

## 1. Overview

A significant proportion of **learning, teaching, research, and administration** at UVic is based on **communication, collaboration, coordination, and engagement in community**. These activities are very significantly enhanced by the use of information technology.

Information technology plays a strategic role as an **enabler** and **differentiator**: for example, it aids in the creation of virtual communities that can enhance engagement and support, and that can improve institutional efficiency and effectiveness by reducing the barriers of time and space. Indeed, technology is already a foundation for almost every activity at UVic, augmenting and extending our capacities and capabilities.

The UVic community has benefited already from its investment in a modern information technology infrastructure – its **e-Infrastructure** – and can benefit still further by continuing to expand its e-Infrastructure to further augment the activities of students, faculty, and staff.

Many of the information technology tools that are part of UVic's e-Infrastructure have application beyond their generally accepted roles. For example, academic learning and teaching tools can be used to aid in research and administration and vice versa (e.g., e-discussion groups, work flow management, wikis, file sharing, etc.), making the UVic e-Infrastructure a general purpose, comprehensive and essential *services utility* for all.

## 2. Recommendation

The next iteration of the UVic Strategic Plan should build the UVic **e-Campus** – a combination of **e-Learning, e-Research**, and the **e-Services** provided by the Nova environment – that (i) will further augment our learning and research capabilities and capacities, (ii) will appeal to the **e-generation** of students, faculty, and staff, (iii) will enhance UVic's reputation as a leading, 21st century university, and (iv) whose architecture is explicitly aligned with the goals and objectives of the Strategic Plan.

Thus, the University should commit to:

- Implementing an institutional learning plan and an associated e-learning plan
- sustaining a comprehensive e-learning and *teaching-with-technology* environment consistent with these plans
- incorporating explicit *information literacy* goals in all undergraduate and graduate programs
- providing faculty with the incentives to enhance their teaching with the use of technology
- providing support resources to faculty that will assist them to put learning materials online
- continuing investment in high performance computing, networking and storage facilities, and associated support services to enhance e-research
- creating a common set of fully supported, standards-based, communications, collaboration and coordination tools (“productivity tools”) for both the academic and administrative communities
- viewing the Banner suite as an evolving platform for the next generation of e-services
- establishing a formal IT governance structure to coordinate the planning, funding, implementation and operation of its e-Infrastructure, and
- predictable funding of the e-infrastructure so that the campus community can rely on its availability, applicability, and sustainability.

Appendix 1 (page 2) and Appendix 2 (page 6) respond to the Committee's request for input and illustrate some of the ways that the UVic e-Infrastructure can — and already does — contribute to the fulfillment of UVic's strategic goals and objectives.

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### 3. UVic Strategic Plan Objectives: Some Supporting Rôles for Information Technology

#### Appendix 1

<u>A program of conscientious investments in these areas will yield strategic benefits to UVic</u>			
Strategic Plan Objective	Technology-enhanced Communication and Collaboration Tools:	Technology-enhanced Learning and Teaching Tools:	Technology-enhanced Research Tools:
<b>Objective 4:</b> To provide a learning environment that builds the sense of community possible at a university where the majority of students come from outside the local region.	Peer learning; e-mail; e-calendar; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	Support for inquiry-based learning (databases and applications; Library services);
<b>Objective 6:</b> To recruit and retain a diverse group of faculty, of the highest national and international standards, in those areas where UVic chooses to develop its programs of scholarship in teaching, research, professional and creative work.	Build the UVic "e-Campus": a combination of e-Learning, e-Research, the e-Services provided by the Nova environment, and a program of standard support services for personal and group productivity (e.g., office s/w, e-mail, calendaring, managed storage, anti-virus/spyware) to enhance communication, collaboration, coordination, and engagement in community		
<b>Objective 8:</b> To engage retirees and members of the regional community who are able to make significant contributions in research, teaching and professional development.	Peer learning; e-mail; e-calendar; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	
<b>Objective 9:</b> To recruit and retain a diverse group of outstanding staff by providing rewarding and fulfilling careers at the University of Victoria.	Build the UVic "e-Campus": a combination of e-Learning, e-Research, the e-Services provided by the Nova environment, and a program of standard support services for personal and group productivity (e.g., office s/w, e-mail, calendaring, managed storage, anti-virus/spyware) to enhance communication, collaboration, coordination, and engagement in community		
<b>Objective 10:</b> By the year 2010 to be ranked in the top 20% of Canadian universities in the engagement and involvement of our alumni in the support of our University.	Peer learning; e-mail; e-calendar; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	

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<b>Strategic Plan Objective</b>	<b>Technology-enhanced Communication and Collaboration Tools:</b>	<b>Technology-enhanced Learning and Teaching Tools:</b>	<b>Technology-enhanced Research Tools:</b>
<b>Objective 11:</b> To develop an ongoing process of academic planning and assessment that supports the goal of quality by considering all aspects of academic development.	Ensure that the governance structure for the UVic e-Infrastructure has very strong academic involvement	Provide incentives and continuing support for faculty to incorporate technology into their courses	Ensure that the governance structure for the UVic e-Infrastructure has very strong academic involvement
<b>Objective 12:</b> To ensure that our undergraduate and graduate programs are of high quality, responsive to disciplinary and interdisciplinary developments and student needs, and enriched by the research environment of the university.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	HPC/grid/cluster computing; high-capacity data storage; high-capacity networking; support for digital media creation, delivery; collaboration tools; data archiving
<b>Objective 13:</b> To increase the opportunities for experiential learning at UVic.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Note that communication and collaboration tools can provide a link between a student's residence, place of study/work, and his/her loved ones in order to provide intellectual, social, and emotional support	
<b>Objective 14:</b> To support further development of distributed learning as part of the UVic tradition and as a mechanism for increasing access to higher education.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	
<b>Objective 15:</b> To integrate and enhance international activities across academic programs, research and development.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access  Note that communication and collaboration tools can provide a link between a student's residence, place of study/work, and his/her loved ones in order to provide intellectual, social, and emotional support	

<b>A program of conscientious investments in these areas will yield strategic benefits to UVic</b>			
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<b>Objective 16:</b> To position UVic as the leading research university of its size in Canada by concentrating institutional support on our areas of focus.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing		HPC/grid/cluster computing; high-capacity data storage; high-capacity networking; support for digital media creation, delivery; collaboration tools; data archiving
<b>Objective 17:</b> To promote and expand the transfer of research knowledge for societal benefit.		Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	digital media creation, delivery; collaboration tools
<b>Objective 19:</b> To increase the activity in continuing education to support the needs of campus employees and the residents of the region, and to coordinate Continuing Studies activities with the academic programs of the University.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	
<b>Objective 20:</b> To develop a Library and Information Commons capable of meeting the developing needs of students and researchers.		Integrate the support of e-Learning support across the Libraries, CASS, DES, and the L&TC	
<b>Objective 21:</b> To develop the state of the art information technology infrastructure required to meet the strategic objectives of the University.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing  Nova e-Services	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	HPC/grid/cluster computing; high-capacity data storage; high-capacity networking; support for digital media creation, delivery; collaboration tools; data archiving
<b>Objective 22:</b> To develop the support services necessary for meeting our goals in teaching and research.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	HPC/grid/cluster computing; high-capacity data storage; high-capacity networking; support for digital media creation, delivery; collaboration tools; data archiving

<b>A program of conscientious investments in these areas will yield strategic benefits to UVic</b>			
<b>Strategic Plan Objective</b>	<b>Technology-enhanced Communication and Collaboration Tools:</b>	<b>Technology-enhanced Learning and Teaching Tools:</b>	<b>Technology-enhanced Research Tools:</b>
<b>Objective 23:</b> To engage the community through educational, research and service programs, public lectures, performances in the fine and performing arts, and athletics.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	Digital media (streamed and archival);
<b>Objective 24:</b> To develop effective relationships with the diverse constituencies that make up our regional community.	Peer learning; e-mail; e-calendaring; text/audio/video conferencing; WebBoards; blogs; UVic uSource portal; file sharing	Online courses; peer learning support (synch and asynch messaging); flexible learning (e.g., on demand content; iPod); digital media creation/delivery; e-portfolios; Web-casting/course casting; smart classrooms; mobile access	Digital media (streamed and archival);
<b>Objective 26:</b> To develop a campus plan that integrates our physical facilities into our unique natural setting, promotes sustainability in planning and operations and is driven by academic priorities.	Ensure that the physical facilities are planned bearing in mind the opportunities and economies offered by information technology (online learning, shared technology, virtual communities, etc)		
<b>Objective 27:</b> To provide a continuous and growing revenue stream for the University through private donations.		Provide UVic with a significant e-presence that can showcase its capabilities and achievements	Online access to research and research collaborators

## 4. Questions from the Strategic Issues Discussion Paper: Technology-Enabled Answers

### Appendix 2

Discussion Paper Question	How Information Technology Can Assist
<b>1.1 The Expansion in University Capacity</b>	
<i>How should UVic respond to an increasingly competitive environment for undergraduate students and the changing post-secondary environment?</i>	Build the UVic “e-Campus”: a combination of e-Learning, e-Research, the e-Services provided by the Nova environment, and a program of standard support services for personal and group productivity (e.g., office s/w, e-mail, calendaring, managed storage, anti-virus/spyware) to enhance communication, collaboration, coordination, and engagement in community(See examples in Table 1). Ensure that our recruitment materials emphasise it and that our recruitment processes uses it.
<i>What do we offer students at UVic that is unique and special?</i>	
<i>How can our recruitment programs reflect that?</i>	
<b>1.2 The Educational Experience</b>	
<i>What initiatives should we undertake to further enhance the quality of an UVic education?</i>	Build a comprehensive e-learning environment that enhances inspired teaching and enriches active learning at both an individual level and within groups. Develop an environment of e-communities that encourage engagement and participation outside of the normal boundaries of space and time.
<i>What can we do to ensure undergraduate education is enriched by a learning environment in which research and graduate studies are a central component?</i>	
<i>What measures can we take to encourage the appropriate engagement of students in the UVic experience?</i>	
<i>What is the role of distance and continuing education at UVic?</i>	UVic has a considerable presence in the distributed and distance learning environment – and these techniques are equally applicable to students who attend the UVic campus. There should be no real distinction and the techniques are an integral part of e-Learning.
<b>1.3 Student Life and the Residential Nature of UVic</b>	
<i>How should we integrate residence life more effectively with the academic community?</i>	Use the UVic e-learning infrastructure to encourage peer learning and involvement in e-communities for pedagogical as well as social reasons
<i>How can we strengthen the broader student life activities at our University?</i>	
<b>1.4 Graduate Programming</b>	
<i>In addition to enhanced graduate student financial support, what are other appropriate measures to attract outstanding graduate students to the University of Victoria and to promote their academic success?</i>	Use the UVic e-learning infrastructure to encourage peer learning and involvement in e-communities for pedagogical as well as social reasons
<b>1.5 Research</b>	
<i>How can we best support our faculty in their research endeavours?</i>	Provide a comprehensive communication and collaboration infrastructure: video conferencing, discussion boards, wikis, blogs, immersive environments ( <i>aka</i> “caves”), visualisation tools, workflow management, etc.

Discussion Paper Question	How Information Technology Can Assist
<i>How can we assist them in securing external research support?</i>	Promote UVic's research with a rich set of digital media created using the same visualisation tools that researchers use themselves to explore their data and share their insights with peers
<i>How can we ensure our ability to sustain our research growth through providing the requisite infrastructure support?</i>	Encourage researchers where possible pool their resource into shared central facilities (a mirror of the CFI's "national platforms" concept at the local level)
<b>1.6 Interdisciplinarity</b>	
<i>How do we best support the evolution of interdisciplinary research and teaching at the University of Victoria?</i>	Provide a comprehensive communication and collaboration infrastructure: video conferencing, discussion boards, wikis, blogs, immersive environments ( <i>aka</i> "caves"), visualisation tools, workflow management, etc.
<b>1.7 Faculty Retention and Renewal</b>	
<i>What are the key issues for enabling us to recruit and retain outstanding faculty?</i>	Promote the concept of the UVic e-Campus (see above)
<i>Are there other things we can do in order to welcome and integrate them into our community and ensure their future success?</i>	Welcome them into a targeted e-community of peers and support staff with online resources available 24X7
<b>1.8 A Diverse and Welcoming Learning Community</b>	
<i>How do we continue to build this welcoming community to best support the recruitment and retention of students, faculty and staff?</i>	Welcome them into a targeted e-community of peers and support staff with online resources available 24X7
<b>1.9 Aboriginal People</b>	
<i>How can we build on our successes and further collaborate with aboriginal communities to respond to their educational needs?</i>	Welcome them into a targeted e-community of peers and support staff with online resources available 24X7
<b>1.10 Experiential Learning</b>	
<i>How do we continue to grow our Co-operative program and provide our students with the highest quality Co-operative education experience possible?</i>	Welcome them into a targeted e-community of peers and support staff with online resources available 24X7
<i>How can we further develop opportunities for experiential learning programs throughout the University?</i>	Note that communication and collaboration tools can provide a link between a student's residence, place of study/work, and his/her loved ones in order to provide intellectual, social, and emotional support
<i>What opportunities are created for the University by the presence of our students in these off-campus learning environments?</i>	The world-wide accessibility of comprehensive digital resources (databases, text, video, Library holdings) unique to UVic could raise UVic's profile
<b>1.11 Internationalization</b>	
<i>How can we best enhance the international dimension of our educational and research activities to the benefit of our students and our nation?</i>	Note that communication and collaboration tools can provide a link between a student's residence, place of study/work, and his/her loved ones in order to provide intellectual, social, and emotional support
<i>As our international student body grows, what are the support services we require?</i>	Note that communication and collaboration tools can provide a link between a student's residence, place of study/work, and his/her loved ones in order to provide intellectual, social, and emotional support

Discussion Paper Question	How Information Technology Can Assist
<b>1.11A(?) Support Services</b>	
<i>As we grow, what is the appropriate focus to be given to increasing our staff complement?</i>	The Banner environment being built by the Nova project will allow for the streamlining and automation of most clerical work, freeing staff to concentrate on those situations that require empathy, intuition, and judgement.
<i>What are the appropriate support and development opportunities we should provide our employees?</i>	
<i>What types of support systems and infrastructure should we develop in the years ahead?</i>	Welcome them into a targeted e-community of peers and support staff with online resources available 24X7
<b>1.12 The Physical Environment</b>	
<i>How do we most effectively deal with the growing scale of our University and the need to retain and focus on the “community” nature of our campus?</i>	Create a targeted e-community of peers and support staff with online resources available 24X7, and provide access to a rich variety of communications tools (e.g., webboards, wikis, chatrooms, instant messaging)
<i>How do we build on the growing success of our Campus Plan to be a leader in sustainable growth and construction?</i>	<i>It's cheaper to move electrons than to move people</i> – wherever possible match expansion of the physical infrastructure by expanding the e-Infrastructure (e.g., distance and distributed learning, collaboration and communication services)
<b>1.13 Financial Resources</b>	
<i>How can UVic secure the resources necessary to sustain the current pace of growth in academic quality and capacity?</i>	The world-wide accessibility of comprehensive digital resources (databases, text, video, Library holdings) unique to UVic could raise UVic's profile
<b>1.14 Community</b>	
<i>How can we best enhance the social, cultural and economic contributions we make to this region, the province and the nation</i>	The world-wide accessibility of comprehensive digital resources (databases, text, video, Library holdings) unique to UVic could raise UVic's profile
<i>Are there specific activities we should pursue to further support the development of this region?</i>	Provide a support centre for research on very large databases (obvious local partners are VENUS/NEPTUNE, Hertzberg, Atlas, etc.).