

Executive Summary

University Dependence Upon ICT

The University of Saskatchewan is committed to renewal by pursuing the strategic directions outlined by the President in *University of Saskatchewan Strategic Directions 2002 – Renewing the Dream*. The effective application of information and communications technology (ICT) is critical if the University is to attain these strategic goals. “The quality of our ICT environment affects the way we teach and the way we learn, the way we manage our business processes and the way we interact with our customers. This technology impacts everything we do, affecting both how we do it and the quality of the product.”¹

Every year, usage of ICT by faculty, students, researchers and staff continues to increase dramatically. Some examples of the increased usage follow.

- There are now over 8,000 computers on campus. This is an increase of 2,500 in the last two to three years. We expect that 3,000 additional computers will be installed in the next three years.
- The current campus network standard is 100Mbs. This is a tenfold increase over the service provided three years ago. However, another tenfold increase will be needed in the next three years to meet research needs.
- We currently provide e-mail service to 50,000 members of the University community. This number is expected to exceed 70,000 within three years.
- The use of e-mail doubles, almost yearly. At peak times, we deliver more than 400,000 e-mails daily.
- The number of e-mails sent to the University with viruses has increased more than tenfold in the last eight months (to 90,000 per day).
- The number of Internet-based attacks against the University doubles every 4–6 months. We block over 5 million attempts to probe or attack the University from the Internet daily. Less than a year ago, this number was 1 million.
- Almost 12,000 students, instructors, researchers and staff have used the campus portal (PAWS) since its implementation in September 2003 (less than six months ago).
- Usage of the WebCT course management system is increasing 50% yearly. Today, 118 courses and almost 4,000 students are using WebCT.

ICT’s impact on higher education has been significant and includes: e-communications, e-collaboration, e-communities, e-learning, e-libraries, e-journals, e-whiteboards, e-services, e-payments, e-business, e-science, e-research, learning management systems and learning object repositories.

The University will continue to be increasingly dependent upon ICT in the future for teaching, learning, research and service delivery in ways that few can predict. This dependence will be driven by the changing expectations and needs of the incoming students, faculty and researchers, as well as by the new capabilities provided by technological advances.

¹ Advantage U of S, ICT Foundational Document, June 2003

Information technology service organizations are struggling to respond to the needs expressed by students, faculty and researchers.

ITS Services Overview

Information Technology Services' (ITS) mission is "to work closely with faculty, students, colleges and departments to provide services and leadership that support and enable teaching, learning, research and administrative service delivery through the effective use of information and communications technology."

ITS does not provide all ICT services on campus. Under the federated support model adopted by the University, the responsibility for service delivery is shared.

- Colleges and administrative units are responsible for services that address the specific (often discipline-specific or local) needs of their students, faculty and staff.
- The central ICT organization, colleges and administrative units share responsibility for: service planning, standard setting, enterprise (administrative) systems development and ICT security.
- The central ICT organization is responsible for services that are used by faculty, students, researchers and staff in all colleges and administrative units; that are most cost-effectively provided centrally (economies of scale); and that require interoperability among colleges and departments.

The services provided centrally for the campus community are often called "foundational," "baseline" or "core" services. Most of ITS' foundational services support teaching, learning, research and service delivery. These services include:

- Research and Educational Network
- E-Communication and Collaboration
- Identification, Authorization and Authentication
- Desktop Support
- Help
- Training
- ICT Security

ITS also provides some foundational services that are unique or specific to each of the following: teaching, learning and research and administrative service delivery.

- Instructor Support
- Learner Support/Student Computing
- Research Computing
- Administrative Information Systems

Service Maintenance

ITS' services are required and used daily by instructors, students, researchers, staff and other members of the University community. ITS proposes to maintain and enhance these services,

to the degree we have been able to, using current staff, operating budget resources and project resources. Disinvestment will occur as part of ongoing service planning and evolution.

The table below summarizes the budget that will be assigned to maintaining each of the 11 ITS service areas during the current planning cycle. The budget includes staff resources from our operating budget as well as capital funding from the Campus-Wide ICT Infrastructure Services Capital budget.

The maintenance budget assumes that \$900,000 of capital funding will continue to be available to maintain and renew the network equipment and servers used to deliver campus-wide ICT services. We propose that the annual allocation from this fund to specific initiatives be determined in consultation with the Academic Support Committee of Council, the Budget Committee and the Associate Vice-President (ICT). This is similar to the process used in previous years.

Funding received for staffing from the Systems Development Fund (SDF), Student Computing Fund (SCF) and the provincial TEL (Technology Enhanced Learning) initiative is included in the “Project or Fee-for-Service” column. This funding is provided on a project or special initiative basis as is the staff funding provided by the USR-net and the Si! projects. A detailed budget for the SDF and SCF is outlined in section 3.2.4.

Budget Assigned to Delivery of Core ITS Services				
Service Area	FTE 2003–2004		“Steady State” FTE for Planning Cycle	Typical Annual Capital Equipment Allocation
	ITS Operating Budget	Project or Fee- for-service	ITS Operating Budget	
Research and Educational Network	10.60	4.00	10.50	\$400,000
E-Communication and Collaboration	5.20	4.20	5.00	\$150,000
Identification, Authorization and Authentication	1.50	1.40	1.50	Uses existing servers
Desktop Support	3.00	25.30	3.00	\$25,000
Help	8.90	3.70	9.00	
Training	0.90	1.70	1.00	
ICT Security	1.10	2.00	1.00	Included in allocation for other services
Instructor Support	3.00	2.30	3.00	\$75,000
Learner Support/Student Computing	1.40	4.10	1.50	\$75,000
Research Computing	0.70	0.00	1.00	\$50,000
Administrative Information Systems	21.60	15.90	21.50	\$125,000
Subtotal	57.90	64.60	58.00	\$900, 000
College/Unit Specific Staff	5.10	4.00	5.00	
Administrative Support	4.00	1.00	4.00	
Director	1.00		1.00	
Total	68.00	69.60	68.00	

The assigned staffing level, based upon our current operating budget and current University ICT service needs, is adequate to meet the campus needs in only two areas.

- Research and Education Network services. This assumes that the funding, approved in the CFI conditions of award (USR-net project) for the support and operation of the upgraded campus network, is provided.

- Training services. This assumes that funding will continue to be available from the provincial TEL initiative.

The assigned staffing level, from operating budget, is inadequate to meet the needs of instructors, students, researchers and staff in the following eight service areas (see details in section 3).

- E-Communication and Collaboration (to maintain/enhance campus portal)
- Identification, Authorization and Authentication
- Desktop Support
- Help (for extended hours of service)
- IT Security
- Instructor Support
- Learner Support/Student Computing (improve support for mobile student computing)
- Research Computing

The staffing level that is assigned to the support of institutional administrative information systems is adequate to address only some of the University's needs (see section 3.1.11 for details). It is adequate to support the University's current needs with respect to the following systems:

- Student Information System (SIS, Si! project, Banner Student)
- PeopleSoft Human Resources Management System (About-US)
- Finance and Accounting System (FRS, Banner Finance)

The assigned staffing level is inadequate to meet University needs with respect to the following systems.

- Campus Contacts Database (U-Who)
- Systems and associated "data warehouse" enhancements required to support University planning activities and government reporting. (Institutional Analysis/Integrated Planning Office)
- Alumni/Donor System (U-Friend)
- Electronic Payments Infrastructure Support

Faculty, students, researchers and staff depend upon ITS' services daily. We will be unable to meet the University community's core ICT service needs for this planning cycle within our current operating budget. As a result, additional investment is requested to improve the following core services (see section 4 for details).

- E-Communication and Collaboration (to maintain/enhance campus portal)
- Identification, Authorization and Authentication
- Desktop Support
- Help (for extended hours of service)
- IT Security
- Instructor Support

- Learner Support/Student Computing (to support student mobile computing)
- Research Computing
- Administrative Information Systems
 - Campus Contacts Database (U-Who)
 - Systems and associated “data warehouse” enhancements required to support University planning activities and government reporting.
 - Evolution of Alumni/Donor System (U-Friend)
 - Electronic Payments Infrastructure Support

The consequences of an inadequate investment in core ICT services are numerous and include the following.

- Service failures will occur more frequently. The response time to repair failures will be longer. Faculty, students, researchers and staff will spend more time waiting for help, waiting for ICT services to be fixed or doing ICT work rather than teaching, research, learning or delivering services.
- Colleges and administrative units rely upon ITS’ services for their teaching, research and administrative service delivery, and will not be able to curb the demand for those services. If services levels are inadequate, colleges and administrative units will be forced to deliver core ICT services themselves. Multiple (duplicate) implementations of services will occur. Services may not interoperate creating user confusion and increased learning times. The University’s total cost for delivering ICT services will likely increase.
- Requests for service changes or for new services to meet changing University needs will be delayed or may not be implemented. The University loses out on the benefits that would have been provided by the required service changes. Colleges and administrative units will be forced to duplicate existing services so they can control their evolution, and, develop new services on their own.
- A university’s ICT environment is increasingly becoming an important factor in how people choose the university in which they want to work or study. Without adequate core ICT services, colleges will have more difficulty recruiting outstanding faculty, graduate students and academically promising undergraduate students. Again, they will be forced to provide core ICT services on their own.

Investment Initiatives

Four initiatives are proposed.

The first investment initiative will enhance core services, listed below, so they meet the needs of instructors, students, researchers and staff over the planning period. We will be unable to adequately meet those needs within our current budget. This initiative consists of eight sub-initiatives, one for each of the following services.

- E-Communication and Collaboration (to maintain/enhance campus portal)
- Identification, Authorization and Authentication
- Help (for extended hours of service)
- IT Security

- Administrative Information Systems
 - Campus Contacts Database (U-Who)
 - Systems and associated “data warehouse” enhancements required to support University planning activities and government reporting.
 - Evolution of Alumni/Donor System (U-Friend)
 - Electronic Payments Infrastructure Support

The table below outlines the funding requested for this initiative, on a service (sub-initiative) basis. The services, for which investment is requested, are used in teaching, learning, research and administrative service delivery. An investment in this initiative would therefore provide a more productive environment for all those activities.

While the requested investments are presented in priority order, the University will probably have to make additional investment in all of these services during this planning period. For example, investment will be needed to integrate the contacts database (U-Who) with Banner Student and Banner Finance; investment also will be required to address ICT security issues as they arise.

Without additional funding for core services, resources will have to be continually redirected from one project or service to address pressing needs in another project or service. For example, resources from the Si! and Unifi projects may have to be re-directed towards U-Who integration; resources from the USR-net project may have to re-directed to addressing ICT security problems. This is akin to continually using sand from one area in a dike to repair holes in another area just in time before the next wave comes in.

Initiative 1: Enhance Core ICT Services				
	2003–04	2004–05	2005–06	2006–07
Maintain and Enhance the Campus Portal		\$480,000	\$490,000	\$500,000
Enhance the University’s Identification, Authentication and Authorization systems		\$390,000	\$160,000	\$70,000
Enhance “Contacts” Database (U-Who)		\$160,000	\$150,000	\$150,000
ICT Security – Provide a Secure and Productive ICT Environment		\$190,000	\$350,000	\$500,000
Enhance University Systems and Databases Used for Planning and Reporting (Institutional Analysis, Integrated Planning Office)		\$200,000	\$260,000	\$140,000
Enhance Alumni and Donor System (U-Friend)		\$13,000	\$35,000	\$65,000
Maintain and Enhance the Campus Electronic Payment Infrastructure	\$35,000	\$40,000	\$30,000	\$35,000
Extend Hours of Support for Core ICT Services		\$270,000	\$260,000	\$260,000
Total (over 2003–04 budget)	\$35,000	\$1,743,000	\$1,735,000	\$1,720,000

The second investment initiative will (1) increase support for the use of technology in instruction, (2) enhance existing, and develop new, ICT services that support research, scholarly and artistic work, and (3) improve support for student mobile computing. This initiative is presented as three sub-initiatives.

The table below outlines the funding requested for each sub-initiative. While the total funding requested is significant, it is an investment in the support of instruction, research and an

improved student experience. Initial consultation has identified service requirements, related to research computing, alone, that would require an investment of more than \$1 million per year to address. While the three sub-initiatives are presented in priority order, we believe that some investment should be made for each service during the planning cycle.

Initiative 2: Strategic investments to improve ICT support for instruction, research and students.				
	2003–04	2004–05	2005–06	2006–07
Increase support for the use of technology in instruction		\$270,000	\$380,000	\$500,000
Enhance existing, and develop new, ICT services that support research, scholarly and artistic work		\$300,000	\$375,000	\$450,000
Improve support for student mobile computing		\$340,000	\$310,000	\$360,000
Total (over 2003–04 budget)		\$910,000	\$1,065,000,	\$1,310,000

The last two investment initiatives will be implemented through a re-assignment of ITS staff.

- The third investment initiative will develop a campus desktop strategy.

This strategy will be developed in consultation with the University community. It will consider the acquisition, funding and renewal of desktop computers as well as associated peripherals and servers; data backup; desktop security; software updates; end-user support and training. The intent of the strategy is to identify best practises, efficiencies and cost savings, and to reduce the amount of time instructors, researchers and staff spend resolving computing issues rather than teaching, research and delivering other service. The need for a campus desktop strategy has been highlighted in the ICT foundational document.

While the strategy will identify efficiencies and best practices, the University will probably need to invest more in desktop computing to provide the supportive environment required by instructors, researchers and staff.

- The fourth initiative will review and improve, on an ongoing basis, ITS’ service delivery processes and organizational structure so we continue to provide services in an efficient and effective manner.

This will include the simplification and automation of key service delivery processes so that they provide self-service and makes it easier for instructors, students, researchers and staff to use our services.

Lastly, it should be noted that the Library has requested an upgrade of their information systems. They have estimated the cost of those upgrades at \$1 million.

Disinvestment Initiatives

ITS’ disinvestments may include service level reductions and service eliminations. While these disinvestments would save ITS costs, they will not result in institutional cost savings.

Instructors, students, researchers and staff in all colleges and departments rely upon ITS’ services daily. If service levels are reduced significantly or if a service is eliminated, they will either perform the ICT work themselves or seek another service provider. If they do the work themselves, they will have less time to do instruction, research or service delivery. If another service provider is selected, costs are merely off-loaded but not saved.

Some colleges or administrative departments will deliver core ICT services themselves through parallel, or even competing, ICT support organizations. Having separate and disparate services causes interoperability problems and creates confusion and frustration for users. Again, costs are off-loaded and the overall cost to the institution will likely increase.

ITS often has been forced to eliminate services rather than to reduce service levels across the board, in order to address increasing service delivery costs in times of decreasing or flat budget growth. In our experience, each time a service was eliminated (or service levels reduced significantly), one or more colleges and/or administrative units started delivering the service. The cost of delivering ICT services was transferred to others but was not reduced.

Even though service level reductions or the elimination of services does not save the University money, certain disinvestments in ICT services must be undertaken. These disinvestments provide the opportunity to re-direct resources to services that better align with institutional directions and priorities, to replace old services with improved services or to focus on technologies that better support the needs of users.

ITS will undertake the following disinvestments within this planning cycle. ITS' yearly operating plans will identify further disinvestments.

- Support for SIS and FRS will be eliminated when the Si! and Unifi projects are completed. This assumes that the projects convert seven years of historical data into the new systems to meet regulatory requirements.
- The faculty and staff dial-up service will be discontinued as of April 30, 2003.
- The POP e-mail protocol will not be supported after September 1, 2004.
- Support for Word-11 will be eliminated by fall 2005.
- Support for coax network wiring will be phased out by 2005 (replaced by support for Cat-5, Cat-6, and fibre connections).
- Support for the Appletalk network protocol will be phased out by 2005.
- Support for the application development tools that were used to develop our existing legacy administrative information systems will be discontinued when those applications are replaced by new systems. The legacy applications include: SIS, FRS, Course Inventory System, DMT's billing/inventory system, Dental Clinic system, Supplemental Chequing, General Receipting, Student Fees, Emergency Loan and other systems.

Support for the OpenVMS operating system will also be dropped after the administrative systems that run on OpenVMS are converted. Target date: summer 2007.

Coordinating and Rationalizing Service Delivery

The University has adopted a federated support model. A federated support model specifies guidelines for determining the services that should be provided in a distributed manner, the services that should be provided centrally, and the shared responsibilities for ICT. However, our adoption of the federated support model was not based on a formal application of those guidelines.

Like many other higher education institutions, our ICT environment has evolved into a complex, interrelated, and in some cases, duplicated mesh of services that are delivered by ITS, colleges and administrative units. Most colleges and administrative units maintain their

own ICT staff and services. In essence, this results in having 15 or more ICT organizations on campus.

The ICT foundational document recognizes that “the lines of responsibility and authority (within our implementation of the federated model) aren’t as clear as they need to be.” A process for clarifying responsibilities for ICT service delivery is required. Our ICT service delivery matrix needs to be reviewed with the goals of:

- Clarifying responsibilities of colleges, administrative units and ITS for various services.
- Increasing efficiency. In general, the University cannot afford to duplicate competency centres for highly complex skills that are expensive to develop and maintain.
- Removing unnecessary duplication of services. In the case of duplicated services, the review should determine whether the duplication is necessary. The federated model recognizes that some ICT skills (services) should be delivered (duplicated) in colleges and administrative units. These services should focus on addressing the specific (local) needs of a college or administrative unit.
- Removing competition between units. Services that are offered by multiple units (duplicated) to the campus community create internal competition and confusion for users; in general, these duplicated services should be eliminated.
- Clarifying and simplifying the ICT service model for users.
- Permitting each unit to focus on services at which they can succeed and which will be appreciated by the institution.

The University has already clarified the responsibility for some services (e.g. campus-wide printing for students, discipline specific computer facilities) with a resulting improvement in service. Clarification regarding the central and unit responsibilities for other services is still required.

While a clarification of the responsibilities for ICT service delivery under the federated model is recommended, we are not recommending that all ICT services be centralized; some ICT services should be provided locally by colleges and administrative units.

It should also be noted that a re-alignment of responsibilities likely will not result in significant cost savings to the University. The University of Saskatchewan spends less on ICT than other comparable universities; any cost savings will be insignificant. Even if cost savings are identified, they may be impossible to capture.

Nevertheless, the clarification of service delivery responsibilities in the federated model should continue. It would clarify service responsibilities for service providers, make it simpler for users to acquire services, help identify the true cost of computing across campus, and help define the budget required to adequately deliver campus services. In summary, it would “ensure that we have the right allocation of authority, responsibility, and budget.”²

The effective application of ICT is critical to the achievement of the goals outlined in the Strategic Directions and, as a result, the University is becoming increasingly dependent upon ICT. Despite substantial investments over the past year, further investments are still

² ICT Foundational Document, June 2003

necessary. These investments will need to occur in colleges and administrative units as well as centrally. A process is needed to:

- develop a collective understanding of the opportunities presented to us by ICT;
- develop benchmarks to measure contribution of ICT (and other) investments towards our strategic goals;
- determine the priorities for ICT investments and services across the institution.

At this University, these tasks may fall upon the recently established Campus Advisory Board for Information Systems (CABIS). In any case, successful ICT decision-making models are being used at other universities (e.g. University of Alberta, Northeastern³). At these universities, the advisory group establishes the metrics and weightings with which to compare the value to the institution (return on investment) among proposed investments in ICT projects (e.g. network connections in the residences and in a research grant accounting system). It also develops metrics for evaluating risks and costs to the institution. The need for such a process was recently recommended by an external review relating to support of administrative information systems at this University.

Generating Revenue and Reducing Costs

The strategic directions call for a supportive environment that includes enriched resources and enhanced revenue opportunities. We contribute to a supportive environment by providing quality and cost-effective services, by securing external funding, by reducing University costs through partnerships with industry, and by creating a secure and productive work environment.

Competing in the private sector would generate questions and complaints, from both that sector and the campus community, regarding the use of public funds. We rarely provide services outside of the University.

However, we actively look for opportunities to secure outside funding. Some examples of our successes follow.

- **USR-net Project.** This CFI-funded project will bring \$11.5 million of new funding to the University, \$5 million of which counts toward the University's total research income. We identified the opportunity for external funding and participated in the development of the University's grant application. In the late 1990s, we were successful in receiving \$1.5 million from the National Infrastructure Program for network renewal.
- **ITS, together with the University of Regina, developed the first provincial Internet service (SaskNet).** Once commercial alternatives were available for this service, the network was "sold" to SaskTel in exchange for several years of a reduced Internet service costs.

ITS will continue to seek external funding wherever possible, recognizing this funding must align with the strategic directions and priorities of the University.

ITS also seeks and negotiates partnerships with industry in order to reduce the University's

³ *IT Investments Decisions that Defy Arithmetic*, EDUCAUSE Quarterly, 1, 2004

cost of equipment and software. Frequently, we have been able to negotiate access to software, worth millions of dollars, for use in instruction and research at annual usage fees of \$5,000 to \$15,000. Section 7 details some of these partnerships and their benefits. The following table lists just a few examples of the annual savings resulting to the University from industry partnerships.

University Annual Estimated Cost Savings	
Microsoft Campus Agreement	\$200,000
Adobe Software	\$ 60,000
SPSS Software	\$125,000
Oracle (for Si! project)	\$250,000
Estimated Annual Savings	\$635,000

The following table lists a sample of the annual cost savings realized by students, faculty and staff from industry partnerships.

Student, Faculty and Staff Annual Estimated Cost Savings	
Microsoft Software	\$110,000
High Speed Internet	\$ 600,000
Estimated Student, Faculty and Staff Savings	\$710,000

Inherent in our mission is the goal of providing a productive scholarship and work environment for the University community. SPAM e-mail and successful Internet-based attacks can make for a very unproductive environment. Sections 3.1.7, 4.1.4 and 7 outline the actions that ITS has undertaken, or will undertake, to reduce SPAM and Internet-based attacks.

Office Space

To be effective in service delivery and supporting the strategic directions of the University, ITS requires space that is suitable and conducive to providing services in a cost-effective manner.

ITS offers services from nine buildings across the campus; this is in addition to the five locations used to deliver services to specific colleges or administrative units (see section 8 for more information). Having the department split among nine locations presents problems to users of our services as well as to ITS staff and management.

- Users must learn the locations from which various ITS services are delivered. Sometimes, users go to the wrong location, and some have to visit multiple locations to receive what should be a single set of services.
- Some staff are separated from people with whom they must work on a daily basis. Extra time is sometimes required to do work.
- The physical separation also tends to cause people to focus on just “their piece of the puzzle,” as that is all they see. This leads to reduced service levels and a less cohesive unit.
- Managing and directing staff is more difficult if they are located in many locations.

Additionally, the space in some locations is inadequate to meet our needs.

- In the help desk area, full-time staff must share desks and office cubicles.
- Allergens, present in the Help Desk Services space in the Arts Building, cause a high level of sick time and force ITS to reassign and/or relocate staff to other areas resulting in a negative service impact.
- The Campus Computer Store does not have sufficient space for offices as well as to carry the range of products and services needed on campus. There is a safety risk resulting from the piles of boxes in staff work areas.

It can take months to find space for required staff. For example, the USR-net project was underway for 12 months before securing staff space. The lack of adequate office space delays the hiring of staff and thus projects are delayed.

In order to improve our services to instructors, students, researchers and staff, we recommend that:

- Our office space be consolidated from the current nine to two or three locations. This would improve productivity and morale, and bring together staff into a more efficient and cohesive unit.
- A central location (IT Central) be established for providing ITS services. Like Student Central, this will provide a convenient, single location (one stop) for all “front-line” ITS services including help, desktop support, consulting, desktop sales, workstation repair, and, if possible, training.

Conclusion

ICT is strategic to the success of the University. It is an integral part, today, of teaching, learning, research, administrative service delivery and communications. The effective application of ICT is critical to helping the University achieve the goals articulated in the strategic directions.

The demand for existing and new ICT services, or ICT-enabled services, is increasing at a dramatic rate. This demand is being driven by the increasing needs and expectations of our changing student body and incoming faculty as well as by the new capabilities provided by technological advances.

ITS cannot keep up with the demand for new ICT services or even meet all the demands of the University community with respect to the services we currently offer. A review of our service maintenance budgets has shown that the resources allocated to maintain core services are only adequate in two service areas—even then, only if the historical project funding provided to those services continues.

If ITS cannot keep up with demand for core ICT services, if it eliminates core services or if it reduces service levels, the University community will find an alternate service provider or will deliver those services on their own. In either case, costs are off-loaded but not saved. Duplicate or even competing service organizations will form. Total University ICT costs will likely increase.

The University can improve the effectiveness of its ICT service delivery model by clarifying responsibilities for service delivery, by eliminating unnecessary duplicated services, by eliminating internal competition, by developing a collective understanding of the opportunities presented by ICT and by prioritizing ICT investments across the institution.

While improving the ICT environment, these actions likely will not result in enough savings to eliminate our gap in ICT investments. The table below shows the average amount that North American doctoral/research universities invest in ICT (the total invested centrally and in a distributed manner). These almost shocking figures are indicative of the strategic importance that universities place upon ICT.

	Per FTE Student	Per FTE Faculty
Average Annual ICT Expenditures Per FTE at North American Research/Doctoral Universities (total expenditures - central and distributed)	\$2,800	\$30,000

From Educause Core Data Survey, Summary Report, 2002.

By comparison, we estimate that the University of Saskatchewan spends less than half that amount. Without significant increases in ICT investment, the University is at risk: we may not be competitive in recruiting the faculty, graduate students or even undergraduate students that we want; we may not be successful in intensifying our research efforts; and our students will not be as well prepared for success in the knowledge age.

The same survey shows that 70% of the research/doctoral universities' ICT budget is allocated centrally. The table shows below the average amount that North American doctoral/research universities budget centrally for ICT.

	Per FTE Student	Per FTE Faculty
Average Annual ICT Budget Per FTE at North American Research/Doctoral Universities (central ICT budget only)	\$2,000	\$22,000

From Educause Core Data Survey, Summary Report, 2002.

The magnitude of our requested investments does not seem so “out of place” taking into consideration ITS’ budget and the central ICT budgets of other research/doctoral universities. Without a more comparable level of funding, ITS will not be able to provide the supportive ICT environment required by this University. The need for additional budget has been consistently identified by multiple external reviews of ITS (previously called Computing Services)

ITS provides excellent value to the University. We look forward to continuing to work closely with faculty, students, colleges and departments to provide services and leadership that support and enable teaching, learning, research and administrative service delivery through the effective use of information and communications technology.

The University has stated that it is prepared to make the choices that will propel us towards the achievement of our vision. We encourage the University to make the ICT choices and investments necessary to achieve this vision.