

Information and Communications Technology at the U of S

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With the abundance of new technologies, the endless parade of technical terms and the ever-increasing expectations of the university community, Information and Communications Technology (ICT¹) can rapidly become bewildering. Those responsible for ICT services have done such an effective job of hiding the complexity from the members of the community that the technology has virtually become invisible, popping up only when problems occur or when new funding is needed for a major initiative. At the same time, our dependence on ICT is so pervasive that central, executive oversight is necessary to ensure that the required services are available and that they continue to work together seamlessly.

Vital to the Academic Mission

The ICT portfolio reports to the Provost and Vice-President Academic because ICT is vital to academic success and central to the academic mission of the university. The quality of the university ICT environment is an acknowledged factor in our ability to recruit both students and faculty and a major contributor to their success.

Enhances the Student Experience

For students ICT provides essential support for learning, both in and out of the classroom. Whether it's online registration, courseware technologies, streaming lectures, wireless access, "clickers" in the classroom or a full range of communication tools, the ICT environment is an integral component of the contemporary student experience. Even though they present increasingly high expectations, students have consistently applauded our efforts with "A" grades in the annual Globe and Mail survey.

Supports Faculty Success

Faculty members depend on our technology to carry out their research, to support their teaching and to communicate with colleagues on and off campus, in Canada and abroad.

Accelerates Research Momentum

Researchers both rely heavily on, and directly impact, our ICT environment. With the help of some substantial awards from CFI we've been able to provide vital ICT infrastructure to support U of S researchers in all disciplines and ensure effective collaboration with peers across the country. Researchers at the Alberta Synchrotron Institute (ASI), for example, rely on the high performance networking capabilities the USR-net project provided to connect to the CLS at speeds similar to those available to U of S researchers. To date the ASI has contributed close to \$10 million towards CLS construction.

Improves Business Processes

The university relies on our technology in almost every facet of its business—from our student, finance and HR systems to our Library systems to our donor management system to our e-payments system. As we have moved more and more to online 24x7 service delivery our campus portal, PAWS, provides an integrated platform for delivering a wide array of services of all types.

¹ Broadly speaking, ICT comprises computing technology (computers, servers, storage systems, peripherals), communications technology (networks, phones) and associated applications.

Responsibilities

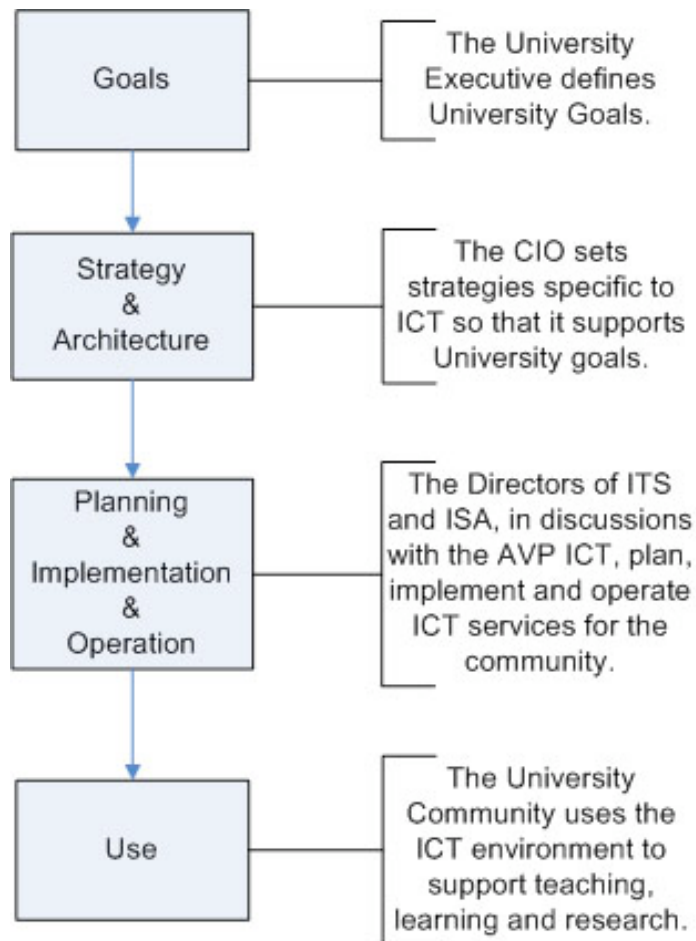
The responsibilities embodied within the ICT portfolio ensure that our ICT environment meets the needs of the broad university community, that the investments and decisions we make align with the strategic directions of the university and that we appropriately manage risks.

Since the Provost and Vice President Academic is accountable for the academic mission, he/she has responsibility for the ICT portfolio.

As the executive authority for ICT the Chief Information Officer is accountable for the strategy and the architecture, while colleges and administrative units share accountability for planning, implementing and operating the technology, with CIO oversight.

The CIO has the primary responsibility for the university's ICT strategy and architecture. He/she advocates for the effective application of ICT on campus, develops and oversees policies relating to its use, balances competing priorities, ensures that risks are managed responsibly and represents the university's interests in ICT matters on and off campus.

Two unit directors report to the CIO/AVP ICT. The Director of Information Technology Services (ITS) has primary responsibility for the university's ICT infrastructure, which includes servers and networks, the university-wide applications that run on them and the software required to run them. The Director of Information Strategy and Analytics (ISA) is responsible for the university's information strategy and information architecture.



Our ICT strategy is derived from the university's goals and strategic directions, and our ICT architecture is designed in accordance with the strategy. For example, the goal of improving service to the university community leads to a strategy of increased focus on web-based service delivery. This leads in turn to planning, implementing and, finally, operating the appropriate technologies (such as PAWS) so that they can be used by the campus community.

The ICT Architecture: An Integrated Design

The dictionary² defines *architecture* as “a unifying or coherent form or structure.” Our ICT architecture is the organizing framework for data, applications and technical infrastructure captured in a set of policies, design principles, organizational structures and technology choices to achieve the effective integration of systems, processes and data to meet the institution’s academic goals. As the person accountable for our ICT architecture the CIO is responsible for ensuring that its integrity is maintained when new technologies are added to the mix.

Stewardship

As with buildings or campuses an effective ICT architecture is a cohesive whole and our continual challenge is to incorporate new initiatives and new technologies into the architecture while maintaining its integrity. Effective exercise of stewardship brings structure to technology planning and implementation to ensure cohesiveness, and it demands that stewardship be localized in one place.

Governance

Because the costs associated with ICT are high and the risks are substantial, decisions about what to do and how to do it must be taken carefully and thoughtfully so that the integrity of the process is maintained as well as the integrity of the architecture.

Governance is about who makes decisions about what, who provides input or advice to those making those decisions and how and where that input or advice is provided. The U of S has adopted a federated approach to ICT, meaning that certain responsibilities are held centrally for the benefit of the entire University community while others rest in local units to serve unit-specific needs. Such a model resonates well with university culture since it can both accommodate the autonomous nature of individual units and achieve the scale economies of a centralized approach. Our approach is not centralized *or* decentralized but centralized *and* decentralized, appropriately balanced. Strong and effective central leadership, with significant local input and respect for boundaries, is a hallmark of a successful federated model.

Stakeholder engagement, at both the technical and non-technical levels, is critical and in our model it’s achieved through various bodies, such as the Academic Support Committee of Council (ASC), the Enterprise Systems Planning Committee (ESPC) and the Campus Advisory Board for Institutional Systems (CABIS). The following Table summarizes our ICT governance model, showing who makes decisions in each of five critical areas and who provides input to those decisions. In ICT, as elsewhere, decisions on major investments are made by the Provost’s Committee on Integrated Planning (PCIP) and the Board of Governors.

² Merriam-Webster dictionary

		Strategy		Architecture		Infrastructure		Unit-specific Applications		Major Investments	
		Input	Decision	Input	Decision	Input	Decision	Input	Decision	Input	Decision
University Executive	PEC	√		√		√		√			
	PCIP	√									√
	Board	√									√
ICT Leaders	CIO		√		√	√		√		√	
	ITS	√		√			√	√			
Advisory Groups	CABIS	√		√		√		√		√	
	ESPC			√		√		√			
	ASC	√		√		√				√	
	IT Mgrs			√		√					
Colleges/Admin Units		√		√		√		Appropriate Unit Leader		√	

Our ICT Decision Matrix

Summary

Any large organization has substantial ICT requirements and the U of S faces the same challenges as everyone else in trying to meet them. Escalating demands, rapid obsolescence, and an unrelenting barrage of new products all challenge administrators who must try to manage a highly unstable process and find the budgetary resources to sustain it. Although the investments needed understandably give pause, *not* investing in ICT is clearly not an option for any university that seeks to remain competitive in the contemporary higher education environment. The quality of the ICT environment has a profound impact on our success in recruiting the best students and faculty, on the quality of the student experience, on the ability of faculty to carry out competitive research, and on the effectiveness of administrative processes. Providing that environment is a collective responsibility, with leadership provided by the CIO.

Further Reading

Advantage U of S: Foundational Document for Information and Communications Technology, June 2003. [available at <http://www.cs.usask.ca/faculty/bunt/AdvantageUS.pdf>]

The Information and Communications Technology Plan for the 2008-2012 Planning Cycle, October 2007. [available at <http://www.cs.usask.ca/faculty/bunt/ICTPlan2008-2012.pdf>]

ICT Governance at the University of Saskatchewan, January 2008. [available at <http://www.cs.usask.ca/faculty/bunt/ICTGovernance2008.pdf>]

An Information Strategy for the University of Saskatchewan, April 2008.