planning cycle, has demonstrated its commitment to the goals of promoting access to higher education, fostering excellence, and cultivating leadership. As we face possible reductions in our funding it is important to retain the achievements we have made. Any reductions should be surgically made and not structurally deteriorate our gains.

The Division of Information Technology is a support services organization that supports the university's mission "to explore, create, and share knowledge, in areas that are meaningful to our constituencies and at a level of accomplishment that garners international recognition." Information Technology's primary objective is to provide a highly reliable, robust computing, communications & network infrastructure and customer-centric support services to the university's students, faculty, staff, and constituents.

The value of technology to higher education lies in its innumerable benefits and possibilities for providing colleges and students with the information, technological tools and support to thrive in the 21st century. The excellence of the university's technology has been achieved through support from the State of Wyoming, hard work of our employees and on-going university investments. The university's technology is on par with many of the best universities in the nation. The university's strategic use of technology has increased productivity, efficiency, learning and research.

Technology is integral to the operation and continuation of the institution. Its capital and resource intensive nature requires institutional, cost-effective planning. A campus-wide Information Technology Services Review (ITSR) was completed in 2005 by the consulting firm of RSM McGladrey to evaluate how the university might better utilize its technology investments. Based on the findings of this review, the consultants made a number of cost related recommendations. Many of the recommendations were implemented with savings resulting to the university. Additional savings can be realized by implementing some of the remaining recommendations. Three major cost issues found by the ITSR consultants are: duplication of efforts and resources within some departments; fragmented purchasing of technology resources inhibiting economies of scale; and budgeting constraints impacting the quality of technology services provided to the university community. Cost-saving initiatives recommended by the consultants but not implemented are detailed in Section Four.

Guided by the ITSR findings in 2005, Information Technology has since partnered with the WTBC, Health Sciences and the Alumni Association to provide some of their information technology functions centrally. Three Information Technology employees, funded by the departments, support the activities of these organizations. The success of these partnerships, and their associated cost reductions, should be considered for other similar implementations throughout the university. Where technology is concerned, we believe that these types of partnerships and the other consultant recommendations, outlined in Section Four, Item 1, have the greatest potential for cost savings. These partnerships and consultant recommendations also offer the least overall negative impact for the university as a whole and require the least amount of reduction of services and support. The savings gained can be accomplished by a reduction and elimination of duplication in personnel, hardware and services, and a better use of university resources at an equivalent or higher service level.

Section One
Basic UW three tier framework as viewed by Information Technology.

Core elements of UW mission are those elements that directly participate in teaching and learning, research, and service.

High priority activities that support the core are those activities and services that give the organization its purpose to exist and operate at the appropriate level to achieve the institutional mission of teaching and learning, research, and service; to advance the institutional vision; and to promote the institutional values.

Enhancements are activities and services that add value, maximize efficiencies, increase productivity or quality, leverage investment, or lower risk.

Section Two
The general major elements of UW's current overall operations that belong to each of the three tiers outlined in Section One as viewed by Information Technology.

The elements listed below are broad and not inclusive of every high-priority activity and enhancement provided by the university through its various divisions. Through discussion of Information Technology's functions for purposes of this review, the IT directors recognized that the divisions of the university operate in more than one of the three tiers. IT has listed a sampling of activities below.

UW Mission Core Elements	High-Priority Activities Supporting the Core	Enhancements
- Teaching and academic programs for undergraduate, graduate, and professional learning - Research activities and Technology Transfer - Service to Wyoming - Outreach - Extension - Health Services - Community and Economic Development	- Student Services – recruitment, enrollment, retention - Information Technology – computing, networking, support. - Libraries - Supporting distance and campus learning environments - Support for developing and maintaining areas of excellence and distinction - Advancing access and diversity - Faculty development and recruitment - Research and related partnerships such as NCAR - Finance - Government Relations - Physical Plant - Human Resources	- Auxiliaries - Division I Athletics - KUWR Radio - UWTV - Police - Museums

Section Three
Major services and functional elements of Information Technology as they apply to the three tiers.

Technology services at UW align similarly with those at institutions across the country. In *A Guide to Planning for Change* (Society for College and University Planning, 2008), Donald M. Norris and Nick L. Poulton demonstrate that the transformational value of institutional information technology in the 21st century is through the following tools and activities:

- Open architecture applications, Web. 2.0 (collaboration model), action analytics
- Ubiquitous technology/wireless
- Portalization
- Networks preeminent/Web native/security
- Leveraging technology to improve performance, reduce costs
- Leveraging technology to reinvent processes, strategically realign programs
- Alignment/analytics

As *A Guide to Planning for Change* further points out, investments in technology achieve differentiation in the marketplace and, by substantially changing business processes and practices, achieve the institution's strategic potential. In recent years UW has strengthened its position by making significant technological investments that are important to UW's mission and to UW's competitive standing in relationship to comparator institutions.

High-Priority Activities Supporting the Core	Enhancements
• Information Technology Center • Campus Data Network • Internet Access, including BiSON • Student Computing Labs ------------------------------- • Administrative Applications - Institutional Advancement, Financials and HR (PeopleSoft), Student Information System (Banner) • Network and Data Security • Application Security and Access • Classroom Technology Support • Computer Help Desk • Telecommunications Help Desk • Desktop Support • Faculty and Staff E-mail * • Data Center Operations • WyoWeb Portal • UW's WWW and Other Servers • Student Lab Servers • Data Storage and Backup • Telephone Network	• Wireless • Server Redundancy • Redundant Systems Support • Software and Computer Training • Student Computing Support • ResNet Support (Greeks, 2nd tier Residential Network) • IT Website • Student Email * • Microsoft Campus Agreement for Students * • Microsoft Campus Agreement for Faculty and Staff • IT Business Process Support • IT Service Management Software * • PC Maintenance • PC Sales • Modem Pools * • DSL Service * * Items also discussed in Section Four

High-Priority IT Activities That Support The Core

The Division of Information Technology's high-priority activities support the core elements of the university's mission by providing students, faculty, and staff with high performance computing and networking, technical support for systems and applications, computer support and training, and telecommunications services. Information Technology provides these essential technology services to all the university's students, academic units and administrative units meeting needs with a reliable, robust computing, communications and network infrastructure.

There are four key, recognized areas of technological achievement at UW that are particularly critical in support of UW's mission:

1. **Information Technology Center.** The center includes a state-of-the-art, highly redundant data center with type Tier II+ capacity that provides a secure and reliable environment for all of UW's central servers, new student computing lab, video-conferencing rooms and training rooms.
2. **Campus Data Network.** A highly robust campus data network supplying bandwidth to meet all the university's operational, academic and research demands. Nearly every aspect of education, research, or administrative functions today is dependent on accessing computing and data resources. A robust, redundant, high capacity, and accessible data network is essential for providing connectivity between computer users and computing resources. The university offers both a state of the art wired network as well as a complementary campus-wide wireless network.
3. **Internet Access and BiSON.** A robust Internet connection is essential to the mission of the university. The BiSON network loop is a redundant, high-speed and high-capacity optical network developed and supported by a partnership between UW, CSU, NCAR, NOAA and others.
4. **Student Computing Labs.** Paid for by student fees and tuition, the student computing labs enhance educational accessibility and learning. More than 200 software applications for academic classes are provided to students. Remote access implemented in the last biennium has removed geographic constraints by making the lab system accessible to students from any location in the world with Internet access.

Other Information Technology services and infrastructure that support the core are:

5. **Administrative Applications: Institutional Advancement, Financials and HR (PeopleSoft), Student Information System (Banner).** UW IT supports many different administrative applications that allow UW departments to store, analyze and act on key operational information in order to complete necessary business functions including but not limited to hiring, payroll, accounting, fund raising and student-related services. The administrative applications are supported through a series of best practice processes and procedures that allow for stable, scalable, and secure systems.
6. **Network and Data Security.** Protection of university data, computing resources, and individual workstations from viruses, malware and Internet hackers is essential. A host of technologies are in place to protect the university network including firewalls, intrusion prevention systems (IPS), anti-virus systems, patch management systems, and network monitoring tools.
7. **Application Security and Access.** This service is provided to ensure that access to the information in administrative systems is restricted to only those personnel that need the information to complete their job functions. This is a critical level of security that works in conjunction with network and data security.
8. **Classroom Technology Support.** This small service unit was only recently established to provide support for technology equipment in the central classroom pool. It offers technical support and assistance to instructors for all 150 classrooms and learning spaces on campus.

9. **Computer Help Desk.** Fielding more than 22,000 contacts per year, this help desk is the first level support for technology related inquires for UW students, faculty, staff, and affiliates including, but not limited to support for computer and data issues, configuring and accessing email, WyoWeb login and use, computer accounts, passwords, access to IT servers and systems, software, and security.

10. **Telecommunications Help Desk.** This Help Desk coordinates moves, new installations, and changes of telephone and data for the campus, provides problem diagnostics and coordinates repair for telephone and data services. In addition, this unit is responsible for billing IT offerings and provides answers to billing questions.

11. **Desktop Support.** Providing in-person technical and functional support to all faculty and staff, this small group of computer support specialists assists UW employees by deploying and maintaining computer desktop and laptop systems; configuring hardware, network connectivity, and security; and installing software that are required to meet the business and academic needs of each department.

12. **Faculty and Staff Email.** E-mail has become an essential technology for communications and daily operations. MS Exchange 2007 e-mail and electronic calendaring is provided for all faculty and staff.

13. **Data Center Operations.** The ITC Data Center houses the university's central computing operations. IT's Data Center Operations is responsible for operating and maintaining the ITC Data Center's monitoring, electrical system, network cabling, cooling and building automation to ensure all function properly to protect equipment and prevent network and computer outages.

14. **WyoWeb Portal.** Implemented as part of the Banner student information system, WyoWeb provides UW constituents with multiple communication and collaboration tools while also providing secure access to UW information, administrative forms and data, email, calendars, administrative systems and academic systems to students, faculty and staff. Students utilize WyoWeb to perform registration activities, check and accept financial aid, pay bills, access online courses, and ensure progress towards graduation. Faculty use WyoWeb to review and post class information, post midterm and final grades, perform advertising activities and access advisee data. Staff use WyoWeb as a portal to current news, events and individualized information.

15. **UW's World Wide Web and Other Servers.** The WWW and other central servers provide the essential computing and storage facilities required for classes, research and university administration. A wide variety of servers are supported for many functions including WWW, e-mail, directory and authentication, administrative applications, teaching and learning, research, and data storage.

16. **Student Lab System.** Servers provide students with state-of-the-art computing environments for file and data storage, print services, software distribution and usage monitoring, Web sites, student login management, antivirus services to protect the lab system, and remote access from the Internet. The servers and systems that comprise the Student Lab System provide a highly reliable and secure computing infrastructure; ensuring students are exposed to real world computing and software.

17. **Data Storage and Backup.** Protecting institutional data is critical for continuing operation of the university. All data associated with the central servers is stored on storage area networks located in the ITC data center. This data is backed up daily, both to tapes located in Laramie and tapes located in Cheyenne.

18. **Telephone Network.** Information Technology operates a telephone system and voice mail system for faculty, staff, and students. The system supports approximately 6,000 telephones and approximately 2,200 voice mailboxes.

IT Support Enhancements

Technology, be it in a single classroom, the connection to the world through the Internet, or anything in between, provides supplemental pedagogical avenues and content to enhance teaching, learning and instruction. Distance education and academic involvement can be accommodated in new, exciting ways through existing and emerging technologies. Throughout Wyoming and UW, technology has improved resource availability that was previously limited by the vast size of our state to benefit a much wider and more diverse audience than ever before with new and enhanced opportunities for communication, collaboration and community-building. Pervasive in virtually every university function, technology offers enhancements to improve student academic success, contribute to curriculum revitalization, increase access, deliver distance learning, enable research networks, facilitate administrative business processes, and cultivate leadership and life-long learning. For this reason, technology enhancements that support the university's mission and operation are of high importance for many of our users. This section describes Information Technology's major enhancement areas. Some of these items are also discussed in Section Four with possible alternative approaches.

1. **Wireless Networking.** UW's broadly deployed campus wireless network serves a mobile campus. According to ECAR's national 2008 Study of Undergraduate Students and Information Technology, 82.2% of students own laptop computers and 66.1% now own and use Internet-capable cell phones. The rapid pace of innovation in mobile devices is making them a universal communication tool, which enables personal services anywhere at any time. New mobile capabilities offer options to deliver course content, support field work and capture research data.
2. **Server Redundancy.** Significant effort is spent developing server redundancy so that failures affect a limited number of people or are not noticed at all.
3. **Redundant Systems Support.** Due to UW's decentralized nature of technology islands across the institution, a number of redundant systems providing equivalent functionality have been purchased by departments. Some are partially or fully supported by IT
4. **IT Software and Computing Training for Faculty, Staff and Students.** Information Technology offers technical software training on a variety of Microsoft core applications (Access, Excel, PowerPoint, Word, Outlook), Adobe software, and some other applications and training that are unique to UW including the Content Management System (web authoring tool), the UW Survey Tool, data encryption, and security seminars. Training increases productivity and efficient use of software. Through the Microsoft Campus Agreement, free online e-Learning is available for core desktop application. IT also offers training CDs for certain Adobe products.
5. **Student Computing Support.** The Academic Support Unit is a technical information and assistance resource that is available to help students meet their academic goals using computing resources on and off campus. Students can depend on full time staff to assist them with configuring their personally owned laptops to connect to campus resources, protecting and cleaning their systems using UW provided antivirus software, and identifying potential hardware and software problems. Many open computer labs are staffed with lab assistants who are available to help students who use student computing resources.
6. **ResNet Support (Greeks, 2nd tier Residential Network).** IT partners with staff of Residence Life & Dining Services to track and troubleshoot student computing issues.
7. **IT Website.** The IT Web site provides information and is a conduit for access and two-way communication exchange. Information provided by IT online to the university community includes service information, self-help instructions, network outage notifications and other information.
8. **Student Email.** E-mail has become an essential technology for communications. MS Exchange 2007 e-mail and electronic calendaring is provided for students' use.

9. **Microsoft Campus Agreement for Students.** Students now receive the Microsoft Office Suite for Windows and Apple, and Windows Operating System upgrades at no cost through Information Technology's Microsoft Campus Agreement. The program is beginning its third year of availability and was funded by the Wyoming Legislature in the previous biennium.

10. **Microsoft Campus Agreement for Faculty and Staff.** The university also holds a Microsoft Campus Agreement that provides Microsoft Office, Office for Mac and Windows Operating System upgrades for all institutionally owned computers which allows UW to purchase computers with the cheapest operating system and upgrade them to enterprise operating systems at no additional cost.

11. **IT Service Management software.** IT currently uses ITSM from FrontRange Solutions Inc. to document and track issues and resolutions related to UW's IT infrastructure.

12. **IT Business Process Support for UW Departments**. Through existing personnel, UW Information Technology offers a number of services to campus in the area of business processes: analysis, software needs analysis and selection, total cost of ownership analyses and other related services. If IT purchases and services were centrally planned and implemented, the need for many of these services would decrease, resulting in lower IT expenditures both short and long term.

13. **Computer Sales.** Sales of both Dell and Apple computers provides preferred models and purchasing advice at a discount for faculty, staff, and students. This function greatly assists with helping standardize computers. This function generates revenue that supports most of the cost of the operation.

14. **Computer Maintenance.** This group does warranty and non-warranty repairs of computer hardware for faculty, staff, and students. Like Computer Sales, this area generates revenue that supports most of its cost of operations. In a tight economy, it is more common to repair computers than buy new. As part of Information Technology's agreement to sell Apple we currently have a contractual obligation to repair Apple computers.

15. **Dial-up Modem Pools for Faculty, Staff and Students.** The university provides free modem service for faculty, staff, and students to access the Internet and UW computing resources from home. Most users today have replaced the use of modems with DSL or cable modem service.

16. **DSL Services.** Information Technology initially offered DSL network service in order to encourage Qwest to offer DSL access in Laramie. Since that time, DSL and cable modem services have become ubiquitous.

**Section Four
Possible other approaches to create budget flexibility and relieve persistent budget pressures.**

Where possible, the university should seek to eliminate redundancies and increase process efficiencies, often by the use of technology. To minimize or prevent the impact of budget reductions, the university should explore increasing various revenue streams. Although tuition increases do not add much to the university's revenue, they might provide enough to save some worthwhile services.

Any budget reductions – technology or otherwise – should first be the result of applying a framework to create cost efficiencies and should not be made the expense of the sacrificing quality. Several university-wide technology cost issues of long-standing and non-essential or duplicated services offer opportunities for cost savings. The section below first lists possible technology areas for budget flexibility and then lists more general items for consideration. Technology Item 1 consists of cost savings recommendations from the Information Technology Services Review completed by a consultant in 2005. Technology Item 2 suggests discontinuing technology services provided for faculty and staff where alternative services are available. IT highly recommends and endorses these two items for consideration above all others listed. Most of the remaining technology items could save money for the university but may reduce service

levels or negatively impact users who prefer the current service and support offering in its present form. These items should be thoroughly evaluated by IT and discussed with users prior to any technology item being considered for implementation. Technology items are listed in priority order. For most items possible cost savings cannot be determined until a further review is conducted.

Technology Related Approaches

1. University-wide initiatives recommended in the April 2005 UW Information Technology Services Review. As mentioned in the introduction, Information Technology has successfully partnered with the WTBC, Health Sciences and the Alumni Association to centralize some information technology functions. The success of these types of partnerships and their potential cost savings to the institution should be considered for application throughout the university. Specific ITSR 2005 recommendations are:

   a) **Eliminate duplication of hardware, software and personnel by centralizing various technology resources to IT and maximizing the use of those resources.** Roughly one third of UW's technology positions reside outside of the Division of Information Technology. These positions are widely dispersed across the university and lack central coordination. The support of individual departmental systems is often the responsibility of one or two individuals, who have to have an unnecessarily wide skill set. Security measures and policies for these systems vary from department to department and are not at the level of centralized servers maintained by IT. Many of these departmental systems are extremely vulnerable to damage or destruction if a disaster should occur or if a department's single systems administrator leaves the department – the lack of depth in personnel often places these departments at risk. The lack of appropriate security of some departmental servers, some of which do not meet basic environmental, security and administration policies, compromises university data and overall network security. Poor security jeopardizes all computing resources that are connected to the university's network.

   b) **Centralize Technology Purchasing. Centrally procure, license and upgrade of all University computing hardware and software.** Centralized technology procurement captures economies of scale and achieves consistency to reduce overall costs to the university. Significant savings could be realized with centralized purchasing.

   c) **UW Technology Planning Council review of technology initiatives and major technology purchases.** The UW Technology Planning Council, recommended by the ITSR in 2005, was created and is in place. The initiative review process recommended by the ITSR has not been implemented. The process would establish an upwards communication mechanism for technology initiatives for all UW large-scale technology projects and technology projects affecting multiple UW departments ,whether academic or administrative, through which colleges and departments could better communicate their needs for technology implementation and support.

   d) **Single domain with sub-UWYO domains.** The existence of multiple Microsoft (MS) Windows domains within the university's network infrastructure compounds the complexities and coordination of network administration activities several fold. The ability to implement upgrades, patches, anti-virus, and general computer administration is complicated when multiple domains are involved. Domain trust relationships are difficult to maintain and often fail when the university is operating several domains. The greater the number of domains there are, the greater is the likelihood of unnecessary failures. This problem has been significantly reduced as a result of the RSM McGladrey review and subsequent reduction in new domains. However existing domains continue result in significant costs for the university to maintain, including ongoing costs of computer maintenance. The need for department domains has been significantly reduced, or eliminated, with the support of OUs (sub-domains) in the UWYO domain.

2. **Discontinue modem pools and DSL Services.** The university can save a small amount of funds by dropping modem service and terminating contracts on the associated telephone circuits. Other vendors now supply cost effective DSL services, thus eliminating any obligation on the university's part to continue in this service. (See Section Three for description.)

3. **Replace SAS and SPSS statistical software packages with less expensive or free statistical software alternatives.** Information Technology funds two major statistical programs that are in use by academic and administrative offices – SAS and SPSS. Less expensive or free open source alternatives are available. Students, instructors, and administrative staff would be expected to learn the new programs, which could ultimately alter some curricula.

4. **Consider eliminating or replacing the Microsoft Campus Agreement for Students.** Microsoft Campus Agreement with Student Option allows all enrolled students the right to obtain and install, at limited or no cost, select Microsoft products on their personally owned computers. As alternatives, students could access the Microsoft Office productivity applications (Access, Excel, Word), through the remote lab system or in student computer labs. Google Apps or Microsoft Live.EDU are also alternatives to consider but there are downsides to these applications.

5. **Consider replacing Anti-virus Software Provided to Faculty, Staff, and Students**. The cost of providing antivirus for faculty and staff machines could be reduced by offering packages that offer less functionality or require more human intervention. Depending on staff to ensure their antivirus is up to date will increase the risk of users getting infected and increase costs associated with rebuilding and restoring data to compromised computers. Costs for antivirus for student computers can be reduced by suggesting free editions of other antivirus programs; risks of infection may increase.

6. **Consider eliminating the Web Conferencing product Elluminate.** The university pays over $40,000 per year for the Elluminate web-conferencing product. New services planned by Information Technology will offer functionality similar to that of Elluminate with little or no additional cost. Many, perhaps all, UW users could replace Elluminate with the other, less expensive options.

7. **Limit modifications to core administrative applications.** UW currently modifies many of its administrative vendor-provided software packages to change the way the software works to better fit UW business processes. This requires significant personnel time (if done by UW personnel) both initially and during future upgrades and requires large payments to consultants if done externally. Using the software as designed and instead changing business process would reduce functionality to campus but would save costs. A shift in paradigm to truly minimize modifications to core administrative applications would impact many business units across campus as business processes would need to be reviewed and modified and significant employee training efforts would be required,

8. **Evaluate replacing IT Service Management software.** Open source products exist that could potentially provide the required functionality, and additional features, with no purchase cost and no ongoing fees to pay to a vendor. The replacement of ITSM with another product would require the time for a research and selection process and an extensive amount of additional work in learning, implementing and testing the new application by personnel across IT.

9. **Redundant Systems Support** (e.g., Sakai, document imaging systems). Due to UW's decentralized nature of information technology purchases, a number of redundant systems providing equivalent functionality have been purchased by various campus departments. There is more than one system on campus in, but not limited to, the areas of video-conferencing, email, document imaging, course management, accounting and data reporting. Providing a centralized purchasing and support function for all significant technology investments would allow UW to more cost effectively meet its needs while reducing personnel costs, duplicated hardware and contracted software support costs.

10. **Outsource some IT services.** Information Technology has often considered various outsourcing alternatives. Rarely are these alternatives cost effective without a major reduction in features or services but occasionally there are exceptions. One example is Information Technology's outsourcing of the Sakai course management platform. Because of the ever changing technology landscape, outsourcing options should always be considered and evaluated. There are typically significant concerns associated with outsourcing including restrictive contracts, escalating costs, decreased service levels, negative job impacts for current UW employees, loss of direct control over

sensitive data, basing technology decisions solely on cost rather than value to the mission of the university, and the difficulty and cost associated with bringing services back in-house if outsourcing does not work as expected. Some services such as student email, currently provided by IT, could potentially be outsourced to software and hardware vendors or third-party private companies. Some universities are using *Google Email* for students. Outsourcing student email could be evaluated. If implemented and successful, then faculty and staff email could be considered.

11. **Working with, and having agreement from the Division of Administration and others evaluate replacing PeopleSoft Financials (PISTOL) with Kauli Open Source Financials.** As an open source product specifically designed and maintained by a consortium of higher education institutions, Kauli has no purchase cost and no ongoing fees, significantly decreasing the year-over-year operational costs. The replacement of PISTOL with Kauli would require retraining of IT resources, the potential for additional IT personnel (at least during implementation), significant changes to University financial business processes and an extensive amount of additional work in learning, implementing and testing the new application by accounting personnel across UW. This would be a significant undertaking and would not yield immediate cost savings.

12. **Delay server hardware and software upgrades on administrative and other applications, including Banner, Advance and PeopleSoft.** Software vendors support a particular version of a software package for a defined period of time. During this time they provide mandated changes to the software based on federal and state regulations (e.g., payroll, taxes, withholding). Periodic software updates are required in order to ensure that UW is on a vendor-supported version of the software. Server hardware is replaced every 3 to 4 years in order to provide consistent performance as usage of systems grows. Because hardware maintenance increases as equipment grows older, replacing hardware at regular intervals often reduces maintenance costs. Delaying upgrades for hardware and software can only be considered a short-term cost reduction strategy that increases risk of failure and problems.

13. **Reduce training and accompanying travel expenses for IT staff.** This could contribute some savings but is not preferred due to the known negative impact on employee knowledge, skills, and productivity. Formal training is important for IT staff to maintain technology skills and application knowledge as well as keeping up with technology innovation that may be evaluated and possibly adopted for use at UW.

14. **Eliminate and/or reduce maintenance contracts for server hardware and software (High Risk)** Hardware and software maintenance for UW administrative systems is expensive. Eliminating hardware maintenance contracts and purchasing support on time and materials basis carries higher risk and potentially significant delays in repairing problems. Most administrative software includes a yearly maintenance contract, which UW pays to ensure the availability of support and new releases. For some UW software packages, it would be possible to drop maintenance contracts while continuing to use the software. For some software there are support options from a third party other than the software company, often at a significantly reduced yearly cost, but they come with the risk of not having vendor support in the event of a critical failure, not being able to provide new functionality and the eventuality that new software would need to be purchased and implemented, likely at a higher cost than continuing to pay maintenance.

Other Approaches for Possible Discussion

Information Technology tried but quickly realized it does not have the sufficient background, experience or knowledge to suggest or adequately discuss specific budget reductions throughout the other divisions and colleges. That said, some generalities are listed below might appear to be possibilities for discussion.

1. **Explore ways to reduce personnel costs.** Personnel costs represent approximately 75% of the university's Section I Budget. In some cases, reductions in personnel costs have the potential to provide cost savings while minimizing reduction in services. However, in some cases workloads could suffer offsetting any cost benefit. Some suggestions to consider:

   a) **Early retirement buyout options.**
   b) **Less than full-time benefited position voluntary options (30-32 hour weeks) with commensurate reduction in salary and proration of some benefits.**
   c) **Unpaid voluntary short term sabbaticals for staff.**
   d) **Four day, 40 hour, Monday - Thursday summer work week, closing most of the university on Friday** to save on facilities and operating costs. A number of universities, community college districts, public schools, state and local government have implemented or are considering this option. The State of Utah has put 17,000 of 24,000 employees on a 4 day work week. The State of Virginia recently introduced a bill to their Legislature entitled "Work 4 Savings" asking for a four day work week. Some of the universities that have offered 4 day summer work weeks include NYU, Syracuse, Dartmouth, Kent State, Missouri State University, Georgetown University Libraries, and University of South Carolina.
   e) **Reduce summer work week below 40 hours and adjust salaries accordingly.**
   f) **Reduced pay to employees who are given the option to work from home a portion of the week.**
2. **Hire an organizational consultant** to evaluate administrative and support departments for process changes that would create better efficiencies and to evaluate personnel functions that can be reduced or eliminated.
3. **Focused evaluation on UW's administrative processes** to remove inefficiencies and determine where technology can make processes more efficient.
4. **Centralize or consolidate duplicated services,** in addition to the duplicated technology services found by the ITSR consultant and noted in Item 1, that are presently distributed in multiple departments and that are either funded or subsidized by Section I to eliminate duplicate costs, as an example the various HR administrative functions performed by departments.
5. **Implement a formal Sustainability Program** across campus with conservation, recycling, adaptive re-use, and other "green" best practices embedded at every level of operation. Accomplish this through initiatives that educate the community about sustainability and facilitate and reinforce the practice of sustainability and the benefit of conservation cost savings.
6. **Consider outsourcing some services,** where truly cost effective. Services that might be possible candidates are those with equivalent private industry counterparts. Services such as trash removal, motor pool, grounds maintenance might be candidates for outsourcing but opportunities for outsourcing direct services may be limited in Laramie. As pointed out above in technology Item 10, outsourcing must be carefully considered and is usually not cost effective over the long term.
7. **Consider dropping or partnering non-essential services,** similar to the modem and DSL technology services noted in technology Item 2, which have outlived their necessity. Possibilities may include Ross Hall dining now that food service is available in the Classroom Building as well as the Union.

Technology is in a state of constant evolution. An "interdependent world", referred to in the university's mission statement, is reflected in the many ways that teaching, learning, research and communication have evolved with the advancement of technology. There is a valid expectation on the part of students and parents that UW will provide high quality educational access and services, as well as deliver services that support and cater to the needs of all student users -- expectations that the Division of Information Technology prides itself in meeting and aiming to exceed. Should budget reductions become necessary, the Division of Information Technology will continue to provide the best possible technology support to the university with the resources we have.