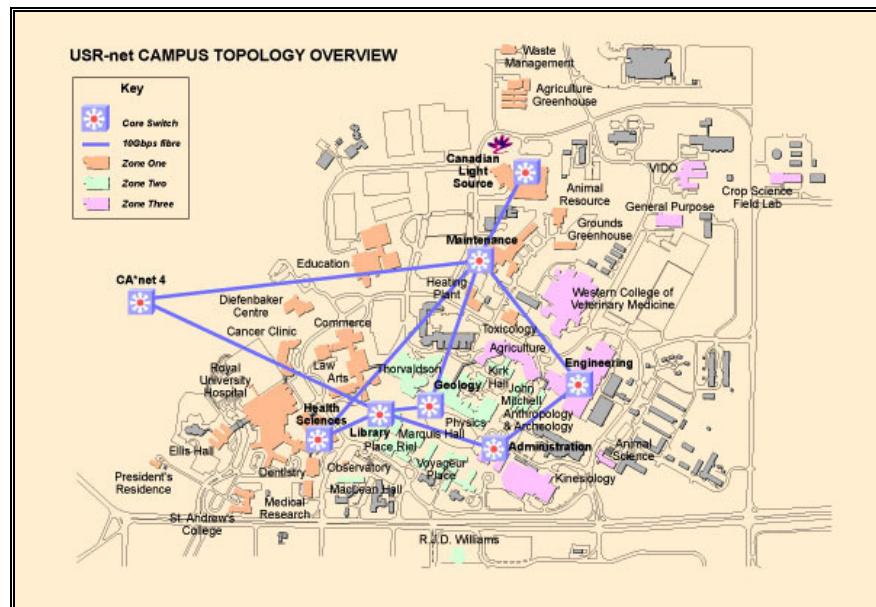




Information and Communications Technology Plan for the University of Saskatchewan

February 2004



Executive Summary

“Effective information technology planning cannot take place in a vacuum. It must be integrated into institutional planning, mission, and goals. At the physical level it must be an integral part of every construction and renovation endeavor. At the operational level it must meet demand for access to IT resources. At the functional level it must serve the institution’s community: students, faculty, researchers, administrators, prospective students and employees, alumni, and parents—all those who endeavor to acquire, create, and convey knowledge.”¹

Broadly speaking, Information and Communications Technology (ICT) refers to the hardware, software and networking infrastructure we use to manage, process and transmit information and information-related services. Because information in its various forms is so integral to the mission of higher education, ICT has become tightly woven into the fabric of the contemporary university—significantly impacting the way we teach and the way we learn, the way we do our research, the way we support our business processes and the way we interact with both those whom we serve and those with whom we work. The quality of our ICT environment affects our reputation, our ability to meet international standards in what we do, and our ability to compete for the best faculty, staff and students. Indeed, investing in ICT is critical if the University is to attain the strategic goals articulated by the President in *Renewing the Dream*.

Responsibility for ICT leadership rests in the Office of the Associate Vice President (Information and Communications Technology). This responsibility is exercised through collaborative planning with academic and administrative units to ensure that local needs are addressed within an institution-wide context, and through executive authority for two large administrative units, the Division of Media and Technology (DMT) and the Information Technology Services Division (ITS), that provide centralized ICT services to support teaching, learning, research and administration. Many other units, both academic and administrative, have active ICT groups as well, with responsibility for development and support of initiatives that address the special needs and agendas of their own unit. Institutional planning for ICT must take into account both these interests and the (sometimes competing) interests of the entire campus. The purpose of this document is to provide a consolidated University vision for ICT.

The ICT Foundational Document offers five goals to guide the University in its planning for ICT:

1. ICT-literate students, faculty and staff.
2. An ICT-rich environment for teaching, learning and research.
3. Contemporary administrative systems to support our business processes.
4. A wide range of on-line services.
5. Effective and reliable ICT infrastructure to meet our institutional requirements.

¹ Susan J. Foster and David E. Hollowell, “Integrating Technology Planning and Funding at the Institutional Level”, in *Information Technology in Higher Education: Assessing its Impact and Planning for the Future* [R.N. Katz and J.A. Rusy (eds.)], Jossey-Bass Publishers, San Francisco, 1999.

It is a challenge for us to keep up with ever-increasing demand from our students, our faculty, our staff and the public for more and better technology. A number of factors contribute to this growing demand, including

- the changing service expectations of both our internal community (our faculty, staff and students) and our external customers (the general public),
- the changing composition of our faculty and student populations, and
- new capabilities afforded by technology advances.

These demands are for new operational paradigms, with an increasing focus on distributed web-based self-service, and for new services to support our growing dependence on technology to do our jobs. Recognizing that needs are both unit-specific and institution-wide, coordinated planning is necessary to help us to set priorities appropriately.

This institutional plan for ICT consolidates the individual unit plans for ITS and DMT, which are included as Appendices, and attempts to situate these in the context of ICT planning more generally. The plan focuses on three major areas:

- Supporting our academic mission
- Supporting our business needs
- Organization and governance

Several overarching themes have guided our planning:

- A federated approach
- Collaboration
- Changing processes and practices
- Stable and predictable funding

Our federated approach to ICT is a central element of the Foundational Document and a major theme throughout this plan. We recognize that some responsibilities are properly vested in individual units while others are best addressed centrally, and we stress the importance of striking the appropriate balance between centralization and distribution in both our practices and our plans. Collaboration is critical to success in a federated approach, so we must work together in both the planning and the execution of our ICT initiatives. Since everyone is affected by ICT, our colleges and administrative units must engage in the development of both local plans and institution-wide plans, in a manner that integrates ICT planning with planning for all other facets of their operation. At the same time we must be ever watchful for opportunities to consolidate activities and eliminate redundancies, especially within a federated approach.

We have made substantial investments in new technologies over the past two years, and these will offer both opportunity and incentive to change the way we do some things. But our investments in such technology as a new student information system or a campus-wide portal will not return their full benefit unless individual units are prepared to contribute to coordinated planning and participate in collective decision-making, and then align their processes and practices to the norms thus established.

Finally, to be effective or meaningful, our ICT planning (both short-term and long-term) must be done in a context of stable and predictable funding. Our historic reliance on *ad hoc* and unpredictable sources of funds (for equipment acquisition, for operations, for renewal, and for staff) is not sustainable. We can cite successful initiatives (such as the campus computer network

and the classroom renovation project) where stable and predictable funding has been critical to that success, and we can also cite many examples where trouble has been created by an opportunistic and reactive approach (such as in our approach to desktop computing). Although we may achieve “random acts of success” through opportunistic approaches, we can’t expect to make sustained progress until we break out of this pattern.

Recommendations are presented in each of the three focus areas. Opportunities for new development are identified in the first two, along with continuing initiatives and disinvestments. Our continuing initiatives address projects relating to campus networking, student computing, multimedia classrooms, administrative systems renewal and wireless access. Our list of new initiatives includes the campus portal, upgrading our ICT security, extending hours of support, continued enhancement of learning spaces, a new structure to support e-learning, technology to support e-payments, and internet telephony. Our sources of funding for campus ICT projects are summarized, and general recommendations are presented relating to organization, governance, and change management. Priorities for investment are summarized in Section 6, with the campus portal, PAWS, heading the list.

As does every university, we face challenges in our quest to realize the returns we expect from our ICT investments: technical challenges, organizational challenges, and financial challenges. Technology is expensive and the demand for it appears to grow at an unbounded rate. While the costs can be formidable, these are *critical* investments that the University must make to remain competitive. To address this dilemma we must do several things. We must ensure that our priorities are well understood, that our plans are sound, and that we are spending what we do in the most effective way. We must be ever watchful for opportunities to consolidate, to leverage, and to generate savings. These are all much easier to do in an environment of trust and collaborative planning.

This plan outlines many exciting opportunities for ICT initiatives to improve what we do and how we do it. We look forward to working with each and every unit to integrate ICT into their plans, and to using these plans to achieve our shared goals. Collaborations and partnerships will continue to be important, and strong leadership will be required to bring this all together and ensure that the teaching and research programs of the University of Saskatchewan are appropriately nourished by our information and communications technology.

Contents

1.	Introduction	1
2.	Supporting our Academic Mission: Teaching, Learning and Research	3
3.	Supporting our Business Needs: Administrative Support Systems	10
4.	Funding our ICT Initiatives	15
5.	Organization and Governance	17
6.	Consolidating our Priorities	19
7.	The Last Word	22

Appendix A: Organizational Chart and Staffing Summary

Appendix B: Working Together for the Winning Combination: Unit Plan for the
Division of Media and Technology

Appendix C: Unit Plan for the Information and Technology Services Division

Appendix D: Advantage U of S: Foundational Document for Information and
Communications Technology at the University of Saskatchewan

1. Introduction

*“Information Technology in the context of a value discussion cannot be limited to hardware and software. Rather the term must encompass the efforts and expenditures made to adapt organizations, processes, and people to take advantage of technology. More often, it is in the marriage of people, process, and technology where value is either created or destroyed.”*²

*“IT is not an expense; it is an investment in our individual and collective abilities to work effectively and creatively in an increasingly complex world”.*³

Like other Canadian universities, the University of Saskatchewan has increased its investment in ICT over the past several years, both centrally and in individual units, in response to ever-increasing demand from both students and faculty for better, faster, more reliable and more secure computing capability. This demand is one indicator of the importance that our students and faculty attach to ICT. They recognize the potential of technology to enhance the student experience, to provide everyone with the facilities and services they require to be successful, and to support new service models (such as distributed web-based self service), new services (such as on-line advising) and new functionality (such as learning management systems). The investments we have made must shape our future plans if we are to reap the full benefit from them. But *ad hoc*, uncoordinated development will not get us where we need to be. Individual needs must be addressed in an integrated context, and so *integrated* planning is important to success.

As well as increasing investment, we have also made some organizational changes. By establishing the position of Associate Vice President (Information and Communications Technology) in the Office of the Provost, the University acknowledged the importance of ICT to its academic agenda. The AVP (ICT) now has institutional responsibility for ICT leadership and oversight, and for alignment of ICT initiatives with the University’s strategic directions. This responsibility is exercised in two ways:

- 1) through coordination of campus-wide ICT activities and planning
 - by participation on Council committees
 - as a member of Deans Council, the President’s Advisory Committee, and the Administrative Committee on Integrated Planning
 - as sponsor or co-sponsor of major projects (e.g., USR-net, Si!, UniFi)
 - as Chair of CABIS, the Campus Advisory Board for Institutional Systems
 - as a representative of the University on various external bodies (e.g., Campus Saskatchewan, TR*L*abs, COHERE, LORNET)
 - by bringing to bear perspective gained from professional and academic bodies and the experiences reported by other universities.

² Phil Goldstein, Richard N. Katz and Mark Olson, “Understanding the Value of IT”, *EDUCAUSE Quarterly*, No. 3, 2003.

³ Robert N. Kavanagh, *A Vision for the Future Application of Information Technology at the University of Saskatchewan*, January 1992.

- 2) through executive authority for two large administrative units: the Division of Media and Technology (DMT) and the Information Technology Services Division (ITS). These units each bear responsibilities for providing centralized ICT services to support teaching, learning, research and administration.

DMT and ITS are large units with wide-ranging responsibilities in the areas of media technology, information technology and communications technology. Their services support every facet of the University's operation, from teaching and learning to research to administrative processes. Each has worked hard to develop a unit plan, and these two plans are included, in their entirety, as Appendices B and C, respectively. Many other units, both academic and administrative, have active ICT groups as well, with responsibility for developing and supporting technology initiatives that address the special needs and agendas of their parent unit. To a greater or lesser extent, individual college and administrative unit ICT activities and plans address their local needs and expectations. The Foundational Document for ICT, included as Appendix D, recognizes some responsibilities as properly vested in individual units while others are more appropriately addressed centrally. In both our plans and our practices we must strike the appropriate balance between centralization and distribution. A federated model vests in individual units (colleges, departments, and administrative units) both responsibility and budget to address local needs, while central units provide institution-wide services where it is appropriate and effective for them to do so. This institutional plan for ICT presents a consolidated vision for the University that reflects the diverse needs of the individual units and exercises responsible stewardship of our collective resources.

As our units struggle to keep pace with the demand for technology, their actions must be guided by carefully developed institutional plans and priorities. Since we have neither the staff nor the fiscal resources to do everything that we want to do (or even need to do), we must set collective priorities to move forward in a way that is in keeping with the constraints under which we operate. This document is a start.

2. Supporting our Academic Mission: Teaching, Learning and Research

“Without a consistent IT architecture and infrastructure, and an appropriate IT governance model, modern colleges and universities are simply not able to recruit and retain first-rate scientists and scholars in most disciplines. Without a competitive IT infrastructure, they cannot win in the increasingly complex competition for research grants and contracts...[T]oday’s students ... have grown up using the Web, PCs, and fast-paced interactive games. They expect a good IT environment at the school of their choice.”⁴

A contemporary university requires ICT to support its practices in all facets of its academic activity. ICT literacy is now an expectation in our technology-rich world, and it’s our responsibility to equip both our graduates and our faculty with the skills and the tools they require to be successful.

We have a long tradition of successful application of technology to teaching and learning at this University. Under the leadership of DMT, we have offered televised courses since 1987, and we have assembled a vast inventory of media objects (e.g., films, videos, CDs/DVDs, digital files, learning objects) with which to enrich our lectures. More recently, we have been developing an increasing number of web-based courses as part of the Province’s Technology-Enhanced Learning (TEL) program. While we recognize that traditional instructional methods are likely to remain the mainstay of our teaching for some time, we continue to seek effective and appropriate applications of technology in our instructional processes—all with the goal of enhancing the learning experience and preparing our students with the technology skills they require. We embrace *Renewing the Dream*’s challenge to “capitalize on our expertise in distance learning, and to make effective use of new developments in information and communications technology to offer our students courses in new, more flexible formats.” Of particular interest are “blended” approaches in which televised lectures, on-line materials, and course management software such as WebCT are used along with face-to-face instruction (professors and tutors) in the delivery of a course. We are delivering prototype courses now, and are very encouraged by the feedback we are receiving from both students and faculty. Through new initiatives in student computing (led by ITS) we continue to seek new ways to enrich the student experience, both in and out of class. We have introduced new general-access computing facilities across campus, eliminated computing fees, introduced a campus-wide printing system, negotiated special rates for home internet services, and increased support for students who bring their own laptops to campus. We see increased levels of technological sophistication in both students and faculty, and we must meet their increasing expectations.

ICT is also critical to contemporary research. Our researchers (faculty members, research staff and graduate students) depend on the availability of cutting edge technology in support of a wide range of activities. Research is a highly personal activity, but it’s our responsibility to support

⁴ Jack McCredie, “Does IT Matter to Higher Education?”, *EDUCAUSE Review*, November/December 2003.

researchers with the technology they require to carry out their research, whatever those requirements might be. Some researchers simply require access to campus computational facilities; others need to access highly specialized external facilities such as high performance computing clusters or national data banks through our high speed network. We provide specialized software (e.g., statistical packages and visualization tools), training in all aspects of technology use, assistance in the specification and purchase of hardware or software, and assistance with the development or presentation of research publications or grant proposals. Our infrastructure includes state-of-the-art facilities to enable researchers to collaborate with colleagues around the world (everything from e-mail to video conferencing) and administrative support systems through which researchers pay their graduate students and manage their research accounts.

Our new campus-wide portal, PAWS (Personalized Access to Web Services), is a good example of technology that contributes to both the academic mission and delivery of business services. With links to learning management tools, information resources, and a range of campus services, PAWS provides personalized “one-stop shopping” for students and faculty. Despite a quiet roll-out the response has been very positive. Although it has been in operation for less than six months, PAWS already has more than 11,700 users (students, faculty, staff and alumni), and we are servicing more than 2,500 logins per day. Our community of content and service providers is expanding as more people see the potential of this technology. PAWS is being used, for example, to manage and distribute course content, to provide “single sign-on” linkages to Library and other services, to provide university-wide tools for e-mail and electronic calendaring, and to support communities with shared interests, from research groups to squash players. This is transformative technology that is rapidly changing the way we deliver services to both our on-campus and our off-campus users.

2.1 Major Academic Initiatives

The appended plans from DMT and ITS present a number of initiatives, and more is going on in individual academic or administrative units. The purpose here is to draw attention to some key projects in both the maintenance category and the development category, and to identify some disinvestments.

2.1.1 Continuing Initiatives (Maintenance)

USR-net. The USR-net project is a \$15M research project with massive impact. It represents a complete renewal of our campus network, the core piece of our campus ICT infrastructure. Funding has come from a variety of sources, including CFI (\$4.8M), the Province (\$4.8M), and our vendor partners (\$2M). This is critical infrastructure to support the expanding needs of our researchers for fast, reliable and secure connections to colleagues, facilities and information sources wherever they may be located, and to support new services such as voice and video. With roughly 10,000 connections in more than 40 buildings this is a 2-year project of unprecedented scale for ITS and the work is proceeding well.

Student Computing. Our renewed central commitment to student computing embraces a range of initiatives, including new open-access student computer labs and associated software to provide a set of common services for all students. We installed more than 200 new open-access computers across campus, for which ITS provides support, and some Colleges are proposing that we take on responsibility for even more. We also have initiatives in place to support students who want to use their own equipment, on campus or at home. This work is highly collaborative, not only with our internal units (colleges and departments) but also with external partners.

Wireless Access. We will continue to move forward with the installation of wireless access facilities as part of our thrust to support the growing community of students who bring their own computers to campus. We presently have some 80 access points in public areas, serving a growing base of users, and there is demand for many more. Wireless access in libraries, study spaces, buffeterias and lounges allows these spaces to be used for student computing without repurposing them. Our pace is constrained by the funds available, but we are working with Colleges to pool resources to install facilities in their spaces on a cost-shared basis. This is **not** part of the USR-net project although we have benefited significantly from the discounts negotiated with our USR-net vendor partners.

Classroom Upgrades. We continue to work to bring our learning spaces up to contemporary standards with several complementary projects. We are entering year 5 of a 5-year project to provide multimedia capabilities and improve the physical spaces (see 2.1.2), and we are installing network connections in every classroom. Funding was approved in the Capital allocation to provide the network connectivity, and this work will be synchronized with the USR-net work although this is **not** part of the USR-net project.

2.1.2 New Initiatives (Development)

PAWS. Our campus portal, PAWS, was implemented in response to widespread campus demand and to an opportunity that arose from the purchase of the Banner student information system. Its acceptance has been extremely gratifying. Because it was launched quickly, PAWS has no budget of its own—our work to date has been supported by contributions from other projects or other units. While this approach enabled us to do a rapid roll-out, it is not sustainable. The staff borrowed from other projects or other units have to be returned. A comprehensive resource plan has been developed for PAWS that addresses on-going development, operation, support, oversight and governance of this vital University tool.

[ref. ITS plan: Section 4.1.1]

[Required Operating Budget adjustment: \$500,000]

Security Upgrades. Like everyone else's, our computer systems are under assault, and the cost of protecting both our systems and our information has increased dramatically as we devote more and more resources to blocking internet intruders, to detecting and removing viruses and other infections, and to eliminating e-mail spam. The impact of these attacks is significant and widespread, and everyone is affected. These attacks can prevent our faculty and graduate students from doing research, they can deny our students access to instructional services and material they

require, they can prevent our staff from providing service, they can compromise our information, they can create a financial liability for the University, and they can damage our reputation. We redirected substantial resources to security over the past year, taking funds from other projects where necessary, and it is clear that more is required on an on-going basis. ITS requires new resources on an ongoing basis to address our ICT security challenges.

[ref. ITS plan: Section 4.1.4]

[Required Operating Budget adjustment: \$500,000]

Multimedia Support for Learning Spaces. As we approach the end of our first 5-year project to install state-of-the-art media facilities in our classrooms and improve the physical environment, we need to plan for the next phase. The DMT unit plan presents comprehensive project plan that includes both one-time development and ongoing operational support. Once again, the work will be done under the stewardship of DMT in collaboration with Facilities Management.

[ref. DMT plan: pp. 44-47]

[Capital requirement: \$750,000 per year]

[Required Operating Budget adjustment for ongoing support: \$950,000]

Extended Hours of ICT Support. ITS is under considerable pressure to provide “round the clock” ICT support. Faculty and graduate students experience frustration and lose productivity when critical services such as e-mail go down on the weekend, and students (both on-campus and off-campus) are seriously affected when the WebCT server fails in our off-hours. As more research and teaching activities rely on our technology, 24x7 support is a critical requirement.

[ref. ITS plan: Section 4.1.8]

[Required Operating Budget adjustment: \$260,000]

Student Mobile Computing. Increasingly, our students are acquiring their own computers (desktops, laptops, notes, hand-helds) to support their activity both in and outside the classroom. We can leverage this investment to everyone's advantage if we provide the technology and the support the students require to reap the full benefit of their purchases. The benefit to students is clear, and the University benefits as well since reduced pressure on our own facilities means that we may no longer need to convert classrooms to computer labs. This initiative will support this new generation of students who expect “anywhere, anytime” access to our ICT services from their own computers. A new Alliance Agreement with IBM addresses our mutual interests in student mobile computing and the ITS plan lays out goals and a budget to achieve them.

[ref. ITS plan: Section 4.2.3]

[Required Operating Budget adjustment: \$360,000]

The E-Learning Team. DMT has a proud history in the application of technology to learning and has been a critical participant in of our institutional TEL program since its outset. A comprehensive proposal for moving forward is presented in their unit plan (Appendix B). The model proposed is a highly collaborative one, with a core E-Learning Team at its centre. The E-Learning Team comprises professionals across various departments in DMT, together with their associates in colleges and other support units, who specialize in designing and producing media and interactive tools for learning.

[ref. DMT plan: pp. 50-53]

[Required Operating Budget adjustment: \$590,000]

Media Archive. DMT's unit plan brings forward a new initiative, in collaboration with University Archives, to assist the University in preserving its heritage. As we approach our 100th anniversary the rich collection of photographs, recordings, film and videos that DMT has produced over the years takes on new meaning for all of us. DMT proposes that the University establish a heritage trust to ensure the preservation of our archival heritage. Such a trust could provide future funding for University Archives and DMT to work together strategically to capture, catalogue and preserve this valuable material.

[ref. DMT plan: pp. 54-56]

[Required Operating Budget adjustment: \$60,000 (1 FTE)]

2.1.3 Disinvestments

Disinvestments are difficult propositions for service units. Withdrawing a service will generally not eliminate the demand, but simply shift to another unit the requirement to meet it. When this happens, the University does not save money. Indeed, overall cost to the institution may well increase with the loss of "economies of scale" afforded by centralizing these services (and the associated knowledge/experience to perform them). Such "disinvestments" are not in the best interests of the institution, even though the specific unit may reduce costs.

This is not to say there are no opportunities for disinvestment. Support for aged technologies is withdrawn on a regular basis, but this rarely results in significant savings in cash or effort. These disinvestments are worthwhile, nevertheless, since they allow the unit to focus on more current technology to meet new needs and improve service.

With that said, the following disinvestments will be made:

Dial-up Service. ITS will be terminating the free faculty/staff dial-up service. The service is slow (28Kbps), the present equipment is unreliable, the number of users is small, and the cost of maintaining this service can no longer be justified.

Discontinued Technologies. ITS will be discontinuing support for a variety of aged technologies over the next two years, including Word-11, Appletalk, and POP e-mail clients. Functional alternatives will be available in every case.

DMT Photographic Services. DMT will no longer be providing certain photographic services for which demand has fallen off, including slide processing and duplication, slide writing and photographic copy work. These are all cost recovery services.

Consolidating Activities and Eliminating Redundancies. Savings can be realized by adopting University-wide standards where possible. Agreeing to accept WebCT as our sole campus course management package, for example, has saved on licensing costs, training costs, and support costs. We must continue to look for opportunities to consolidate our activities. There is a cost to supporting multiple calendaring systems, multiple portals or multiple e-mail systems, for example. We have to look carefully at the cost of personal taste.

2.2 Issues

Technology and Learning. It is vitally important that we organize ourselves appropriately for application of information technology in its various forms to learning (e.g., e-learning, blended learning, technology-enhanced learning), and we need to be responsive to our evolving understanding of what technology-based learning is. Our progress is hampered by several factors:

- an unclear institutional commitment to e-learning
- a lack of clarity as to where the responsibility for e-learning rests
- a fragmented approach.

Our present model resembles a doughnut—a lot is happening around the periphery but there's nothing in the centre. The forthcoming Foundational Document for Teaching and Learning will need to articulate the University's desire to move forward in this area, and establish institutional priorities and structures. We already have considerable experience, but it is highly distributed. A number of units participate in our TEL activity (including DMT, the Extension Division, various Colleges, ITS, and the Teaching and Learning Centre), reflecting the widespread interest and expertise we have on campus. While our collaborative approach has served us well in course development⁵, there is confusion over who is responsible for managing the delivery of our on-line courses and there is disquiet over the financial arrangements. The situation becomes even murkier as we blur the lines between on-campus and off-campus delivery of these courses in a blended approach. We have vast experience, first-class resources and great people ready to go, but we need to clarify the roles of the various units, develop a sustainable model for course development, delivery and maintenance, and properly locate the authority.

[ref. DMT plan: pp. 48-53]

A Strategy for Desktop Computing. As the ICT Foundational Document makes clear, the computer is now standard equipment for everyone (faculty, staff and students), yet we provide little or no central assistance in acquiring the computers or renewing them as they become obsolete, only limited training in the effective use of either the hardware or the software, and often too little help when problems arise. We should not set up expectations for an ICT-enabled workplace through our practices and processes, but then turn the other way when users have needs. We must establish an effective (and consistent) institutional strategy for provision, support and replacement of desktop computers. Since the responsibility for desktop equipment presently rests with individual units, Colleges and administrative units must address this issue in their individual plans. We can then begin to have the campus-wide discussions that will lead to practices for acquisition, support and renewal of desktop systems that meet everyone's needs.

[ref. ITS plan: Section 4.3]

⁵ We will develop more than 80 U of S courses for on-line delivery over the first 5 years of the TEL program.

Technology Readiness. Our Enrolment and Student Success Plan⁶ identifies the need to review our existing learning skills programs to ensure they meet current needs. ICT literacy is a basic requirement in today's technology-rich world. With our increasing reliance on web-based access to both learning resources and basic services, it has become a requirement for success at the University, and we must ensure that we provide the means for our students to secure the basic ICT skills that they will need at the University, whatever their level of preparedness when they come to us. This is a particular challenge for aboriginal students and students from small rural communities, who may not have the same access to computing as students from larger centres. In developing a plan, we will work with Colleges, Departments and SESD to consolidate programs and initiatives that might already be in place.

⁶ Michael Atkinson and Ken Coates, *An Enrolment Plan for the University of Saskatchewan: Preparing our Students for Success in the Knowledge Age*, January, 2003.

3. Supporting our Business Needs: Administrative Support Systems

“We can either [replace our individual systems] by a well-planned approach in order to move towards an integrated information architecture that serves the campus for the future, or we can take a helter-skelter approach that will perpetuate disintegrated, inaccessible information systems and will miss the opportunity to reengineer our work processes.”⁷

Over the past few years the University and the Board of Governors have committed to supporting our business processes with contemporary administrative systems that embody “best practices” in serving both our internal users and our external customers. We plan, develop and support these systems in collaboration with the respective business units, and so the responsibility is a shared one. Effective cross-unit planning will achieve the cross-functional information reporting and services that our users demand.

As we renew our administrative systems we are seeking to integrate our business functions into a single architecture that can serve many needs. Each functional unit has its own piece, which addresses its specific business needs (data and processes). Our goal is to combine these into a single, integrated application framework that relies on a common database architecture, so that the various systems (e.g., student, HR, finance, alumni) can more easily share information and communicate with one other (see Fig. 3.1). It is a fundamental premise of our integrated approach to self-service that our customers (students, faculty, staff, senior administrators, and especially the general public) be able to access the institutional services and data they require without needing to know which system or organizational unit is responsible for providing them. The component systems must run on a common infrastructure platform that is robust, reliable, flexible and secure. To provide this “enterprise” approach requires that the development and renewal of our administrative applications be planned in a coordinated way.

Our renewal is well underway. Our new HR system, About-US, recently went through a major release upgrade, and we are in the throes of implementing new student and finance systems (Si! and UniFi, respectively). Powerful workflow and integration tools provided in these products will enable the interoperability we demand and a new governance model (see Sec. 5) will help us avoid the functional stove-piping that has plagued us in the past.

Although we are spending roughly \$20M on this renewal (a modest figure by comparison with other universities) there is more to do. A proposal to upgrade the Library system has been endorsed by the Academic Support Committee of Council, for example, and considerable pressure has come from various business units to support accepting payments over the web. In a time of limited resources our decisions to proceed must reflect our collective priorities.

⁷ Robert N. Kavanagh, *Draft Process for the Renovation or Replacement of Institutional Information Systems*, University of Saskatchewan, November 1994.

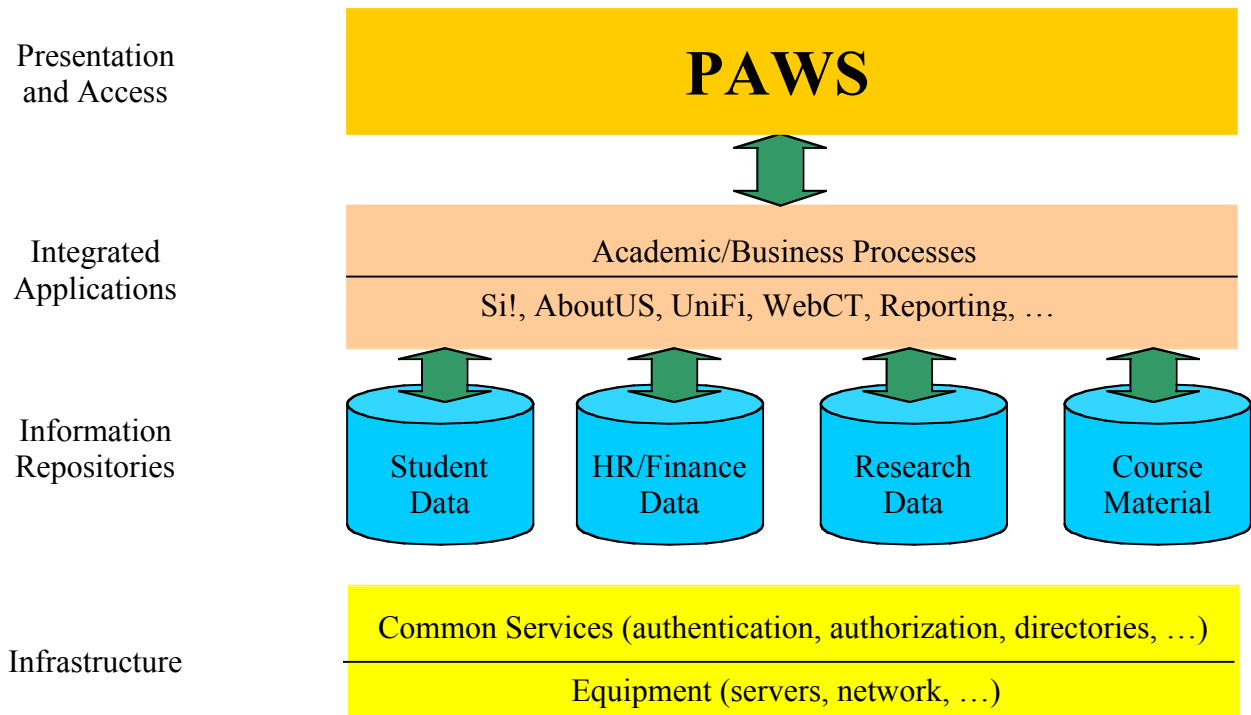


Figure 3.1: Integrating Service Delivery

3.1 Major Initiatives in Administrative Systems

3.1.1 Continuing Initiatives (Maintenance)

Administrative Systems Renewal. We are committed to the renewal of our core administrative support systems (Si!, UniFi, and AboutUS) and to the delivery of integrated, role-based on-line services to our customers, both within and outside the University. Each project has an approved charter with a project plan and a budget, and operates under appropriate steering committee and sponsor oversight. Regular upgrades of both the software and the hardware are part of the ongoing support plans.

Network Renewal. Although developed to meet research needs, the USR-net project is also critical to our strategy for delivery of administrative support services. Our goal of providing web-based self-service for tens of thousands of customers demands a reliable and secure network with sufficient capacity to handle the load that this will present.

Integration Infrastructure. Although they happen behind the scenes, processes, tools and services such as common authentication, directories, data management, and integration are critically important to both our systems and their users. Continued support remains a priority for current resources.

3.1.2 New Initiatives (Development)

PAWS. The portal is both an academic and an administrative tool. As was indicated in the previous section our work on PAWS has been made possible by contributions from other projects or other units. A comprehensive project plan addresses ongoing development, operations, support, oversight and governance of this critical University tool on which many units are already beginning to depend for the delivery of information and services.

[ref. ITS plan: Section 4.1.1]

[Required Operating Budget adjustment: \$500,000]

Identification, Authentication and Authorization. As we move towards greater consolidation of ICT services it becomes increasingly important for us to centralize the responsibility for identification and authentication of our users. It is imperative that ITS have the sole institutional responsibility for the creation, dissemination and authentication of user identifiers (such as the NSID), but authorization of users to access particular services can be distributed, to College-based facilities for example. Centralized authentication allows us to control our user base, to protect our resources, and to provide our users with one consistent system-wide way of accessing our ICT services, while distributed authorization allows us more local control over access to specific services. The ITS unit plan presents a detailed plan for much-needed upgrades and ongoing support of the Service and Server Account Management system (SSAM), our centralized system for user identification and authentication. SSAM is used by ITS, colleges and administrative units to manage access to 240 services for 50,000 users.

[ref. ITS plan: Section 4.1.2]

[One-time project cost: \$210,000]

[Required Operating Budget adjustment for ongoing support: \$130,000]

U-Who Evolution. U-Who is our institution-wide “contacts” database, providing a common name and address infrastructure for systems in a wide range of administrative units (including Financial Services, Human Resources, University Advancement, Consumer Services, Facilities Management, Student and Enrolment Services, and Institutional Analysis), various colleges (including Arts and Science, Commerce, Graduate Studies and Research), the Libraries, and the University's central authentication and authorization system. Without U-Who, additional costs would be incurred to replicate this functionality in the many applications that require contact information (development costs, maintenance costs and data entry costs), and to ensure the integrity and consistency of the information provided. New resources are required to update the U-Who application to address changes to the underlying infrastructure, to re-integrate existing applications that use it, and to meet the on-going technical, operational and support requirements of the various units and applications that depend on it. The ITS unit plan presents a detailed proposal.

[ref. ITS plan: Section 4.1.3]

[Required Operating Budget adjustment: \$150,000]

E-Payment Gateway. Attendant with the increasing demand for web-based self-service is the ability to accept payments over the web. Seeking a common University solution, the project team has examined available technologies and produced a business plan for institutional consideration. Applications are wide-ranging, from registration fees to parking fines. There are many new conveniences, but there are also new costs. This preparatory work has been done in collaboration with FSD and other business units, and a detailed business case has been put forward. New funding is required to address the identified shortfall. The details are given in the ITS unit plan.

[ref. ITS plan: Section 4.1.7]

[Required Operating Budget adjustment: \$35,000]

Institutional Reporting. Institutional Analysis is one of several groups seeking to enhance our institutional reporting capabilities to provide the information they require for planning, decision-making, reporting to government and other agencies, or setting budgets. Our new administrative systems will assist in providing information that is both accurate and timely, but technologies such as data warehouses and data marts are needed to pull the information together from its various sources in way that facilitates the cross-function analyses we require. The ITS unit plan provides more details on both requirements and costs.

[ref. ITS plan: Section 4.1.5]

[One-time project cost: \$180,000]

[Required Operating Budget adjustment for ongoing support: \$140,000]

VoIP. Although we do not yet have a project, all signs point to the replacement of our present telephone system with “voice over internet” technology by the end of the decade. Other universities (e.g. Concordia, Guelph, Ottawa, UQAM, FNUC) have done this already, with the transformation funded from savings in both infrastructure and services. Our pilot project in the Kinesiology Building (made possible through a \$200,000 donation from Cisco Systems) has provided us with valuable experience and insight as we begin to plan the evolution of voice services in collaboration with Facilities Management. In addition to the technical and financial issues, we are addressing organizational issues as well.

Other Developments. A number of other initiatives are in various stages of concept development and proposals are likely to emerge over the course of the four-year planning cycle. These include new initiatives in the area of document management (with Consumer Services), new requirements for application integration (in partnership with many units), and new tools for business intelligence (again, involving many units). A proposal has been presented for an upgrade to the Libraries’ Innopac system and a proposal to replace Advancement’s U-Friend system is expected in 2007.

3.1.3 Disinvestments

SIS, FRS and the Associated Shadow Systems. Our current student system and finance system are really many systems, and under our plan for more integrated administrative systems, many of these components will and should disappear. It is tempting to dismiss these as reallocations, but there are savings to be realized, particularly if we abandon the shadow systems. Some units may

prefer to maintain their shadow systems rather than change their practices or policies, but this must be discouraged.

IVR and U-Star. We will discontinue the telephone-assisted records system once we have the capability to provide these services over the web. While this may inconvenience some users we cannot justify the expense of continuing to support this old technology. The experience of other universities suggests the fears of user ire are exaggerated.

Consolidating Activities and Eliminating Redundancies. How many registrarial systems do we need? How many portals? How many calendars? Many of these tools have been developed in a decentralized way, to meet local needs of the respective colleges or departments, but each additional system adds costs for development, maintenance and support. Where it makes sense, agreeing to use one tool supported centrally will avoid these costs.

3.2 Issues

Change Management. Change management will be critically important as the development of our new administrative systems provides both opportunity and incentive to change how we do things. The application of new technology to old practices simply means expensive old practices, and so change must be accorded high institutional priority to realize the benefits of our substantial investments in new technology. Change is difficult, even threatening, and we must ensure that we are prepared to undertake it. We know that this will require careful planning, a lot of training and “encouragement” from the highest levels, and we are taking the necessary first steps. Project charters for our most recent projects have recognized change management as both a requirement and an opportunity, and have provided for representation by academics and other stakeholders on their advisory boards and steering committees. Such representation reflects the importance of collegial processes in our decision-making, and invites the academic community to participate in shaping our response to these opportunities for change. We have dedicated staff resources to coordination of this activity.

4. Funding our ICT Initiatives

“Technology itself has no intrinsic value ... [and] the cost of a project is much more than the sum of the costs of acquiring new hardware and software. It must also include the costs of deploying the technology in such a way as to produce a change in how the campus operates. It includes investments in retraining staff and the time spent altering business processes and management methods.”⁸

The ICT Foundational Document emphasizes the importance of stable, predictable funding to effective ICT planning and cautions that our traditional reliance on *ad hoc* opportunities and one-time sources of funds to address emerging needs is not a sustainable approach. Despite occasional “random acts of success” it can be difficult to integrate such initiatives into long-term plans and to provide the funding necessary to sustain their operation. Realistic project budgets should be developed and approved before we undertake the work, and these budgets must include both development costs and operating costs. As with our new buildings, we need to make sure that we understand the full costs of a new ICT project, including both development costs and operating costs, and ensure that adequate funding is available. Our support resources are extremely thin, and we must not let our enthusiasm for doing more compromise the success of what we do. This problem is particularly acute in DMT where their heavy dependence on cost recovery funding and one-time project revenues to sustain basic operations⁹ severely compromises their ability to do effective planning. As with research opportunities, there will always be new projects that arise unexpectedly and present an opportunity that is too advantageous to turn aside—but these should be exceptions rather than the norm for planning purposes.

We fund our ICT through a variety of means. The base budgets of the responsible units provide some funding for both operations and development, but new projects depend largely on other sources of funds—some ongoing, some situational.

System Development Fund. An annual budgetary allocation of \$1M provides funds for the development of administrative support systems across campus. A significant portion of this fund (more than 60% of it) is pre-allocated to AboutUS and Si! on an ongoing basis. The remaining funds are used to meet emerging needs on a year-by-year basis. This past year, for example, the SDF provided support for the E-Payments project, for U-Who, for PAWS, for SSAM, and for several smaller projects.

Student Computing Fund. This fund (\$545,000 annually) was created with the consolidation of student computing fees into tuition, and is used to provide support for campus-wide student computing initiatives such as expansion of wireless access, the new campus-wide print management system, and PAWS. The fund is managed by the Project Manager for Student Computing, who reports to both the Director of ITS and the Associate Vice President, ICT.

⁸ Phil Goldstein, Richard N. Katz and Mark Olson, “Understanding the Value of IT”, *EDUCAUSE Quarterly*, No. 3, 2003.

⁹ 83% of DMT equipment purchase and non-salary expenses, and 43 FTE staff members out of 68.5 depend on revenues that the Division must generate through cost recovery activities or external projects of a one-time nature.

Capital Equipment Fund. An annual allocation of \$1.4M from the Capital Equipment Fund supports campus-wide technology projects. \$900,000 of this provides funds for the acquisition of ICT infrastructure to meet campus-wide needs. Specific projects are submitted on an annual basis for approval by Council. In recent years funds have been used to provide infrastructure for student computing, for campus e-mail and web servers, for the USR-net project, for network connections in classrooms, and for PAWS. The remaining \$500,000 has been allocated annually for the classroom upgrade project. Some of this funding is used for the purchase and installation of the multimedia equipment and computer connections; the rest goes to the physical renovations.

ICT Utility Fund. Two funds provide for the ongoing operating costs of certain critical hardware and software on which the entire campus depends. One fund covers network and server hardware (e.g., internet access and maintenance contracts) and the other covers software and data (e.g., the license costs for Oracle and WebCT). Like other utilities, these funds have a built-in “escalator” factor to cover anticipated yearly increases.

TEL Funding. As a participant in the Province’s Technology Enhanced Learning (TEL) program, the University has had access to special targeted funding over a 5-year period (2000-2005). The funds are provided in envelopes for initiatives in content development, faculty development and learner support. Our current allocation is \$915,000 per year, more than half of which is directed to the development of approved courses for on-line delivery through the Campus Saskatchewan partnership. Much more detail is provided in the DMT Unit Plan (Appendix D).

Major Project Funding. The Board receives submissions for major projects, such as the student and finance systems, where the magnitude of the funding is such that it cannot be accommodated from regular sources. The decision to proceed is made on the basis of a detailed proposal that addresses all costs, including equipment, software and staff, for implementation and ongoing operation. Once a project is approved the Project Manager manages the funds in consultation with the sponsor(s), with budgetary oversight provided by the Steering Committee.

5. Organization and Governance

“In any large organization, organizational structures reflect many competing pressures—including the political environment, the budgeting framework, and the cultural context... We must ensure that we have the right allocation of authority, responsibility, and budget... that decision-making is appropriately situated—with the right collegial processes and the right reporting channels. Having the right organizational structure is not sufficient to create an effective operation, but having the wrong structure can present a major barrier.”¹⁰

The way we organize ourselves for ICT can significantly influence our effectiveness. This applies to the way we organize our projects as well as the way we organize ourselves institutionally for planning and oversight. Our approach must respect both local needs and institutional goals.

A federated approach seeks to balance two opposing models. Centralization brings the advantages of scale economies, enterprise-level planning and institution-wide control of standards (best practices), but a highly centralized approach can be perceived as unresponsive to individual unit needs. Decentralization offers local control of priorities and expenditures and the ability to respond nimbly to opportunities but can create costly redundancies, fragmented competencies, and uneven or inconsistent service delivery. A true University-wide ICT strategy would be difficult to achieve in a fully decentralized model, where the focus on individual needs can be at the expense of institutional needs. With a federated model, we can both accommodate the autonomous nature of individual units and achieve the scale economies of the centralized model—if there is agreement on where responsibilities rest. Strong and effective central leadership, with significant local input and mutual respect for boundaries, is a hallmark of a successful federated model.

We all recognize that certain “core competencies” are best handled centrally for the entire campus, including such things as data centre operations and systems support, network planning and support, data base expertise, multimedia expertise, standards development, and negotiation of institutional licenses. Even in areas such as discipline-specific requirements for teaching and research, where it might be more appropriate to decentralize, central advice, stewardship and leadership provide value.

Our community has embraced a federated model for ICT, but we must continue to sharpen our understanding of the lines of responsibility and authority. We need organizational models that preserve the values we hold to be important. We must ensure that all stakeholders are appropriately engaged in the planning and development of initiatives. Those developing and supporting our technology must be fully accountable to the community that it serves, and so stakeholder interests must be represented on steering committees, on oversight committees, and on advisory boards. We also need to engage the community in formulating plans and setting priorities.

¹⁰ *Advantage U of S: Foundational Document for Information and Communications Technology at the University of Saskatchewan*, June 2003.

ICT governance has become a topic of great interest everywhere, since the investments are substantial and the risks are considerable. Like everyone, we must ensure that our values are reflected in our approach and that our risks are properly mitigated. Our new governance model for major ICT projects¹¹ anchors our major projects with executive sponsorship at the vice-presidential level, lays out the composition and responsibilities of steering committees, advisory boards and project teams, and provides for the engagement of our existing collegial structures. The steering committees ensure appropriate oversight and accountability, and the advisory boards ensure that stakeholder interests are represented. The model has been effective in a number of projects, and was recently adopted by the Board for the governance of major capital projects as well. A new advisory board (CABIS, the Campus Advisory Board for Institutional Systems) was established to assist in the development of institutional ICT strategies and priorities. The Lab Managers Forum and the Project Managers Forum exist to engage two other key segments of the campus ICT community by providing monthly opportunities for exchange of ideas, best practices, information and advice. The Lab Managers Forum has played an important role in the development of a campus-wide approach to student computing, and the new Project Managers Forum will help us to develop campus-wide standards for project management, an area where our practices have been quite uneven.

¹¹ Rick Bunt and Lea Pennock, *A Structure for ICT Governance at the University of Saskatchewan*, September 2003.

6. Consolidating our Priorities

The following is a consolidated list of priorities for our most critical requirements in information and communications technology over the four-year planning horizon. Complete plans, with detailed cost estimates and timelines, are provided in the unit plans for DMT and ITS (Appendices B and C, respectively).

PAWS. Version 1 of our campus portal, PAWS, was implemented in response to widespread campus demand, capitalizing on an opportunity that arose from the purchase of the Banner student information system (which paid for the software). Our first release was geared primarily to services and information for students, and it has generated considerable enthusiasm for this technology across campus by demonstrating to everyone the potential of this powerful tool. Our highest priority ICT initiative is for the funding we require to support the operation of PAWS and to enable its continued development. PAWS is critical to our new vision for service delivery. It is a central component for SEDS's Student Central operation, of the service delivery model for student computing, and for our new administrative support systems. This transformative technology also provides new campus-wide standards for e-mail, personal calendaring and collaboration, and easy-to-use tools to support learning both on-campus and off-campus. The ITS unit plan presents a comprehensive project plan that addresses continued development, operations and support.

[Section 2.1.2 (page 5) and Section 3.1.2 (page 12)]

[Required Operating Budget adjustment: \$500,000]

Identification, Authentication and Authorization. As we move towards greater consolidation of ICT services it becomes increasingly important for us to centralize the responsibility for identification and authentication of our users. Centralized authentication allows us to control our user base, to protect our resources, and to provide our users with one consistent system-wide way of accessing our ICT services, while distributed authorization allows us more local control over access to specific services. ITS presents a detailed plan for much-needed upgrades and ongoing support of the Service and Server Account Management system (SSAM), our centralized system for user identification and authentication.

[Section 3.1.2 (page 12)]

[One-time project cost: \$210,000]

[Required Operating Budget adjustment for ongoing support: \$130,000]

Security Upgrades. The cost of protecting both our systems and our information has increased dramatically. New resources are required to allow us to block internet intruders, to detect and eliminate viruses and other infections, and to remove e-mail spam. We invested significantly in ICT security over the past year, and it is clear that more funding must be allocated on an ongoing basis. Details are given in the ITS unit plan.

[Section 2.1.2 (pages 5-6)]

[Required Operating Budget adjustment: \$500,000]

Multimedia Support for Learning Spaces. We continue to work hard to bring our campus learning spaces up to contemporary standards, with several complementary projects involving both DMT and ITS working collaboratively with Facilities Management. Funding from the Capital Equipment Fund has enabled us to install state-of-the-art multimedia facilities and improve the

physical spaces in many of our lecture theatres and classrooms, and the Capital Planning Committee approved funding last year to provide network connectivity in every classroom. This is important work that needs to continue. As we go forward, we must address both the upgrade of existing learning spaces and the design of new spaces to meet contemporary requirements. A comprehensive proposal with both requirements and costs is given in the DMT unit plan.

[Section 2.1.2 (page 6)]

[Capital requirement: \$750,000 per year]

[Required Operating Budget adjustment for ongoing support: \$950,000]

U-Who Evolution. U-Who is an excellent example of cooperative consolidation of requirements. It provides a common name and address infrastructure for many systems across campus. New resources are required to update the current system to address changes to the underlying software infrastructure, to provide new interfaces to current applications that depend on it, and to meet the technical, operational and support requirements of the units and applications. The ITS unit plan presents a detailed project proposal, including an estimate of resource requirements.

[Section 3.1.2 (page 12)]

[Required Operating Budget adjustment: \$150,000]

Extended Hours of ICT Support. Increasingly, our faculty and graduate students are demanding “round the clock” ICT support, and ITS is unable to provide it with existing resources. Faculty members report frustration and lost productivity when critical services such as e-mail go down on the weekend, and students (both on-campus and off-campus) are seriously affected when services such as WebCT fail in our off-hours. As more of our research and teaching activities rely on our technology, 24x7 support becomes a critical requirement.

[Section 2.1.2 (page 6)]

[Required Operating Budget adjustment: \$260,000]

Support for E-Learning. The province’s TEL program has done several things. It has enabled us to whet the institutional appetite for technology-enhanced learning and to develop a broad array of on-line courses. We’re now at a crossroads. We either move forward to capitalize on what we’ve done, or we abandon some very good work that will rapidly become dated. DMT’s unit plan presents a new vision and a new institutional approach that embraces the full range of opportunities and requirements.

[Section 2.1.2 (page 6)]

[Required Operating Budget adjustment: \$590,000]

Student Mobile Computing. We must provide the technology and the support our students require to reap the full benefit of their own computer purchases. This initiative will introduce technology to support the needs of this new generation of students who expect “anywhere, anytime” access to our ICT services. To achieve our goals, we will draw from a set of inter-related initiatives, including the development of student computing laboratories, the installation of wireless access facilities, and the provision of new student services. A new Alliance Agreement with IBM addresses our mutual interests in student mobile computing and the ITS unit plan lays out goals and costs.

[Section 2.1.2 (page 6)]

[Required Operating Budget adjustment: \$360,000]

Desktop Renewal. In collaboration with colleges and administrative units, we will work to develop an institution-wide strategy for the provision, support and renewal of the desktop computers of all faculty and staff. A new strategy will come forward that will include both computers and software. The potential benefits are considerable, for both those that use the equipment and those that support it, but it will require a coordinated, collaborative approach involving many parties. No budget can be attached to this initiative until the strategy is developed. The development of strategy and plan will be a priority over the 4-year integrated planning horizon.

[Section 2.2 (page 8)]

Technology Readiness Program. Our Enrolment and Student Success Plan identifies the need to review our existing learning skills programs to ensure they meet current needs. ICT literacy is a basic requirement in today's technology-rich world. With our increasing reliance on web-based access to both learning resources and basic services, ICT literacy has become a requirement for success at the University, and we must ensure that we provide the means for our students to secure the basic ICT skills that they will need at the University, whatever their level of preparedness when they come to us. This is a particular challenge for aboriginal students and students from small rural communities, who may not have the same access to computing as students from larger centres. In developing a plan, we will work with Colleges, Departments and SESD to consolidate programs and to ensure that the right support is in place for our students. Again, no budget can be attached to this initiative until this plan has been developed.

[Section 2.2 (pages 8-9)]

7. The Last Word

*“Organizations that use technology to update not only their systems, but also their cultures, stand the best chance of achieving their goals. Therein lies one of the major values of technology”.*¹²

*“Be bold. If you are going to make an error, make a doozy, and don't be afraid to hit the ball.”*¹³

Our institutional acceptance of the President's Strategic Directions demonstrates that we have the collective resolve to become an international-class university. Now we need to put plans into action to do this. In today's technology-rich world we will not get to where we want to be without investing in ICT.

Nor will we get there by being timid in our planning or limited in our vision. We must be bold and we must be prepared to take risks, albeit calculated ones. We have presented thoughtful plans to respond to our institutional requirements and our staff are ready to hit the ball. Our recent commitments to bold, ambitious projects such as USR-net, Si! and PAWS demonstrate that the University of Saskatchewan is prepared to meet the technical challenges; organizational challenges may be less apparent, but they are no less important.

To achieve full benefit from our ICT investments, now and in the future, we must be prepared to change. The new administrative systems that we are presently implementing embody industry-accepted “best practices”, and the same is true of the new approaches that technology enables for teaching and learning. In each case, technology provides both opportunity and incentive to change what we do and how we do it. Change can be expensive and, for some, even threatening, but our ability to realize the full value of our investments in these systems will be seriously compromised if we don't capitalize on the opportunity. We are actively working with stakeholders (for example, through our advisory groups) to manage the change process for everybody's benefit.

Financial challenges are part of everyone's reality, but ICT presents intense financial challenges since technology is expensive and the demand for it appears to grow at an unbounded rate. At the same time, these are *critical* investments that the University must make to remain competitive. To address this dilemma we must do several things. We must ensure that our priorities are well understood, that our plans are sound, and that we are spending what we do in the most effective way. We must be ever watchful for opportunities to consolidate, to leverage, and to generate savings. These are all much easier to do in an environment of trust and collaborative planning.

This plan outlines many exciting opportunities for ICT initiatives to improve what we do and how we do it. We look forward to working with each and every unit to integrate ICT into their plans, and to using these plans to achieve our shared goals. Collaborations and partnerships will continue

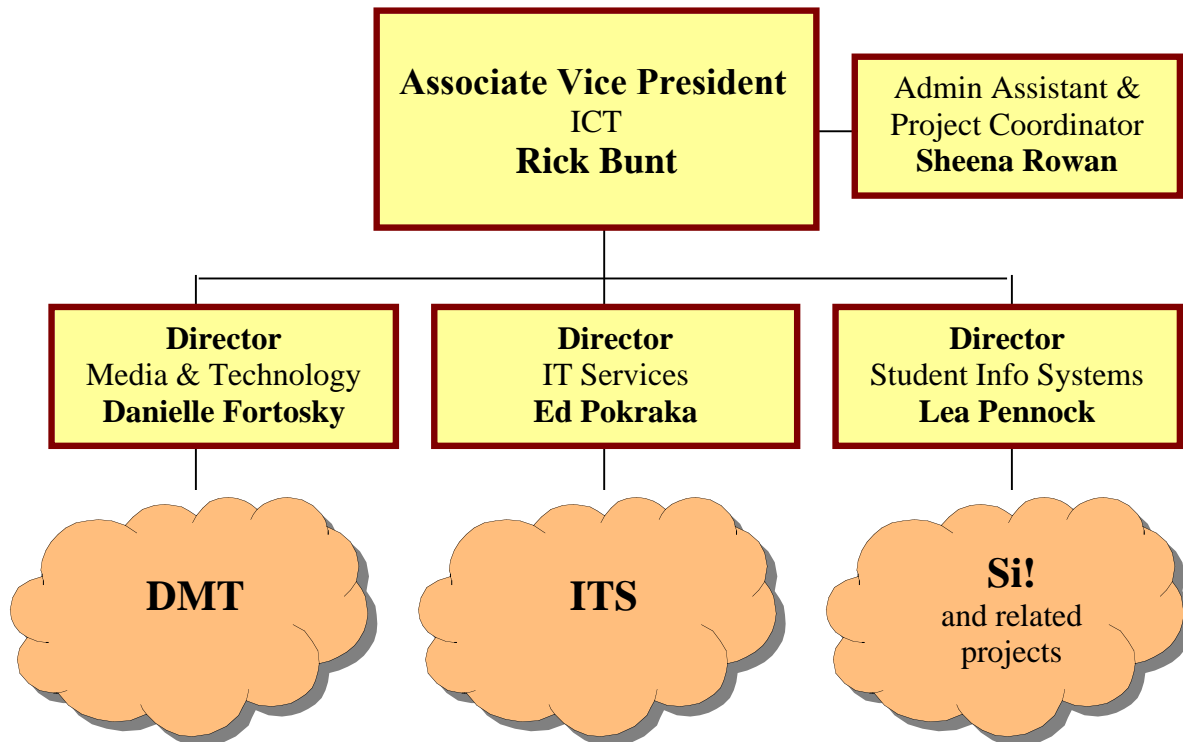
¹² John Southard, “What Technology Can Do If We Let It”, *CAUSE/EFFECT*, Summer 1990.

¹³ Billie Jean King

to be important, and strong leadership will be required to bring this all together and ensure that the teaching and research programs of the University of Saskatchewan are appropriately nourished by our information and communications technology.

Appendix A

Organizational Chart



The **Associate Vice President, Information and Communications Technology** provides strategic leadership to the campus in matters relating to Information and Communications Technology. The position reports directly to the Provost and the scope of responsibility includes both academic and administrative needs.

The **Director of the Division of Media and Technology** provides leadership for the Division, is responsible for strategic planning and accountability, and is responsible for administration, direction and reporting for all DMT activities.

The **Director of Information Technology Services** has operational responsibility for information technology on campus. The Director provides leadership for the Information Technology Services Division and is responsible for management and direction of its staff and its services.

The **Director of Student Information Systems** provides strategic leadership in the application of information technology to all institutional matters relating to student information and processes. Responsibilities include oversight and integration of institutional processes and practices relating to student information, with a particular focus on the Si! Project.

The **Administrative Assistant and Project Coordinator** is responsible for administration of the Office of the Associate Vice President, ICT, for support for the activities for which that office is responsible and for coordination of specific projects, particularly those relating to the provincial government's Technology Enhanced Learning (TEL) initiative.

Staffing Summary

The AVP Office:

3 FTEs:

- 1 Out of Scope (Bunt)
- 2 ASPA (Pennock, Rowan)

2 FTEs are in base budget; 1 FTE is paid from external funds.

DMT:

68.5 FTEs (86 people):

- 1 Out of Scope (Fortosky)
- 27 ASPA
- 36 CUPE Technical
- 6 CUPE Clerical
- 16 student employees

25.5 FTEs are in base budget, 43 FTEs are from generated revenues. More detail is provided in Appendix B.

ITS:

137.87 FTEs (150 people):

- 1 Out of Scope (Pokraka)
- 114 ASPA
- 11 CUPE Technical
- 7 CUPE Clerical
- 4 CUPE Operators
- 13 student employees

Roughly 50% of these people are soft-funded, paid from fee-for-service agreements or from support contract agreements. More detail is provided in Appendix C.

The Si! Project:

14.75 FTEs (20 people):

- 13.25 ASPA
- 1 CUPE Clerical
- 0.5 faculty members

These numbers refer to University staff members. The project also includes various vendor consultants hired on a contractual basis. Fig. A.1 is an organizational diagram that also shows the governance structure.

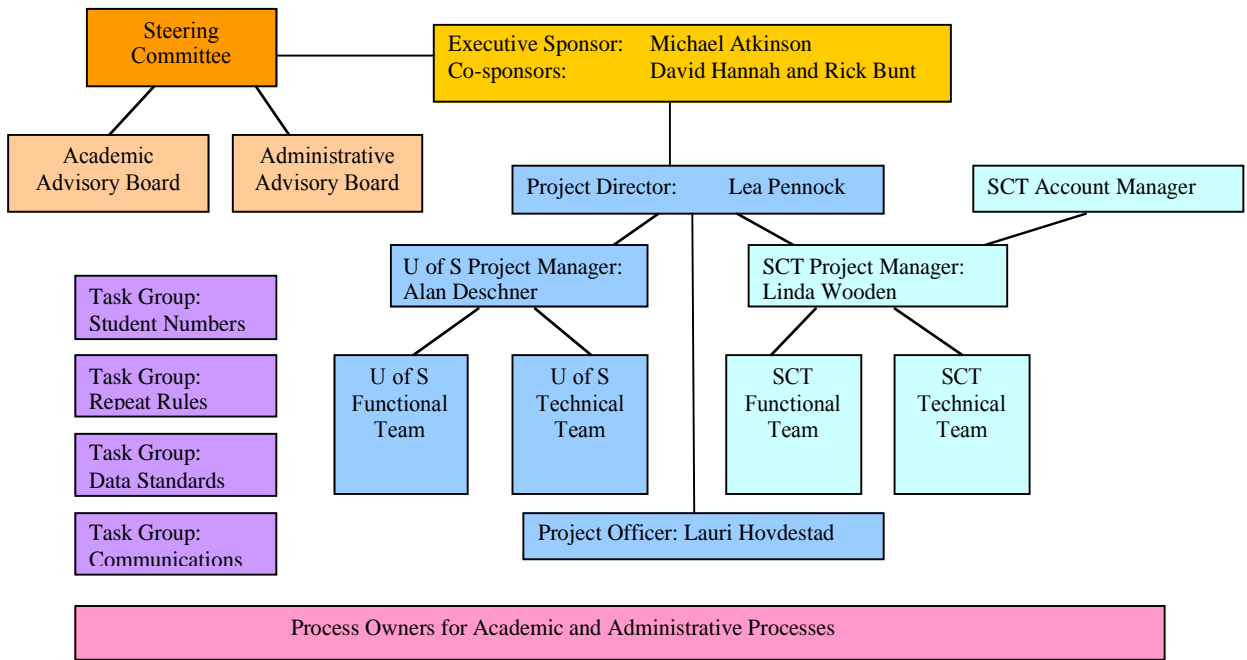


Fig. A.1: Organization of the Si! Project

Appendix B

Working Together for the Winning Combination

Unit Plan for the Division of Media and Technology (DMT)

Appendix C

Unit Plan

Information Technology Services Division (ITS)

Appendix D

Advantage U of S

**Foundational Document for Information and
Communications Technology**