Premier's Technology Council

Second Quarterly Report

April 2, 2002

Skilled
Technology
Workforce

World Class
Leading
Technology
Industry

Delivery of
Health, Education
&
Government
Services

Broadband
Network

Globally
Recognized
Technology Hub

Computer
Literate Population &
Connected
Communities

We believe that with strong cooperation between the provincial government and private enterprise, British Columbia will be one of the world's top ten technology centres by 2006.

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Executive Summary

British Columbia is at a turning point in its history: it has the opportunity to lead Canada's technology revolution by becoming a global centre for technology research, development and manufacturing. To be better able to use and build upon British Columbia's technological strengths, Premier Gordon Campbell formed the Premier's Technology Council (PTC) comprised of leading members of British Columbia's high-tech and academic communities on August 20, 2001. The Premier gave the PTC the mandate to provide him with advice on all technology-related issues facing British Columbia and its citizens.

The PTC began its work by identifying the three key issues critical to successfully diversifying the provincial economy and improving the quality of life of our citizens:

1. Remove barriers that keep many British Columbians from participating in the knowledge-based economy and prevent them from accessing the educational, social, and cultural benefits delivered through broadband networks.

2. Identify areas where technology can make government more efficient and improve the delivery of government services throughout the province, including education and health care.

3. Ensure the growth and development of a vibrant, globally-competitive technology industry in British Columbia.

The Premier's Technology Council has been actively engaged in addressing these issues. During the second quarter of its activities, the PTC heard 155 presentations from approximately 215 individuals in the province's regions, attended presentations by almost two dozen telecommunications industry vendors, and received more than 100 written submissions.

Regional meetings were held in Prince George, Fort St. John, Nelson, Terrace, Nanaimo, Kelowna, and Kamloops. The PTC used these regional consultations to gain insight into the unique technology issues facing communities across the province, with a particular emphasis on barriers to bridging the digital divide. The PTC extended invitations to make presentations to municipal governments, businesses, vendors, libraries, educational institutions, health agencies, First Nations, community groups, associations and other interested parties.

The response from the regions was overwhelming. In every meeting, dozens of well thought-out and articulate presentations were made to the PTC. The consultations consistently underscored the urgent desire and need of British Columbia's communities for broadband network access to facilitate economic and social development.

Over and over again, consultation participants returned to the same themes, that:

- There is an immediate need for high-speed Internet access.
- Broadband is a catalyst for economic diversification.
- Broadband offers the potential of improved access to health care, education, and government services.
- Broadband is a community effort.
- One-size does not fit all in the province's regions.

For communities in rural and remote British Columbia, the digital divide is a reality. Unlike those who live in the more densely populated regions of the province, people in rural British Columbia generally do not have access to affordable broadband Internet. People in rural communities want to grow their economies, improve their access to quality health care and have a highly educated population. They are worried about the difficulty of attracting and retaining teachers and health care professionals. They are proud of their new emerging technology sector but are concerned about keeping the talent, innovation, and economic activity within their regions. They want sustainable communities where their families can thrive. In short, they want the benefits of broadband Internet access that metropolitan areas of British Columbia take for granted and that is becoming necessary for industry and business to operate in rural British Columbia.

On the basis of these consultations and the research conducted by our task groups, the PTC has generated a number of preliminary conclusions about what should be done to bridge the digital divide, enable all British Columbians to participate fully in the knowledge-based economy, and make British Columbia a world centre for technology.

Access and Opportunity Task Group Report

Network Infrastructure Working Group

Since the PTC's first report, the digital divide in British Columbia has narrowed. Prompted by fierce competition in the Canadian telecommunications industry, as well as by the provincial government's leadership in announcing that it intended to make sure there was broadband access to every community in British Columbia, the efforts of Telus, Shaw Cable and regional suppliers have extended ADSL and cable modem service to more than 20 additional communities that were without service as recently as Autumn 2001. As a result of this aggressive roll-out of competitive services, a significant number of British Columbians in many regions outside of the Lower Mainland, including Nelson, Trail, Williams Lake and Quesnel, can now choose between ADSL and cable model service at the same cost offered to residents of Vancouver and Victoria.

While significant gaps in coverage remain, the PTC believes that the competitive market, customer demand, and technological innovation are combining and will continue to drive high-speed service deployment to the vast majority of British Columbians in the foreseeable future. As a result, approximately 80% of British Columbians – living in 150 of the province's 361 communities – will have access to affordable high-speed Internet service by 2003 without government intervention. This leads us to believe that market forces will also begin to penetrate the remote and rural regions of the province where it is too expensive to deploy these services today.

Nevertheless, up to 20% of British Columbians – in more than 200 communities – will continue to lack access to broadband network infrastructure if the government relies solely on market forces to bridge the digital divide. This is a significant gap that will prevent rural and remote communities from participating in the economic development opportunities and electronic services made available by high-speed Internet access. Despite the healthy competitive forces clearly at work in British Columbia, the task group recommends that the British Columbia government meet its New Era commitment to "extend high-speed, broadband Internet access in every community in B.C." particularly to those communities in rural and geographically isolated areas with difficult terrain, where market forces alone will not deliver high speed Internet access. The task group also believes that by applying a number of economic levers and entering into creative public-private partnerships, the government can live up to its commitment at relatively little cost.

The PTC continues to support the Corridors of Strength competitive framework that offers the potential for multiple vendors to provide network services in each community. To provide a framework for further analysis, the PTC has focused upon the following key guidelines:

1. The private sector, rather than government, should build and maintain the broadband infrastructure where feasible.
2. Government subsidies should be avoided.
3. Existing infrastructure as well as other assets should be leveraged.
4. Aggregated public sector demand should be leveraged to cause a supplier or suppliers to provide or accelerate roll-out of services to communities where they would not otherwise do so.
5. Broadband infrastructure should be procured based on an open and competitive tendering process.
6. Local community capacity, entrepreneurship, and innovation should be a fundamental part of the solution.
7. A province-wide broadband network infrastructure will be necessary to provide equitable access to health, education, and government services to the citizens of British Columbia.

SPAN/BC

SPAN/BC (Shared Provincial Access Network) is the British Columbia government's secure IP (Internet Protocol) network that currently connects over 4,000 locations throughout the province including almost 350 towns, 2,000 educational institutions, all provincial pharmacies, some hospitals, and more than 1,500 government locations. With SPAN/BC, British Columbia is Canada's only province with a single, secure government IP network. The task group believes that an upgraded SPAN/BC could serve as the foundation for the delivery of health, education and government services throughout the province, including serving the rural and remote regions of the province.

To meet identified needs for improved health care and educational services, better access to government, and economic diversification opportunities, an upgraded SPAN/BC should consist of a scalable, advanced IP-based network built on top of modern broadband facilities (e.g. wavelength division multiplexing (WDM), gigabit Ethernet, or other advanced technologies). With an advanced network infrastructure along with its aggregated purchasing power, SPAN/BC could serve as the foundation for the delivery of high quality e-health, e-learning, and e-government services throughout the province, including rural and remote regions.

While upgrading and extending SPAN/BC, the government should ensure that services suppliers be required to offer a high speed open access point of presence (POP) in each community so that local service providers or community-based networks can connect with the backbone. Alternately, in those communities where government demand alone will not provide enough incentive for the private sector to build open access POPs, the SPAN/BC point of presence could be used as an open access point where communities could connect to the SPAN/BC backbone by using connection methods such as dial, wireless, or even cable modem services. There are already a few examples of successful models, where in communities such as Telegraph Creek and Ashcroft, local community vision, entrepreneurship and creative public-private sector partnerships have used SPAN/BC as the base from which to build out high-speed local access to the Internet.

Aggregating Public Sector Demand

The provincial government's ministries currently spend approximately $380 million annually on information technology (IT) services. Broader public sector organizations, including hospitals, schools, universities, Crowns and agencies, spend another $200 million – bringing the total expenditure to just under $600 million annually. Of this, total government spending on network services alone exceeds $100 million per year.

The provincial government should use the aggregation of public sector demand as an economic lever to cause suppliers to upgrade and extend SPAN/BC and, as a result, provide broadband infrastructure to communities they would not otherwise serve. The demand for network services of the six new Health Authorities should also be aggregated and applied to upgrading and extending SPAN/BC. Having recently consolidated 52 separate health regions into six large Health Authorities, the government is now in a good position to derive the potential economies of scale achievable through the aggregation of all of their IT and network services expenditures.

The government should also compile an accurate assessment of its total demand for telecommunications, including voice, video conferencing and other IT and network services, since these expenditures might be more effectively leveraged or outsourced. This assessment would itemize spending on backbone, local access, workstations, etc. and could be used to determine the fully aggregated amount when all public sector organizations, including the health authorities, are combined. Effective leveraging of all public sector IT and telecommunications expenditures could be an invaluable tool for influencing public policy.

Unlike the governments of Alberta or Ontario that currently have multiple networks serving multiple government business units, SPAN/BC has already aggregated its demand for both core government network services and PLNet (Provincial Learning Network). Because British Columbia has led all other provinces in contracting with multiple vendors in the private sector to deploy a single government network, it is already achieving economies of scale that other jurisdictions, which have not yet completed the consolidation of their public sector networks, are striving to achieve.

The task group cautions however that the advantage of aggregated public demand is being lost in situations in which departments, municipalities, health authorities, universities and community-based networks act individually to negotiate independent contracts with suppliers. If these individual contracts proceed, such policies as extending broadband infrastructure to all communities could be hindered, depending on the size and duration of the contract.

To counter this, the government should undertake a detailed investigation of the overall economics of demand aggregation to ensure that it is economically sustainable. In short, the government must determine whether available aggregated public sector demand will, in itself, be sufficient to deploy broadband to all communities in British Columbia.

A Flexible, Competitive Procurement Strategy

The PTC believes that a key factor in solving the digital divide lies in reforming the provincial government's procurement strategy. The government must employ flexible, creative and competitive tendering models that will stimulate the private sector to upgrade and expand their broadband network infrastructure, as well as encourage the entry of local service providers, such as community-based networks, into the marketplace.

Recognizing that SPAN/BC consists of two distinct elements, infrastructure and management, the government should use its purchasing influence to procure telecommunications equipment and services based on the next generation of broadband infrastructure. Similarly, the management function should be viewed as another potential economic lever that government may choose to apply during the tendering process to stimulate the private sector to upgrade and expand its network infrastructure.

By negotiating with existing service providers to extend their current infrastructure and open it to local access, the government can also provide significant opportunities for community-based networks to use the new connections and offer services (both to their communities and to the provincial government) that will take advantage of the open access network. The PTC notes considerable enthusiasm and commitment on the part of a number of communities in the province to implement community-based broadband access networks. Local community capacity, entrepreneurship, and innovation should be engaged wherever possible in bridging the digital divide. But innovative community-based solutions must also build the capacity for implementation, long-term operational viability, and sustainability.

Creative Solutions and Partnerships through the RFI process

Particularly in the area of public-private partnerships, there are many opportunities to influence public policy and improve broadband access. The PTC believes that government should conduct a Request for Information (RFI) that solicits vendor and community stakeholder reaction to its recommendations. An RFI would enable proponents to more fully describe the potential opportunities for both government and the private sector in forging partnerships to bridge the digital divide. Possible innovations include:

- Inducing service providers to build infrastructure by guaranteeing minimum traffic volumes for a set period of time.
- Directing cost savings in core operations realized through initiatives such as e-health applications, to funding improved broadband infrastructure.

- Providing financial incentives, such as per-transaction revenue, to encourage service providers to assume more risk when building infrastructure or applications.
- Shifting the focus from transport to applications as the key source of payback for government.
- Outsourcing some of the government's large-scale IT business to drive the deployment of high-speed infrastructure into remote and rural communities.
- Implementing a Deferred Service Initiation model which encourages new entrants to compete in the market through government's tendering and awarding a service as much as twelve months in advance of the need for this service.

These ideas – and many others – could be elaborated in an RFI process that would stimulate creative solutions throughout the province at the transport, services, and applications level, and tap into the innovative potential for public-private partnerships. Based upon the information gathered in such a process, government could then decide whether to proceed to the Request for Proposals stage.

Recommendations

The PTC recommends that the provincial government:

- Upgrade and extend SPAN/BC so it is capable of delivering advanced broadband network infrastructure to the communities of British Columbia.

- Aggregate total public sector demand (including core government, health authorities, schools, etc.) where feasible to upgrade and expand SPAN/BC so that it will be capable of providing next-generation broadband infrastructure to the communities of British Columbia.

- Investigate fully the economics as well as the potential benefits or obstacles inherent in aggregating public sector demand.

- Investigate all potential levers including – but not limited to – aggregating public demand, so that it can prompt service providers to extend and update their current telecommunications network infrastructure.

- Find ways to open up SPAN/BC to allow communities to take advantage of the government's broadband infrastructure in those communities where the private sector is unlikely to provide high speed Internet access to citizens and businesses.

- Reform procurement policy to allow for flexible, creative and competitive procurement models that will stimulate the private sector to upgrade and expand their broadband network infrastructure, as well as encourage the entry of local service providers, such as community-based networks, into the marketplace. To this end, two or three communities should be identified as pilot sites for further detailed planning, and implementation.

- Conduct a Request for Information that solicits vendor and community stakeholder reaction to these recommendations, and taps into the innovative and creative potential for public-private partnerships that exists in the marketplace.

Public Access and Digital Literacy

Having established the principle that public access to the Internet should be available in every community in British Columbia, this working group investigated the current status of public access sites in the province. British Columbia has 361 communities with either a school, library or health facility. Of these, 250 communities have public access to the Internet through federally funded Community Access Program (CAP) sites or public libraries, meaning that 69% of communities in British Columbia have access through 1,145 sites. This also means that 111 communities have no public access sites. (Note: the PTC research did not address public access provided by means of internet cafes, community centres, town halls, general stores, etc.). In addition, the task group's research demonstrated that rural and First Nations communities tend not to have access to the Internet. Reasons for this lack of access vary among communities, but include factors such as connectivity issues, the absence of a community champion, and lack of awareness that programs were available to help fund access. Of the 111 communities that do not have access, all but 18 could gain access if a means could be found to open the PLNet in the schools in these communities to public use. If this goal is realized, 95% of the communities in the province would have public access to the Internet. A further eight communities could gain access if the federal SchoolNet Program was open for public use in First Nations locations.

The PTC's research indicates that communities across British Columbia are eager to get on-line. Yet, based on the collective experience gained from public access sites, the task group learned that not all of them are successful in supporting the public access needs of their communities. Success is more likely if they are:

- Sustained by strong community partnerships.
- Able to hire knowledgeable, well-trained staff.
- Promoted by community champions.
- Able to make effective use of volunteers.

- Able to establish a network of public access sites under the control of one organization.
- Well-located.
- Well-publicized.
- Able to allocate funding effectively.

Sustainability funding for public access sites is a major issue. In the past, Industry Canada has been the primary source for funding public access sites in British Columbia through the Community Access Program (CAP). In addition, the provincial government (through both PLNet and library funding), municipalities (through their support for libraries), and the Bill & Melinda Gates Foundation have all made major contributions. The CAP program and the Gates Foundation are no longer funding new public access sites, although Industry Canada has some additional funding available to sustain sites. The lack of new funds makes finding additional funding a pressing issue, both for starting new public access sites in unserved communities and for maintaining the existing access sites. Anecdotal evidence suggests that up to 50% of all public access sites are in danger of closing because of their inability to fund ongoing maintenance, staffing and support. For most communities, libraries are the critical access point for government services and job searches. The ability of libraries to expand the level of public access and service is currently limited by a shortage of computers, lack of floor space and insufficient staff to provide training and support.

The provincial government has an essential role to play in sustaining and expanding public access sites. It should ensure that the momentum to connect all British Columbians to the Internet is not lost. The Province also needs to work with the Federal Government to identify how the $105 million announced in the last federal budget for broadband expansion will be utilized.

Recommendations

The PTC recommends that the provincial government:

- Make sure that there is public access to the Internet in every community in British Columbia.

- Work closely with the federal government to coordinate the allocation of scarce public dollars for public access.

- Find ways to sustain existing public access sites in the province and meet the growing public demand by increasing, where necessary (based on demographics and usage patterns), the number of sites, the number of public access terminals, the available bandwidth, and the hours of operation.

- Develop a complete map-based inventory of all public access sites by community to determine if the levels of public access and location of sites are appropriate for the size and demographics of the population.

- Improve awareness and visibility of public access.

- Increase staffing levels at public access sites through programs like Youth@BC, through partnering with Industry Canada's CAP Youth program, or through use of the Labour Force Development Agreement with the federal government to train unemployed individuals to work at access sites.

- Work with the First Nations of British Columbia and the federal government to bring information technology, including public Internet access, to remote First Nations communities in British Columbia.

- Determine if the province's 58 sCAT (Supported Community Access Terminals) locations and if existing PLNet facilities could be used by the public to access the Internet.

Government Operations and Services Task Group Report

British Columbia is a recognized leader in e-government. Through dynamic leadership and the dedicated efforts of many in government, the Province is well on its way to implementing electronic services delivery with 569 services now available online, 24 hours a day, 7 days a week, through the existing BC Connects portal (www.bcconnects.gov.bc.ca). Those involved in the province's e-government transformation are to be commended for their vision and leadership.

The success of e-government (electronic service delivery) depends on the development of a common and standardized infrastructure for government services to support government and public sector needs – a step the provincial government is already taking. However, government needs to consider expanding its 'umbrella' for standards to all service providers including health regions and other government agencies. These standards will contribute to the efficient management of day-to-day workflows, support electronic access to information, and allow government to cost-effectively expand its services.

Of these standards, the most significant has been the creation of the Enterprise Portal to provide a single gateway for electronic access to government information and services with a common look and feel, security and authentication. Through the government website at www.gov.bc.ca, British Columbians can access such e-government services as searching corporate and personal property registries, accessing transcripts of proceedings in the British

Columbia legislature, registering a business, making a ferry reservation or, for some municipalities, paying a parking ticket online.

Although significant progress has been made, substantial work remains to make integrated e-government services accessible to all British Columbians. For example, e-health is a critical area where on-line service delivery can supplement traditional health services, contribute to better service, improve access, and reduce costs. Successful delivery of e-health services requires province-wide access to a ubiquitous, cost-effective broadband network.

Like e-government, e-health requires common information technology standards to coordinate a successful e-health strategy supported by all of the six new Health Authorities with appropriate provisions for confidentiality and privacy of data.

To this end, the PTC is working with the Ministry of Health Services and the Ministry Health Planning Chief Information Office to develop a set of recommendations that will advance information management and technology in the health sector.

Recommendations

The PTC recommends that the provincial government:

- Continue meetings between the executive of the new Health Authorities and the Ministry of Health Services and Ministry of Health Planning to discuss province-wide health information and information technology standards that will apply to all six Health Authorities as they move to restructure and consolidate.

- Ensure each of the Health Authorities appoints a person to be responsible for information management and technology with the task of implementing the appropriate standards in collaboration with the Ministry of Health Services and the other health authorities.

- Ensure that the designated chief information and technology officers of each authority work with the Ministry of Health Services and Ministry of Health Planning and other appropriate ministries to establish integrated technology standards province-wide. At a minimum these information and technology officers should:

    o Establish a consolidated provincial strategy for Health Information Management and Information Technology (IM/IT).

- o Adopt and implement common health information technology infrastructure and standards.

- o Develop a provincial strategy to facilitate Telehealth and electronic health record initiatives in consultation with medical and continuing education units of the colleges and universities.

- o Evaluate and seize opportunities for moving towards shared services where practical and cost-effective.

- o Identify policy changes needed to support the electronic delivery and management of health services.

- o Recognize information technology development as a strategic investment.

- o Facilitate the advancement of key e-health and Electronic Health Record initiatives.

- Establish a British Columbia e-Health Think Tank composed of e-health visionaries, not senior IT staff, who will examine the applications side of e-health, since it will be compelling applications that drive down costs and improve the delivery of health services to the remote and rural regions of the province.

- Extend its standards beyond just ministries to its agencies and other government service providers.

Industry Growth and Development Task Group Report

A robust, competitive provincial economy depends on growth in our technology industries. In its last report, the PTC outlined the importance of advanced education in creating a vibrant economy. It made two strong recommendations – double the number of technology graduates and to establish 20 BC research chairs. The PTC is pleased that the government announced programs to support both recommendations in its 2002/2003 budget, specifically:

Double the Opportunity (DTO): Budget 2002 commits the provincial government to doubling (from 880 to 1,760) the number of graduates in computer science, electrical engineering and computer engineering within the next five years to promote the growth of the high-tech sector. This is one of the major elements of the Ministry of Advanced Education's (AVED) service plan. AVED has worked with the University Presidents' Council, universities, colleges, the British Columbia Institute of Technology (BCIT), and the BCTIA (BC Technology Industries Association) on an implementation plan.

Leading Edge Endowment Fund: In our last report, the PTC recommended that the provincial government establish research chairs to spur development of various aspects of technology in British Columbia. Supporting this recommendation, the Minister of Finance announced that the government is initiating a $45 million partnership with the private sector to establish the Leading Edge Endowment Fund. This is a program for 20 research chairs in the fields of medical, social, environmental and technical research that will help attract the expertise British Columbia needs to compete and lead in the knowledge-based economy. The task group is also pleased that many educational institutions in the province are now working on proposals for Chairs to submit to the government. In fact, during its province-wide consultations, the PTC was advised repeatedly of the importance of e-learning to the citizens of British Columbia, especially those in rural and remote areas. The PTC would further recommend that one of the research chairs be in the field of e-learning.

Spousal Employment

In our previous report, the PTC identified the need for a progressive immigration system that recognized the fact that most families today have more than one working member. In fact, recent changes in immigration laws in the United States now allow spouses of foreign workers to work in the U.S. automatically. While we recognize that immigration is largely a federal issue, we believe that the provincial government should work aggressively with the federal government to make similar changes so that spouses of employees moving to British Columbia can also work here.

Increasing the Competitiveness of Our Technology Companies

Outside the Lower Mainland, technology companies tend to focus on developing products and services to meet the needs of the surrounding resource industries, such as forestry and mining.   Most of the regional technology companies provide services primarily to other companies within the region, but they all expressed a need to gain access to both outside markets and to have the opportunity to participate in British Columbia's technology industry marketing initiatives. British Columbia's regions are proud of their growing technology sector but are concerned about how to attract and retain talent, innovation and economic activity to their regions. They are frustrated by the provincial government's technology procurement process that makes it difficult for small companies to compete. These companies would like to be included in the re-branding of British Columbia as a world-class technology centre.

Venture Capital

During the past quarter, the Industry Growth task group investigated ways to attract more venture capital to the province, as well as to ensure a more efficient flow of capital into British Columbian technology ventures. The PTC believes that the current conditions offered to the sole Labour Sponsored Venture Capital Corporation (LSVCC) operating in British Columbia are unfair to existing Venture Capital Corporations (VCC) and discourage new entrants to the market, thereby limiting the ability to grow a dynamic venture capital community in this province.

While there is a general shortage of capital in British Columbia for technology companies, this situation is particularly acute for those needing early stage capital and support. Most venture capital firms in British Columbia are focused on later stage investments. To address the financing gap for seed capital, the task group has worked closely with government during its review of the *Small Business Venture Capital Act* (*SBVC Act*). The *SBVC Act* allows small businesses to lever 'seed' or 'early stage' private sector capital using provincial tax credits offered to resident investors. This program has resulted in a rapid payback to the Province and has contributed towards significant growth in the technology industry. The task group believes that this has been an extremely successful program and that expansion of this program should be encouraged.

Recommendations

Accelerating 'Early Stage' Technology Investment:

The provincial government should proceed promptly with the following streamlining amendments to the *SBVC Act* to address the need for early stage capital investment in technology companies:

- Expand the tax credit budget legislated under the *SBVC Act* from $50 million to $100 million annually.

- Introduce an investment model under the *SBVC Act* that does not require the registration of a separate VCC to facilitate investment and tax credits under the programs in order to allow direct investment, cut red tape and reduce program registration costs.

- Increase the total amount of capital one business may receive under the program (beyond the current $3 million) to better reflect the capital needs of many early stage technology companies.

- Increase the employee threshold limit for a small business from 75 to at least 150.

- Allow approval for common investment regimen, such as multi-tranche investments over multiple years based on attainment of established milestones.

Levelling the Playing Field for Tax Credit Investment in British Columbia:

The provincial government should enable small businesses and venture capital managers participating under the *SBVC Act* to raise and invest venture capital, with the assistance of tax credits, under the same conditions that are presently offered to the one Labour Sponsored Venture Capital Corporation (LSVCC) operating in British Columbia and other LSVCCs operating throughout Canada.

To achieve parity with labour sponsored funds, the task group recommends the following amendments be made to the *SBVC Act*:

- Allow program investors the option to invest directly from their self-directed Retirement Savings Plans.

- Make the tax credit incentives available for program investment within 60 days after the calendar year.

- Increase program flexibility in program capital investment beyond simple common or preferred shares.

- Provide VCC investors up to 24 months to complete investments.

- Open up the tax credits provided to the sole LSVCC to competition by allowing other venture capital firms to enter the market to create a more dynamic venture capital community.

Additional Recommendations:

The provincial government should take steps to create an e-learning chair.

The provincial government should work with the federal government to change immigration rules so that spouses of employees moving to British Columbia can work here automatically.

The provincial government should expedite its efforts to rewrite its Policy and Legislative Framework around Procurement Reform so as to result in more streamlined, flexible, and cost-effective processes for both government and the British Columbia supplier community, ensuring fair and open procurement throughout the province. The government should also develop procurement

policies and educational programs for both ministries and the supplier community which will provide British Columbia-based technology companies with the tools and skills required to compete more effectively for government contracts.

Marketing and Public Awareness Task Group Report

Strengthening British Columbia's economy means that new businesses, new investment, and highly skilled workers are attracted to locate here. The PTC welcomes the government's initiative to begin a provincial branding campaign to encourage investors to think of British Columbia when they are considering business locations and other investments.

The PTC believes that one of the most powerful images the province can project is of British Columbia as a world leader in the application of environmentally benign or enhancing technologies in all industry sectors. This image can be used to convey two important narratives: 1) that we are engaged in ecologically sustainable industrial practices, and 2) that we are world leaders in technology that enhances productivity.

The PTC's recommendations on marketing and public awareness emphasize the need for the provincial government to run a technology-focused marketing campaign as part of the province's branding strategy. The Super Natural BC brand contributes significantly to the positive image British Columbia already enjoys. We need to build on this image to convey that we have a dynamic, competitive and business-friendly environment in which to invest and grow a business. The Super Natural BC image should be extended to include the fact that we are technologically advanced, and that we have highly skilled workers. Moreover, the image must convey that British Columbia is not just a great place to visit, but also a great place in which to live and work.

Recommendations

The PTC recommends that the provincial government:

- Develop a provincial branding and marketing strategy that feature technology and innovation as key drivers supporting British Columbia's image as a place with a sustainable and vibrant economy, including resource and knowledge-based industries, and an unparalleled quality of life.

- Develop a strong macro-image positioning British Columbia as a desirable technology destination for investors, employees and site selectors.

- Develop and execute its provincial branding strategy in consultation with the technology community.

- Target its technology industry marketing effort at key audiences that include decision makers in technology investment, site selection and highly skilled workers.

- Focus its technology industry marketing strategy initially on four sectors known as areas of strength within the province: biotechnology, wireless, alternative energy and new media.

- Focus its marketing strategy to attract highly skilled workers or those individuals that may be predisposed to move to Canada such as expatriate Canadian and British Columbian technology workers and members of communities that are already represented in British Columbia.

Conclusion

The Premier's Technology Council has made considerable progress this past quarter. Most significantly, the PTC engaged in a series of consultation meetings in all regions of British Columbia. It also consulted with vendors and received many written submissions. The Council was extremely impressed with the well-considered and eloquent presentations by the representatives of community groups, business, education, health, libraries, First Nations, the technology industry and other interested parties who attended these consultations. These consultations along with the research conducted by each of the five task groups provided the foundation for the recommendations in this report.

Next quarter, the PTC intends to work closely with the Procurement and Supply Services Division of the Ministry of Management Services to provide input into that group's current work to establish a policy and legislative framework for Procurement Reform in the province. To this end, the PTC will host a Symposium on IT Procurement Policy that will bring together both suppliers and representatives from government to discuss in an open and public forum, issues surrounding the procurement process in British Columbia.

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Introduction

British Columbia is at a turning point in its history: it has the opportunity to lead Canada's technology revolution by becoming a global centre for technology research, development and manufacturing. To be better able to use and build upon British Columbia's substantial strength in technology, Premier Gordon Campbell formed the Premier's Technology Council (PTC), comprised of leading members of British Columbia's high-tech and academic communities, on August 20, 2001. The Premier gave the PTC the mandate to provide him with advice on all technology-related issues facing British Columbia and its citizens.

The PTC began its work by identifying the three key issues critical to successfully diversifying the provincial economy and improving the quality of life of our citizens:

1. Remove barriers that keep many British Columbians from participating in the knowledge-based economy and prevent them from accessing the educational, social, and cultural benefits delivered through broadband networks.

2. Identify areas where technology can make government more efficient and improve the delivery of government services throughout the province, including education and health care.

3. Ensure the growth and development of a vibrant, globally- competitive technology industry in British Columbia.

To address these three important issues, the PTC formed four task groups:

- Access & Opportunity
- Government Operations & Services
- Industry Growth & Development
- Marketing & Public Awareness

The PTC has made a commitment to report on the work of its task groups, their findings and recommendations, quarterly. The PTC published its first report on November 22, 2001. In the last quarter, the PTC received written submissions and conducted formal consultations throughout most of British Columbia. This second report discusses these consultations and reports on the progress and recommendations of the PTC and its task groups. The PTC quarterly reports are also available on-line at the government's web site at www.gov.bc.ca.

Consultations

The Premier's Technology Council consulted with representatives of communities, the technology industry, the health and education sectors, First Nations and other stakeholders across British Columbia during the past quarter. The PTC used these regional consultations to gain insight into the unique technology issues facing communities across the province, with a particular emphasis on barriers to bridging the digital divide.

Throughout its consultations, the PTC was consistently impressed by the high quality and solid research of the presentations. The excitement all stakeholders share about the economic and social potential that will be realized by bridging the digital divide was tangible. The commitment and creative solutions demonstrated by participants make us very optimistic that British Columbians will unite to make affordable access to the Internet a reality for everyone.

Appendix A lists formal submissions to the PTC that came either through scheduled, face-to-face meetings or through written submissions received by March 4, 2002.

Regional Consultations

Each region of British Columbia faces unique challenges to connectivity, public access and economic development. Recognizing this, the PTC engaged in a series of regional public consultation meetings between January 31 and February 19, 2002.

Regional meetings were held in Prince George, Fort St. John, Nelson, Terrace, Nanaimo, Kelowna, and Kamloops. To each of these consultations, the PTC invited representatives from surrounding regional communities. Participants were asked to summarize the issues they believed were important to overcoming the digital divide and/or spurring the growth of the technology industry in their region. The PTC was particularly interested in learning about regional projects, how those projects have improved economic conditions or access to telecommunications, and the challenges facing further development of successful technology-based projects.

The response from the regions was overwhelming. In every meeting, dozens of well thought-out and articulate presentations were made to the PTC. In total, the PTC met with approximately 215 individuals and heard 155 presentations. These presentations underscored the urgent desire and need these communities have for broadband network access to facilitate economic and social development.

Over and over again, consultation participants returned to the same themes, that:

- There is an immediate need for high-speed Internet access.
- Broadband is a catalyst for economic diversification.
- Broadband offers the potential of improved access to health care, education, and government services.
- Broadband is a community effort.
- One-size does not fit all.

The Immediate Need for High-Speed Internet Access

The people of British Columbia have spoken: they want better Internet access and services outside of the larger metropolitan areas. They have spoken loudly and passionately. They have spoken in a unified voice. They have told the PTC that broadband Internet access is critical to the economic and social viability of their towns and communities. These communities see broadband network access not only as improving the quality of life in rural communities, but as also helping to ensure the long-term prosperity of those communities. People in rural British Columbia are passionate about their communities. They want to grow their economies, improve their quality of life and have a highly educated population. They want sustainable communities where their families can thrive. In short, they want the benefits of broadband Internet access that metropolitan areas of British Columbia take for granted and that is becoming necessary for industry and business to operate in rural British Columbia.

Internet Access is a Catalyst for Economic Diversification

For communities in rural British Columbia, the digital divide is a reality. Most communities do not have affordable broadband access. Many communities also lack essential core technologies, such as cellular telephone networks. They are generally frustrated with the telecommunications industry, but this frustration is balanced by their understanding of the economics of broadband. Many other services, such as affordable air transportation and one- and two-day courier services are also lacking — basic services that metropolitan communities take for granted. The PTC found that, at the dawning of the new, knowledge-based economy, many rural communities believe they are in danger of being left behind.

As expected, rural communities recognize that they face complex issues. There is no easy solution for solving the digital divide in the rural regions of British Columbia. They know that merely increasing access to reliable high-speed broadband is a start – but it is not enough. These communities recognize that their rural economies also need broader infrastructure support for technology-enabled economic diversification, including the adoption of digital processes

within existing small and medium-size enterprises. They know that a tremendous effort will be required to find the right mix of broadband access and the services that maximize the use of that access. They have identified their support needs to include:

- Digital literacy education,
- Technology training,
- Mentoring,
- Technical support services,
- Collaboration and information sharing,
- Entrepreneurship,
- Venture capital, and
- Assistance in promoting regional and rural communities and businesses to the outside world.

With these supports in place, communities believe they will be able to attract new, high-tech businesses and the skilled workers they employ – essential contributors to sustainable economic prosperity and community growth. They also believe that only then will they be successful in making the shift from a resource-based to a knowledge-based economy, thus providing their children the ability to choose whether they remain in, rather than be forced to depart from, their communities in order to find jobs to sustain their future.

Broadband is a Community Effort

During our consultations, communities across British Columbia revealed their strong cooperative spirit and their great sense of community. People living in remote areas more openly depend on, and support, each other. They know that all stakeholders must cooperate if communities are to achieve their goals. As such, communities gave strong support to both the 'corridors of strength' and the 'government aggregator' models (see the Access and Opportunity section) in which partnerships enable affordable broadband build-out. Communities believe strongly in including all organizations as part of potential solutions, including incumbent telecom providers, ISPs, First Nations, libraries, health facilities, schools, businesses and government agencies.

Whatever solutions are created, British Columbia's communities share widespread agreement that they must be sustainable. Rural communities also understand that broadband access will only be fully achieved if there are local champions who drive the cooperation and partnerships necessary to ensure the broadest possible participation of all stakeholders.

One Size Doesn't Fit All

British Columbia requires dynamic, diversified regional and rural economies that contribute to the province's overall economic and social well-being. Communities across the province are eager to participate in this vision but recognize that they need an affordable and effective broadband network for all of British Columbia. In shaping their broadband future, each community in British Columbia recognizes that it is unique and must find the broadband solutions that match its individual needs and strengths. They know that they need additional cooperation and assistance to achieve their vision.

Many communities are already taking action to help overcome the challenges of Internet access. Gold Country, Telegraph Creek, Prince George, Penticton, Kamloops, Coquitlam, and the Columbia basin region are among the many communities discussing, planning and implementing large and small Internet access projects.

Key Regional Consultation Findings

Participants in community consultations:

- Expressed a clear, uniform need for affordable access to reliable, affordable high-speed broadband.

- Expressed gratitude that PTC members were taking time from their busy schedules to travel to the regions to listen directly to the needs of the rural and remote communities of British Columbia.

- Expressed concern about the lack of regional, First Nations' and community groups' representation on the Premier's Technology Council.

- Predicted the digital divide will increase if the Vancouver/Victoria/Kelowna divide separating urban British Columbia from the rest of the province is not addressed.

- Believed their needs are misunderstood and their capacity for innovation is under-estimated by the provincial government and urban regions of British Columbia. They believe that urban-centric models devalue their potential and that business models developed in Victoria and Vancouver will not always work in rural British Columbia.

- Believed that the need for economic diversification is driving the desire to bridge the digital divide.

- Expressed frustration with the existing structure of the telecommunications industry, such as inequitable practices of incumbents as both wholesale providers and retail competitors of regional service providers, obstructive regulatory framework, issues of rights of way, etc.

- Expressed pride in their vibrant and fast growing technology sectors and the need for broadband connectivity to attract and retain talent, prompt innovation and drive economic activity in their regions.

- Expressed the desire for their regional technology industries to be included in the re-branding of British Columbia as a world-class technology powerhouse. They also feel that the government's Information Technology procurement policies should be changed to make it easier for British Columbian companies to compete.

- Believed partnerships are key to success in solving local issues – and community champions are the key to making partnerships work.

- Believed that e-health and, to a lesser degree, e-learning are the most likely 'killer applications' that will drive ubiquitous broadband through the province.

- Indicated that regions are forming local community-based network initiatives to solve digital divide.

- Believed that aggregating government demand is a key success strategy for most community networks.

- Gave significant support in regional communities for the 'corridors of strength' model. However, businesses with offices in several regional locations find the prospect of dealing with the multiple service providers inherent in this model a nightmare of inefficiency and expense.

- Believed that crossing the digital divide requires more than just technical connectivity – individuals require training and face-to-face support and businesses require promotion, mentoring and information sharing.

- Expressed frustration with difficulty attracting and retaining educators and health professionals.

- Experienced difficulty attracting and retaining technically skilled employees.

- Believed PLNet has created both opportunities and barriers to community access.

- Believed libraries play a key role in bridging the 'digital divide' by providing access and training.

- Felt that sustainability is the major issue for both libraries and CAP sites.

- Desired to encourage innovation for network infrastructure pilots, technology research and development, as well as venture capital for early stage technology businesses.

- Found that wireless solutions are currently providing the best remedy for 'last mile' connectivity.

- Wished that all levels of government could co-ordinate their efforts in providing a single window to government services, and integrate their funding programs for community and public access. The regions expressed confusion and frustration about whether federal or provincial governments were responsible for funding and sustaining Public Access Sites in the province.

Consultations in the Lower Mainland

The PTC also met with representatives of several Lower Mainland vendors involved in supplying telecommunications goods and services, as well as with other businesses and community organizations in the Lower Mainland to learn of their concerns about high-speed Internet access, their thoughts on bridging the digital divide and ways to support British Columbia's technology industry.

Key Findings from Community Groups and Health Representatives

Representatives of Community Groups and Health care practitioners expressed the following opinions:

- Flexible funding is essential. Often grant programs require full-time employees or are restricted to specific uses, such as the purchase of equipment. Flexible grant programs would allow community organizations to provide access and digital literacy training in a way that meets the unique needs of each situation and leverages the unique talents and assets already present in each project.

- They desire to provide seamless integration of government services. Citizens and community groups alike expressed a desire for simple, easy access to government services. This desire includes a need for coordination between provincial ministries, and municipal, provincial, and federal levels of government.

- Low-income individuals and families face many barriers to access. For urban and rural families alike, low incomes present a barrier to overcoming the digital divide for a number of reasons. These barriers are economic – many individuals do not have the funds to purchase a computer. Many do not have a credit card to access e-government applications. There are also social barriers – for many, technology is unfamiliar and intimidating. There is a greater need for not only technology literacy training but ongoing technical support for troubleshooting. For many, learning new skills must be done in a comfortable atmosphere, which may be a community centre, women's shelter or First Nations' Friendship Centre, rather than a school or library.

- Partnerships are the key to successful projects and bridging the digital divide. In rural and urban areas alike, there is a realization that working together creates better results.   Key to partnership success is involvement of all key stakeholders, ongoing dialogue and a strong champion.

Key Findings from Vendors

Vendors of telecommunications goods and services spoke on many issues, but their ideas clustered around the following themes:

- Developing applications that fully use the power of broadband infrastructure is as important – if not more important – than building network infrastructure. In many cases, it is the development of applications that create enough demand to justify further network infrastructure builds.

- Competition is alive and well. It is this competition in the marketplace that fuels innovation. It is the role of government to ensure that facility-based competition is promoted.

- Wireless technology is a critical component to achieving connectivity for the 'last mile'. Given the difficult terrain in many areas of the province, wireless technology is the only technologically and economically viable solution to broadband access in remote areas.

- Support for public-private partnerships is required. Where demand is not sufficient for a viable business case, there must be some sort of government intervention. In many cases, public-private partnerships were suggested to meet this need. There is a major role for public-private partnerships in the development of applications.

- The model supported most often was a hybrid of the Government Aggregator and Corridors of Strength. Regardless of the structure of the model, it has been suggested that the formula must include province-wide standards, a competitive marketplace, and aggregated government demand.

Written Submissions

In addition to engaging in regional and Lower Mainland consultations, the Premier's Technology Council received many written submissions from other interested groups and individuals. The total volume of material received was enormous and there was insufficient time to fully analyze the content for this report. Two key preliminary findings from the written submissions are noted below.

Key Findings from Written Submissions

Written submissions covered two major themes:

- Changes are required to ensure an educated and professional workforce. Many suggestions were provided for attracting and retaining quality employees from the international labour market. The need for a purely technology-based education program was also recommended to provide training and to signal a commitment to technology in the province – many mourned the loss of the Technical University of BC (Tech BC).

- Changes are required to the business conditions in the province to encourage industry growth. In many cases, insurmountable barriers of geography were cited as barriers to companies competing globally. Many writers felt that the relationship between government, labour unions and business requires reform before any true economic growth can occur. Others cited the difficulty for fledgling technology companies to attract venture capital money – whether in Vancouver or Prince George.

Access & Opportunity Task Group Report

Mission

The Access and Opportunity Task Group seeks to find ways to make broadband Internet access available to every community in British Columbia. This task group has worked to identify the communities or groups in the province that lack broadband Internet access, to understand why this access is limited, and to suggest ways of overcoming these barriers to access, known as the digital divide. The task group is responsible for identifying the training and skills development needed so that British Columbians who wish to have Internet access have the opportunity to do so.

In the Second Quarter, the task group divided into two working groups:
1) Network Infrastructure, and 2) Public Access and Digital Literacy.

Network Infrastructure Working Group

Highlights from First Report

This task group began its work by defining communities broadly to include any location in British Columbia with both a place name and a public school, library or health care facility. They adopted a broadband definition similar to that set out by the National Broadband Taskforce of 1.5 megabits per second, comparable to speeds currently provided through ADSL or cable modem access. The task group determined that using existing infrastructure wherever possible, as well as leveraging government purchasing of network services, is the best way to bring better broadband access to provincial communities.

The task group decided to examine three different potential models of access:

> **Corridors of Strength:** This model splits the network infrastructure into three areas: backbone transport, open access Point of Presence (POPs), and local community access distribution. Based on the concept that suppliers have unique strengths in different regional corridors of the province, this model provides the greatest potential for competition, offering the opportunity for multiple contracts and for multiple vendors to provide network services at the backbone, POP, or local distribution levels.

> **Government Aggregator:** In this model, a single primary contractor builds and operates the network on behalf of the government. The prime contractor, who is not a supplier, will hire sub-contractors to build out the network. The provincial government would need to leverage an up-front

commitment of public sector demand to motivate the contractor to deliver broadband to all communities.

Winner-Take-All*: In this model, a single supplier provides total service, including all wide-area backbone transport and local distribution service. This model allows a large supplier to supply broadband at a single price to all communities by making trade-offs between profitable, high-margin areas and low-volume, remote locations that are less profitable.

Second Report Activities

The Competitive Environment

Since the PTC's first report, the digital divide in British Columbia has narrowed. While significant gaps remain, the efforts of Telus, Shaw Cable and regional suppliers have extended ADSL and cable modem service to many regions of the province that were without service as recently as Autumn 2001. Prompted by fierce competition in the Canadian telecommunications industry, as well as by the provincial government's leadership in announcing that it intended to make sure there was broadband access to every community in British Columbia, Telus and Shaw have extended ADSL and cable modem service to more than 20 additional communities in the space of five months.

Telus plans to make a $500 million capital investment in British Columbia each year for the next two years. A significant proportion of this investment will be directed toward ADSL roll-out and increasing broadband capacity, such as 10 and 100 megabit business services. Shaw, the leading provider of cable Internet in North America (based on penetration of customer base) is also investing heavily in extending its network infrastructure through British Columbia. Shaw has now broadened its cable modem coverage so that the vast majority of its over one million cable customers in British Columbia have access to high-speed Internet services, and estimates that, by the end of 2002, it will have covered more than 95% of those areas it has the license to serve in province.

As a result of this aggressive roll-out of competitive services, a significant number of British Columbians in many regions outside of the Lower Mainland, including Nelson, Trail, Williams Lake and Quesnel, can now choose between ADSL and cable model service at the same cost offered to residents of Vancouver and Victoria.

This spirited competitive environment contributes to British Columbia's lead over the rest of Canada in high-speed Internet access. According to a recent Ipsos-Reid study, 56 percent of Canadian adults have Internet access at home and 32 percent of those have high-speed access. That number is significantly greater in British Columbia where 45 percent have high-speed access. According to Ipsos-

Reid's Vice-President, Steve Mossop, "B.C. has been leading in all categories of Internet penetration for the last year."

The task group believes that the competitive market, customer demand, and technological innovation are combining and that they will continue to drive high-speed service deployment to the vast majority of British Columbians in the foreseeable future. Furthermore, with growing public awareness of the potential high-speed Internet connectivity, and with increasing demand, the task group believes the market will respond with upgrades to services and the facilities to support them. In other words, competitive market forces – fuelled by the current service-provider turf-war – are supporting the adoption of the Corridors of Strength Model within British Columbia and, consequently, narrowing the province's digital divide. As a result, approximately 80% of the population of British Columbia will have access to affordable broadband service by 2003 without government intervention. Moreover, technology industry sources estimate that affordable wireless high-speed services that can be substituted for wireline services should also be available for use within five years. This leads the PTC to believe that market forces will also begin to provide penetration into those remote and rural regions in the province where it is too expensive to deploy these services today.

Despite this remarkable progress in providing affordable broadband service to the majority of British Columbia's population, many communities remain underserved where demand for ADSL or cable modem services exceeds supply. The PTC notes that some communities, although identified as having access to broadband in this report, are currently dissatisfied with the level or lack of service they are receiving. However, both Telus and Shaw state that they will direct a significant part of their future investments in network infrastructure toward filling out current areas of service, as well as delivering service to additional communities in the province.

The PTC (with the support of the Common IT Services (CITS) department in the Ministry of Management Services) has been working closely with Telus and Shaw, as well as other vendors, to map the specific communities in British Columbia that will have ADSL or cable modem access by the end of next year (see Appendix C). According to data provided by these vendors, approximately 150 communities in British Columbia (corresponding to about 80% of the population) will have access to affordable high speed Internet within the next year, leaving approximately 200 small communities still without service. The task group believes that the provincial government should live up to its New Era promise to "extend high-speed, broadband Internet access in every community in B.C.", particularly to those communities in rural and geographically isolated areas with difficult terrain, where market forces alone will not deliver high speed Internet access. The task group also predicts that the government can live up to this promise at relatively little cost by applying a number of economic levers and entering into creative public-private partnerships.

Accelerating Broadband Access

A recent study commissioned by Verizon[1] shows that an accelerated roll-out of broadband services could have an enormous and positive economic impact on economies such as British Columbia's by increasing productivity and growth in Gross National Product (GNP). The task group has concluded that the healthy competitive forces clearly at work in British Columbia will eventually drive the deployment of a broadband network infrastructure to many – but not all – communities in the province. Therefore, it is still in the interest of the provincial government's economic and service objectives to meet its New Era commitment to promote the deployment of broadband network infrastructure as quickly as possible throughout the province.

To provide a framework for further analysis, the PTC has focused upon the following key guidelines:

1. A province-wide broadband network infrastructure will be necessary to provide equitable access to health, education, and government services to the citizens of British Columbia.
2. The private sector should build and maintain the broadband infrastructure where feasible.
3. Government subsidies should be avoided.
4. Existing infrastructure as well as other assets should be leveraged.
5. Aggregated public sector demand should be leveraged to cause a supplier or suppliers to provide or accelerate roll-out of services to communities where they would not otherwise do so.
6. Broadband infrastructure should be procured based on an open and competitive tendering process.
7. Local community capacity, entrepreneurship, and innovation should be a fundamental part of the solution.

SPAN/BC

The task group believes that SPAN/BC, the provincial government's shared data and voice network, is the place to begin bridging the digital divide for more than 200 communities without broadband access. With its existing infrastructure and aggregated purchasing power, SPAN/BC (Shared Provincial Access Network) presents the opportunity to test the hypothesis put forward in the PTC's First Quarterly Report, that:

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[1] Crandall, Robert W. & Jackson, Charles L. *The $500 Billion Opportunity: The Potential Economic Benefit of Widespread Diffusion of Broadband Internet Access.* Criterion Economics, L.L.C. July 2001.

"…using existing government infrastructure and aggregating public sector demand will eliminate redundant expenses and bring down the costs to all users while enabling better service to all B.C. communities."

SPAN/BC is a secure IP network that currently connects over 4,000 locations throughout the province including almost 350 towns, 2,000 educational institutions, all provincial pharmacies, some hospitals, and more than 1,500 government locations. With SPAN/BC, British Columbia is Canada's only province with a single, secure government IP network. The task group believes that an upgraded SPAN/BC could serve as the foundation for the delivery of health, education and government services throughout the province, including serving the rural and remote regions of the province.

To meet identified needs for improved health care and educational services, better access to government, and economic diversification opportunities, an upgraded SPAN/BC should consist of a scalable, advanced IP-based network built on top of modern broadband facilities (e.g. wavelength division multiplexing (WDM), gigabit Ethernet, or other advanced technologies). With an advanced network infrastructure along with its aggregated purchasing power, SPAN/BC could serve as the foundation for the delivery of high quality e-health, e-learning, and e-government applications to schools, hospitals, and government locations at data rates that exceed current cable modem and DSL speeds. Such a network should also provide high-speed public access sites for all those who would otherwise not be able to gain access.

SPAN/BC as the foundation for e-health and e-learning

As indicated earlier in this report, the PTC heard one consistent message during its regional consultations: the communities of British Columbia uniformly want access to broadband to achieve four fundamental goals:

- Improved health care and medical services,
- Expanded educational opportunities,
- Access to integrated government services, and
- Regional economic diversification.

With rural and remote communities experiencing a sharp economic decline in British Columbia's resource-based economy, they are also are finding it increasingly difficult to attract and retain qualified health care professionals and teachers. Many communities complained that their citizens have access to neither specialist physicians, nor senior high school science teachers within any reasonable driving distance of where they live. As a result, the rural regions of British Columbia are turning more and more to the potential of broadband delivery of e-health and e-learning applications to sustain their quality of life.

Aggregating Public Sector Demand

The provincial government's ministries currently spend approximately $380 million annually on information technology (IT) services. Broader public sector organizations, including hospitals, schools, universities, Crown Corporations and agencies, spend another $200 million – bringing the total expenditure to just under $600 million annually. Of this, total government spending on network services alone exceeds $100 million per year.

Based on its consultations with the vendor community, the task group believes that the provincial government should use an aggregation of public sector demand as an economic lever to cause suppliers to upgrade and extend SPAN/BC and, as a result, provide broadband infrastructure to communities they would not otherwise serve. Like the Government Operations and Services Task Group, the Public Access Task Group believes that the aggregated demand of the six new Health Authorities should also be applied to upgrading and extending SPAN/BC. Having recently consolidated 52 separate health regions into six large Health Authorities, the government is now in a good position to derive the potential economies of scale achievable through the aggregation of all of their IT and network services expenditures.

The government should also compile an accurate assessment of its total demand for telecommunications, including voice, video conferencing and other IT and network services, since these expenditures might be more effectively leveraged or outsourced. This assessment would itemize spending on backbone, local access, workstations, etc. and could be used to determine the fully aggregated amount when all public sector organizations, including the health authorities, are included. Effective leveraging of all public sector IT and telecommunications expenditures could be an invaluable tool in influencing public policy.

The task group further believes that the government should investigate in detail the overall economics of demand aggregation. Unlike the governments of Alberta or Ontario that currently have multiple networks serving multiple government business units, SPAN/BC has already aggregated its demand for both core government network services and PLNet. Because British Columbia has led all other provinces in contracting with the multiple vendors in the private sector to deploy a single government network, it is already achieving economies of scale that other jurisdictions, which have not yet completed the consolidation of their public sector networks, are striving to achieve.

The task group has also noticed that the advantage of leveraging total public sector demand is being lost in situations where departments, municipalities, health authorities, universities and community-based networks act individually to negotiate independent contracts with suppliers. If these individual contracts proceed, aggregated demand will become a slippery asset that has the potential to be disaggregated as quickly as it is aggregated.

For example, if one of the large Health Authorities uses its demand for network services to negotiate an independent contract with a supplier for its region, then that demand is removed (disaggregated) from the total demand of the Health Authorities. Moreover, by separating its demand from the total public sector spending, the individual Health Authority also potentially undermines the government's ability to bridge the digital divide in the province through leveraging total public sector network expenditures. The task group has been advised that some health authorities and government agencies are currently in the process of negotiating long term network services contracts. If these individual contracts proceed, such policies as extending broadband infrastructure to all communities could be hindered, depending on the size and duration of the contract.

To counter this tendency to 'slice and dice' demand, the government should undertake a detailed investigation of the overall economics of demand aggregation. In short, the government must determine whether available aggregated public sector demand will, in itself, be sufficient to deploy broadband to all communities in British Columbia. While this approach has been cited by the National Broadband Task Force and embraced by the supporters of local community-based networks, the government needs to find evidence that the aggregated demand approach is economically sustainable. The task group believes that the government may also have to consider other factors to provide broadband access to communities where market forces alone do not support private sector investment in broadband infrastructure.

Opening up SPAN/BC

Building on the Corridors of Strength model, the government should ensure that while upgrading and extending SPAN/BC, services suppliers should be required to offer a high-speed open access point of presence (POP) in each community so that Internet Service Providers (ISPs) or community-based networks can connect with the backbone. Alternatively, in those communities where government demand alone will not provide enough incentive for the private sector to build open access POPs, the SPAN/BC point of presence could be used as an open access point where communities could connect to the SPAN/BC backbone by using connection methods such as dial, wireless, or even cable modem services.   In either case, private enterprise or the local community would be responsible for building and maintaining local access to the network. The task group points to communities such as Telegraph Creek and Ashcroft as successful models where local community vision, entrepreneurship and creative public-private sector partnerships have used PLNet as the base from which to build out high speed local access to the Internet.

For example, a number of small communities and the Gold Trail school district in the Ashcroft area identified the collective need for high-speed Internet access. The school district also needed to establish a Wide Area Network to allow the

centralization of management services. By working collaboratively, a group consisting of community champions, the school district, a small Internet Service Provider in the lower mainland and the local cable company developed a solution that met everyone's needs. The local cable company provided local fibre connectivity between the schools and provided access to home users. The school district provided space and power to accommodate the cable company's hardware and provided hardware for local community access. However, this solution soon exceeded the capacity of the network into Ashcroft. The provincial government, through SPAN/BC and PLNet provided funds to the incumbent telephone company to install a broadband facility into the community and to offset the operating costs of the school network. Traffic from this community network now uses SPAN/BC facilities to connect to the small ISP in the lower mainland. Although the build-out is still not complete, the end result will be one of the most advanced rural networks in British Columbia.

The task group believes that the provincial government should investigate successful models adopted in these and other communities to find ways to open up SPAN/BC to take advantage of the government's broadband infrastructure in communities where otherwise there is no business case for competitive market forces to provide high speed Internet access to citizens and businesses.

A Flexible, Competitive Procurement Strategy

SPAN/BC consists of two distinct elements. The first element is the underlying telecommunications infrastructure and equipment that includes: radios, fibre optics, copper-based facilities, routers, switches, etc. The second element is the management function. Telecommunication suppliers have traditionally provided the former; the provincial government typically owns the latter. The key to solving the digital divide in the long term is to use government's purchasing influence to get telecommunications suppliers to provide equipment and services based on the next generation of broadband infrastructure. Similarly, the management function should be viewed as another potential economic lever that government may choose to apply during the tendering process to stimulate the private sector to upgrade and expand its network infrastructure.

Today, approximately 87% of the provincial government's network expenditures already go to private sector suppliers. The balance of these expenditures is related to service planning, design, operations and supplier management. The task group notes that, although the government could both aggregate its expenditures and outsource more of SPAN/BC's day-to-day network management functions, it will still require a strong, technology-savvy, in-house group to set and implement network policies and architecture, take care of high level operations support, maintain standards and represent government's business requirements.

The primary barrier to successfully providing Internet access in rural communities has been the high costs that community groups, ISPs or entrepreneurs face trying to get their traffic out of town (i.e. the high cost of high-speed, long haul, inter-city bandwidth). The task group would like to see the government implement a procurement strategy that removes this barrier while preserving the ability to work with locally driven access initiatives.

One way that this could be accomplished is by maintaining a separation between any wide area inter-city backbone transport tender and tenders for local access. Any wide-area backbone transport tender should be constructed to ensure that broadband capability to communities is disbursed as widely as possible and to ensure that the new bandwidth capability in those communities is accessible on a wholesale basis.

Building this separation between inter-city and local access tenders should allow competition for local access within the communities. Community networks or other local provider networks would be able to purchase access to the new broadband backbone at wholesale prices. The government can also stimulate local fibre initiatives by making its local access demand competitively available to the local marketplace. With a flexible procurement model, opportunities also exist to tailor local access solutions on a community-by-community basis.

In urban or more densely populated areas where a competitive marketplace exists, the government may alternatively want to combine tendering for the wide area transport with local area access in order to drive a more competitive or cost-effective solution. Government might also want to use the opportunity to bundle local access and WAN transport in one or more urban centres to get a supplier to provide backbone transport out to rural regions.

Overall, these tendering strategies contain elements of all of the models referred to in the PTC's first report. Key elements from the Corridors of Strength model are: the separation of local and wide-area access, the willingness to engage multiple suppliers in the solution, the desire to maximize competition where it exists, and the encouragement of local entrepreneurs. The recommendations also reflect the Government Aggregator Model, such as using aggregated public sector network spending (including local access) as a leverage point to cause broadband development to occur. Finally, the Winner-Take-All approach remains available to private sector bidding in response to tendering.

The task group's findings assume that the provincial government can aggregate enough of its operational spending dollars together so that, when committed on a term basis, these funds are an effective stimulus to motivate the private sector to upgrade and expand their broadband facilities significantly in the province. This would leave the government free to work with community-based organizations, like the Kamloops Community Network or the Columbia Mountain Open Network (CMON) group, on locally driven initiatives. The PTC expects that SPAN/BC

could also purchase local access physical facilities to schools, hospitals and other sites from local providers on a competitive basis.

By negotiating with existing service providers to extend and update their current infrastructure and open it to local access, the government can also provide significant opportunities for community based networks to use the new connections and offer services (both to their communities and to the provincial government) that will take advantage of the open access network.

The PTC notes considerable enthusiasm and commitment on the part of a number of communities in the province to implement community-based broadband access networks. As a cautionary note, the task group has observed that community groups are often inexperienced in planning, designing, and operating an industrial strength network service.   There could be considerable risks involved in such solutions, particularly in the areas of long-term operational viability and sustainability. Nonetheless, the PTC believes that local community capacity, entrepreneurship, and innovation should be engaged wherever possible in bridging the digital divide, and notes that there are three or four communities that would be suitable as pilots for further detailed planning and implementation.

Finally the task group strongly suggests that during the current review of its procurement policies, government should ensure that the proposed procurement reforms will facilitate, rather than obstruct, the kind of flexible, competitive tendering process that we see as key to bridging the digital divide.

Creative Solutions and Partnerships through the RFI process

The Network Infrastructure Task Group understands that the discussion presented in this report is, for the most part, high-level and that there are obviously many complex realities that need to be addressed before final decisions can be made. Therefore, the PTC believes that government should conduct a Request For Information (RFI) that solicits vendor and community stakeholder reaction to its recommendations.

During our consultations with the vendor community and representatives of the regions, the PTC received several representations promoting opportunities for greater innovation, particularly in the area of public-private partnerships.   A Request For Information would enable proponents to more fully describe the potential opportunities for both government and the private sector in forging partnerships to bridge the digital divide. Based upon the information gathered in such a process, government could then decide whether to proceed to the Request for Proposals stage.

Based on our consultations with network service suppliers, community-based networks, and local ISPs, the task group is convinced that there are many creative approaches and incentives that the government could employ to influence public policy, both within the scope of current government network and service spending, and across the IT operating cost base of ministries and other public sector functions. We have alluded to many of these approaches in the above discussion and expect to see some of the following solutions examined in more detail in the response to a Request For Information:

1. Government could induce a network service provider to build infrastructure by guaranteeing a minimum volume of traffic for a specified period of time. Government could potentially also offer contracts for other services and applications as part of the larger network infrastructure solution.

2. Government could consider operational cost savings as well as the costs of new technology or infrastructure in developing its business case for the services and applications necessary to create traffic volumes. This approach could rationalize government operations with new technologies by allowing funding to move from core operations to technology and transport. For example, cost savings realized through e-health initiatives could be directed to funding improved broadband infrastructure that potentially could drive even further reductions in cost.

3. With a creative approach to public-private partnerships, government could give incentives to service providers to assume more risk in building either infrastructure or applications in exchange for a share of the resulting revenue from the service. In this way the government could partner with the private sector in delivering high-quality e-health, e-learning and e-government applications to British Columbians. For example, a service provider might assume greater risk in developing an e-government on-line billing or licensing application if it received a share of the per-transaction revenue. This could allow the service provider to build a viable business case by offsetting the upfront costs of developing the application and/or of building the high-speed infrastructure to support the application, against a potential future revenue stream. This approach would also provide the service provider with a direct incentive to ensure the utilization of the application.

   In general, the task group supports an approach that would shift the focus from transport to applications as the key source of payback for government. By encouraging the development of applications along with advanced network infrastructure, the government will be able to shift the emphasis from technology to services for citizens. In other words, if British Columbians have the opportunity to access the improved educational, social, and economic benefits that can be delivered through

advanced broadband applications, these applications will, in turn, ensure long-term network sustainability.

4. The provincial government could drive the deployment of high-speed infrastructure into remote and rural communities by outsourcing some of its large-scale IT business, such as the management of government IT infrastructure. This opportunity could serve as a sufficient incentive to build the broadband infrastructure necessary to support the service, including building it into communities that would have been considered uneconomic on their own.

5. A key factor in developing the infrastructure that will bridge the digital divide is a competitive market place in which there is a diverse and well-developed source of supply. A competitive network market in British Columbia will be significantly enhanced by the entry of local service providers. The government could decrease barriers to entry for local service suppliers, including community-based networks, enabling them to compete against large telecom suppliers by implementing a Deferred Service Initiation model. In such a model, the tender and award for a service is done well in advance of the need for this service, perhaps as much as 12 months earlier. The tender period should be long enough to give entrants time to develop a business plan and secure contingent funding.   Should a new entrant win, this entrant can receive its financing on the strength of future guaranteed business from government, and then build whatever infrastructure is needed, bringing on other user groups as needed. Unlike a direct award model, a Deferred Services Initiation model maintains a competitive framework, allowing new entrants to compete more effectively against established suppliers who have already existing infrastructure and can thus more easily secure the required upfront investment.

The task group acknowledges that this list is by no means exhaustive. Indeed, one of the major purposes of the RFI process will be to stimulate creative solutions throughout the province at the transport, services, and applications level, and to tap into the innovative potential for public-private partnerships that exists in the marketplace.

Recommendations

The PTC recommends that the provincial government:

- Upgrade and extend SPAN/BC so it is capable of delivering advanced broadband network infrastructure to the communities of British Columbia.

- Aggregate total public sector demand (including core government, health authorities, schools, etc) where feasible to upgrade and expand SPAN/BC so that it will be capable of providing next-generation broadband infrastructure to the communities of British Columbia.

- Investigate fully the economics as well as the potential benefits or obstacles inherent in aggregating public sector demand.

- Investigate all potential levers including – but not limited to – aggregating public demand, so that it can prompt service providers to extend and update their current telecommunications network infrastructure.

- Find ways to open up SPAN/BC to allow communities to take advantage of the government's broadband infrastructure in those communities where the private sector is unlikely to provide high speed Internet access to citizens and businesses.

- Reform procurement policy to allow for flexible, creative and competitive procurement models that will stimulate the private sector to upgrade and expand their broadband network infrastructure, as well as encourage the entry of local service providers, such as community-based networks, into the marketplace. To this end, two or three communities should be identified as pilot sites for further detailed planning, and implementation.

- Conduct a Request for Information that solicits vendor and community stakeholder reaction to these recommendations, and taps into the innovation and creative potential for public-private partnerships that exists in the marketplace.

Next Steps

In the next quarter, the Network Infrastructure working group will continue to examine the potential levers government can apply to providing broadband access to every community in British Columbia. These include leveraging government infrastructure and aggregating expenditures, promoting 'killer app' e-services in health and education that will drive bandwidth demand, exercising influence with the CRTC (Canadian Radio-Television and Telecommunications Commission) and forging partnerships with the federal government, the private sector, municipalities, and community based networks.

In conjunction with the Government Operations and Industry Growth Task Groups, the Network Infrastructure Group will host a Symposium on IT Procurement Policy that will bring both suppliers and government representatives together in an open and public forum to discuss issues surrounding the procurement process.

Public Access and Digital Literacy Working Group

Highlights from First Report

In the PTC's first report, this working-group accepted the principle that public access to the Internet should be available in every community in British Columbia. The group categorized lack of access, known as the digital divide, into four categories:

1. Network access – availability of broadband infrastructure.
2. Skills access – availability of computer training and skills.
3. Economic access – where to go if you can't afford a computer or an Internet connection.
4. Impact access – understanding the practical relevance of a computer linked to the Internet.

The working group also decided to investigate ways to:

- Overcome the lack of sufficient public access sites in British Columbia's communities; and
- Develop incentives to make computers and Internet access available to low-income families, other disadvantaged individuals and groups, schools and other sites that are currently underserved or lack resources.

Second Report Activities

The PTC's access and opportunity goal for its second report was to identify the public access locations that exist in the province, by community, and to determine if there are adequate locations to satisfy need, identify barriers to success, share best practices and make recommendations based on this review for bridging the digital divide.

Having established the principle that public access to the Internet should be available in every community in British Columbia, this working group set out to investigate the current status of public access sites in the province.

The Current Public Access Situation in British Columbia

Based on the definition of 'community' adopted in the first PTC report, the group determined that British Columbia currently has 361 communities with either a public school, library or health facility. Of these, 250 have public access to the Internet through federally funded Community Access Program (CAP) sites or public libraries, meaning that 69% of communities in British Columbia have access through 1,145 public sites. (Note: PTC research did not address public

access that may be available in places such as Internet cafes, community centres, town halls, general stores, etc.). In addition, the task group's research indicated that rural and First Nations communities tend not to have Internet access. Reasons for this lack of access vary among communities, but include technological as well as social and cultural factors such as connectivity issues, the absence of a community champion, and lack of awareness that programs were available to help fund access. The task group found that, of the 111 communities that do not have access, all but 18 could gain access if a means could be found to open the PLNet in the schools in these communities to public use. If this goal is realized, 95% of the communities in the province would have public access to the Internet. Access in a further eight First Nations communities could be achieved if the federal SchoolNet Program was available for public access.

The PTC's research indicates that communities across British Columbia are eager to get on-line. There are presently 1,145 public access sites in the province, 583 in rural and 562 in urban areas (Appendix D). The task group learned that not all sites are successful in supporting the public access needs of their communities. Public access sites are most likely to be successful if they are:

- Housed within a community resource such as a library or school.
- Able to hire knowledgeable, well-trained staff.
- Sustained by strong community partnerships.
- Promoted by a community champion.
- Able to make effective use of volunteers.
- Able to establish a network of public access sites under the control of one organization.
- Well-located with a comfortable atmosphere.
- Able to allocate funding effectively.

Sustainability funding for public access sites is a major issue. In the past, Industry Canada has been the primary source for funding public access sites in British Columbia through the Community Access Program (CAP). In addition, the provincial government (through both PLNet and library funding), municipalities (through their support for libraries), and the Bill & Melinda Gates Foundation have all made major contributions. The CAP program and the Gates Foundation are no longer funding new public access sites, although Industry Canada has some additional funding available to sustain sites.

The lack of new funds makes finding additional funding a pressing issue, both for starting new public access sites in unserved communities and for maintaining the existing access sites. Anecdotal evidence suggests that up to 50% of all public access sites are in danger of closing because of their inability to fund ongoing maintenance, staffing and support.

Public Access Barriers or Impediments

The PTC identified the following barriers to public access:

- Funding and sustainability are critical issues for public access sites: many sites used start-up funding well but gave little thought to sustainability over the long run. Sustaining public access sites would require funds for upgrades to computers and software, additional computers, funding for rent (host/partner organizations pay most rent), and human resources to manage the equipment and provide training.

- School-based public access locations face several access issues, including ensuring the safety and security of children and finding funding for the human resources needed for maintenance, teaching and upgrading teacher computer skills. In addition, labour agreements with custodial staff can prevent public access to school-based facilities.

- Librarians are frustrated by their inability to meet the growing demand for public access in their communities. Public libraries were the first institutions to provide public access to the Internet in British Columbia, and have led the effort to provide free computer access in British Columbia communities. All of the 231 branches in the public library system offer access to the Internet. Several have established labs to extend training to the public. Increasingly, the public library is where people go to conduct job searches and access government services. Libraries provide the computer terminals and online database resources but, more importantly, the librarian actually provides a trained human resource who can offer guidance through the complex and often intimidating web of information that surrounds these services. The ability of British Columbia's libraries to expand the level of public access and service is currently limited by a shortage of computers, lack of floor space and insufficient staff to provide training and support. Access in libraries is also made more difficult in some communities by labour agreements that prevent the use of volunteers to assist Internet users.

- Rural and remote areas have problems finding skilled individuals to help with support and training. These centres tend to rely heavily on community support and on the host/partner organization. Many struggle with connectivity issues. Moreover, the operations of these access centres are usually restricted by limited hours of operation.

Other Related Provincial Government Initiatives

During its examination of public access in British Columbia, the working group learned of a number of public sector initiatives that provide on-line computer access in communities across the province. This access however, is usually provided for program-specific purposes and does not provide full public access to the Internet. Two of these programs are:

PLNet (Provincial Learning Network)

All 1,889 K-12 schools in British Columbia are connected to the Internet through PLNet. These access sites are easy to reach and usually have technical support from the school districts.   Some schools also provide public access through CAP.

sCAT (Supported Community Access Terminals)

sCAT is an initiative to provide on-line access to provincial government information at 58 Government Agent offices across British Columbia. Coordinated by the Ministry of Community, Aboriginal and Women's Services, this initiative will be in place by March 31, 2002. Currently sCAT terminals can be used to find government information only, and do not provide Internet access to the public.

The PTC believes that public access in British Columbia could be considerably increased if PLNet and sCAT sites were open to public access.

Conclusions on Public Access

Providing more opportunities for public access in the province is a key component to bridging the digital divide. As a result, the provincial government has an essential role to play in sustaining and expanding public access sites. It should ensure that the momentum to connect all British Columbians to the Internet is not lost. The Province also needs to work with the Federal Government to identify how the $105 million announced in the last federal budget for broadband expansion will be utilized.

Recommendations

The PTC recommends that the provincial government:

- Make sure that there is public access to the Internet in every community in British Columbia.

- Work closely with the federal government to coordinate the allocation of scarce public dollars for public access.

- Find ways to sustain existing public access sites in the province and meet the growing public demand by increasing, where necessary (based on demographics and usage patterns), the number of sites, the number of public access terminals, the available bandwidth, and the hours of operation.

- Develop a complete map-based inventory of all public access sites by community to determine if the levels of public access and location of sites are appropriate for the size and demographics of the population.

- Improve awareness and visibility of public access.

- Increase staffing levels at public access sites through programs like Youth@BC, through partnering with Industry Canada's CAP Youth program, or through use of the Labour Force Development Agreement with the federal government to train unemployed individuals to work at access sites.

- Work with the First Nations of British Columbia and the federal government to bring information technology, including public Internet access, to remote First Nations communities in British Columbia.

- Determine if the province's 58 sCAT locations and if existing PLNet facilities could be used by the public to access the Internet.

Next Steps

The Public Access and Digital Literacy working group intends to complete the following for its third report:

- Investigate cost-effective models for delivering digital literacy training and for developing programs to overcome language and cultural barriers, lack of awareness, and other obstacles to digital literacy in the province.

- Review alternatives to public access facilities such as tax breaks for home computer purchases.

- Research public-private partnerships between industry, government and regional school districts for improved public access and digital literacy.

- Review best practises for sharing training materials and methodologies at public access sites in the province.

Government Operations & Services Task Group Report

Mission

The Government Operations & Services Task Group is working to advise government on which services can be delivered more effectively using a telecommunications network. It will also suggest ways in which government's prioritization, acquisition and implementation of technology can reduce costs, expand services, and increase operational efficiency.

Highlights from First Report

The Government Operations & Services Task Group identified three areas where government can increase the efficiency and effectiveness of its services while having a significant, positive impact on its bottom line:

- **e-health:** offers the provincial government the potential to increase access to a range of medical services while bringing down costs for both the government and the user community.
- **e-learning:** can bring the classroom to the student and can provide learners access to education in innovative and expanded ways.
- **e-procurement:** better applications, processes and procedures can improve interaction between citizens and government as well as between the public and the private sectors.

Second Report Activities

Over the past quarter, the task group focused on identifying key areas that must be addressed to establish the necessary information requirements, technology standards, and infrastructure needed to support the ongoing transformation to e-government, specifically the use of information and communication technologies to improve access to government services. The task group expanded its scope to encompass three areas:

1. Understanding the current state of e-government in British Columbia.
2. Providing guidance to the government in setting priorities for implementing an e-government framework.
3. Focusing on e-health, e-learning and e-government to construct a matrix of existing e-government initiatives currently underway or completed, and identifying priorities that will lead to immediate efficiencies in government service delivery and the reduction of costs.

The task group participated in community consultations throughout British Columbia to obtain input on how to enhance public access to government and reduce government costs. This information, as well as extensive dialogue with various private enterprises and government ministries, led the task group to focus on recommendations that will:

- Establish the infrastructure required to implement a successful transition to digital government with a focus on efficient day-to-day operations and workflow management.
- Provide transparent government services by implementing a citizen-centric service-delivery model.
- Reduce costs by leveraging existing and new applications across government ministries, agencies and, where feasible, crown corporations.

The Current State of e-Government in British Columbia

British Columbia is already a leader in e-government. A recent Accenture study[2] ranked British Columbia first among Canadian provinces in delivering government information and services electronically. The provincial government is well on its way to implementing electronic services delivery with 569 services now available online, 24 hours a day, 7 days a week, through the existing BC Connects portal (www.bcconnects.gov.bc.ca) (see Appendices E and F). Those involved in the province's e-government transformation are to be commended for their vision and leadership.

The task group put a great deal of effort into understanding the current state of e-government services in British Columbia. It recognizes that the success of e-government (electronic service delivery) depends on the development of a common and standardized infrastructure for government services to support government and public sector needs – a step the provincial government is already taking. However, government needs to consider expanding its 'umbrella' for standards to all service providers including Crown Agencies, health regions and other agencies. These standards will contribute to the efficient management of day-to-day workflows, support electronic access to information, and allow government to cost-effectively expand its services. Of these standards, the most significant has been the creation of the Enterprise Portal to provide a single gateway for electronic access to government information and services with a common look and feel, security and authentication.

The PTC is encouraged by the government's advanced plans and continued development of standardized e-government services that will serve to improve access to government, broaden present service offerings and reduce costs.

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[2] Accenture, *Province of Ontario: MCBS and the Road to Integrated Service Delivery.* May 10, 2001. Unpublished.

Today, through the government's website at www.gov.bc.ca, British Columbians can access such e-government services as searching corporate and personal property registries, accessing transcripts of proceedings in the British Columbia legislature, registering a business, making a ferry reservation, or for residents of some municipalities, paying a parking ticket online. As a result of an amendment to the Company Act, companies in British Columbia can now file their annual reports electronically, at a savings of approximately $500,000 per year in government administration costs.

Although significant progress has been made, substantial work remains to make integrated e-government services accessible to all British Columbians. During regional consultations, citizens and community groups alike expressed a desire for easy and direct access to integrated government services across provincial, municipal, and federal levels of government. The task group is now working with the various Ministries, the Chief Information Office and other key infrastructure groups to review the current list of proposed e-government applications in conjunction with the new standards, the best practises of other jurisdictions, and the priorities identified as a result of the PTC's community consultations.

e-Health

E-health is another critical area where on-line service delivery has the potential to contribute enormously to better service, improved access and reduced costs – advantages shared with e-learning applications. E-health is the electronic delivery and management of health care information that makes use of information technology to supplement the delivery of traditional health services. In addition to augmenting existing health services, e-health provides opportunities to deliver new health services that otherwise would not have been possible through conventional routes, such as electronic health records, e-pharmacy, e-homecare, etc.

During the consultation process, the PTC met with a variety of health care professionals. There was general agreement that the Internet is a viable technology for delivering innovative health services to the people of British Columbia as well as enabling health care professionals to work in more efficient and effective ways. The potential exists to use a broadband provincial network to improve health care delivery while also lowering or avoiding costs.

The British Columbia medical community is proactively engaged in research to determine how best to use telecommunications and the Internet for health care. Several exciting initiatives and research projects are already in development or are currently being implemented. The BC Telehealth Program operates as an umbrella initiative seeking to establish a multidisciplinary electronic network of clinical, continuing education and administrative telehealth applications to nurture and service the health professionals, clients and families throughout the

province. These projects include the CHIPP trauma and emergency medicine project enabling real time consultation by emergency and trauma physicians from tertiary hospitals with rural health care professionals engaged in trauma and critical care resuscitation. Using SPAN/BC, the MOH-BCMA Rural Health Link project connects physicians and nurses in Vancouver, Vanderhoof and Stoney Creek, a First Nation's community. The project enables professional education support and episodic consultations with specialists. The WebCT/Video-conferencing Online Professional Education for Physicians project demonstrates the viability of web-based instruction for professional development.

Through its consultations, the task group has come to believe strongly that the successful delivery of e-health services requires province-wide access to a ubiquitous, cost-effective broadband network. Without this backbone, e-health cannot be delivered equally to all British Columbians.

Like e-government, e-health requires common information standards to coordinate an e-health strategy supported by all of the six new Health Authorities. To deliver a successful, province-wide e-health strategy that is coordinated with traditional health services, the six new Health Authorities must adopt technology standards with appropriate provisions for confidentiality and privacy of data. A province-wide strategy of uniform standards will ensure that data and technology are common and inter-operable province-wide. These standards will contribute to significant cost savings by realizing economies of scale, eliminating redundancies and consolidating management.

To this end, the PTC is working with the Ministry of Health Services and Ministry Health Planning Chief Information Office to develop a set of recommendations that will advance information management and technology in the health sector. The following recommendations were developed in consultation with senior information technology officers representing the six Health Authorities and are supported by the Deputy Minister for the Ministries of Health Services and Planning.

Recommendations

The PTC recommends that the provincial government:

- Continue meetings between the executive of the new Health Authorities and the Ministry of Health Services and Ministry of Health Planning to discuss province-wide health information and information technology standards that will apply to all six Health Authorities as they move to restructure and consolidate.

- Ensure each of the Health Authorities appoint a person to be responsible for information management and technology with the task of implementing the appropriate standards in collaboration with the Ministry of Health Services and the other health authorities.

- Ensure that the designated chief information and technology officers of each authority work with the Ministry of Health Services and Ministry of Health Planning and other appropriate ministries to establish integrated technology standards province-wide. At a minimum these information and technology officers should:

  o Establish a consolidated provincial strategy for Health Information Management and Information Technology (IM/IT).

  o Adopt and implement common health information technology infrastructure and standards.

  o Develop a provincial strategy to facilitate Telehealth and electronic health record initiatives in consultation with medical and continuing education units of the colleges and universities.

  o Evaluate and seize opportunities for moving towards shared services where practical and cost-effective.

  o Identify policy changes needed to support the electronic delivery and management of health services.

  o Recognize information technology development as a strategic investment.

  o Facilitate the advancement of key e-health and Electronic Health Record initiatives.

- Establish a British Columbia e-Health Think Tank composed not of senior IT staff but of e-health visionaries who will examine the applications side rather than the infrastructure side of e-health, since it will be compelling applications that drive down costs and improve the delivery of health services to the remote and rural regions of the province.

- Extend its standards beyond just ministries to its agencies and other government service providers.

Next Steps

For the next report, the Government Operations and Services Task Group intends to:

- Consult with government and the vendor community to identify opportunities where the vendors can partner with the provincial government on infrastructure investments that are necessary to support the transition to 'digital' government. These opportunities include establishing:

    o Partnerships with the private sector to develop and supply government services, as well as to deliver content.

    o Multi-vendor environments that create risk and cost-sharing solutions.

    o Shared accountability models.

- Work with government, professional groups, the universities and the health authorities to identify and prioritize specific e-health initiatives that can enhance and expand rural access to health services and treatment.

- Work with the Ministry of Education to review the challenges and roadblocks to e-learning and make recommendations to support the delivery of e-learning services to supplement existing processes and provide new learning opportunities not available through conventional means.

Industry Growth & Development Task Group Report

Mission

The Industry Growth & Development Task Group has the task of identifying policies that will accelerate the development of a vibrant, competitive technology industry in British Columbia.

Highlights from First Report

In the PTC's first report, this task group identified the need for academia, government and industry to work together on four key goals:

1. Creating an education environment that fosters the production of superior talent and knowledge, and reaches out to young people from an early age to raise awareness of the opportunities of high-tech careers.

2. Developing a training environment that supports and promotes life-long learning and permits every individual to identify and pursue a career path in high technology.

3. Creating a climate of personal opportunity that promotes the retention of talent produced within the province and country.

4. Developing a public policy environment that promotes and facilitates the recruitment of senior talent from outside the province and country.

Second Report Activities

In its last report, the PTC outlined the importance of advanced education in creating a vibrant economy. It made two strong recommendations – double the number of technology graduates and establish 20 BC research chairs. The PTC is pleased that the government announced programs to support both in its 2002/2003 budget, specifically:

Double the Opportunity (DTO)

Budget 2002 commits the provincial government to doubling (from 880 to 1,769) the number of graduates in computer science, electrical engineering and computer engineering within the next five years, to promote the growth of the high-tech sector (see Appendix G). This is one of the major elements of the

Ministry of Advanced Education's (AVED) service plan. AVED has worked with the University Presidents' Council, universities, colleges, the British Columbia Institute of Technology (BCIT), and the British Columbia Technology Industry Association (BCTIA) on an implementation plan.

Leading Edge Endowment Fund

In our last report, the PTC recommended that the provincial government establish research chairs to spur development of various aspects of technology in British Columbia. Supporting this recommendation, the Minister of Finance announced that the Government is initiating a $45 million partnership with the private sector to establish the Leading Edge Endowment Fund. This is a program for 20 research chairs in the fields of medical, social, environmental and technical research that will help attract the expertise British Columbia needs to compete and lead in the knowledge-based economy.

The task group is also extremely pleased that various educational institutions are now working on proposals for Chairs to submit to the Government. A sampling of the proposals currently being considered by the educational institutions follows:

- **University of Victoria** – a proposal concerning computerization and education.

- **University of British Columbia** – strategic areas being considered at UBC include digital media, clean energy, human/computer interface, genomics, spinal nerve regeneration, telemedicine, authentication of electronic records, and many others.

- **Simon Fraser University** – at least three proposals including one for a chair in Biotechnology Leadership and a business degree course.

- **University of Northern British Columbia** – at least three proposals, including one on Aboriginal Health and Watershed Management.

- **BC Cancer Agency** – in cooperation with SFU and UBC, a chair in bioinformatics.

- **BCIT** – at least two proposals including one using high tech methods for construction.

Others will be identified when the provincial government establishes educational criteria.

During its province-wide consultations, the PTC was advised repeatedly of the importance of e-learning to the citizens of British Columbia, especially those in rural and remote areas. The PTC would further recommend that one of the research chairs be in the field of e-learning.

Spousal Employment

In our previous report, the PTC identified the need for a progressive immigration system that recognized the fact that most families today have more than one working member. In fact, recent changes in immigration laws in the United States now allow spouses of foreign workers to work there automatically. While we recognize that immigration is largely a federal issue, we believe that the provincial government should work aggressively with the federal government to make similar changes so that spouses of employees moving to British Columbia can also work here.

Increasing the Competitiveness of our Technology Companies

The number of technology companies and industry associations making presentations during the PTC's regional consultations indicated that there is an emerging and vibrant technology base growing outside the Lower Mainland. The PTC learned, for instance, that there are more than 168 technology companies in Prince George and the surrounding region. These companies have mainly developed products and services to meet the needs of the surrounding resource industries such as forestry and mining. Most of the regional technology companies provide services primarily to other companies within the region, but they all expressed a need both to gain access to outside markets and to have the opportunity to participate in technology industry marketing initiatives of British Columbia's technology industry. These companies would like to be included in the re-branding of British Columbia as a world-class technology centre.

The regions of British Columbia are proud of their growing technology sector but are concerned about how to attract and retain talent, innovation and economic activity in their communities. Technology companies throughout the province also expressed frustration with the provincial government's current technology procurement process, which in their view makes it extremely difficult for British Columbia-based companies to compete. As a result of the concerns raised during the consultation process, the task group believes that the government should make sure its efforts to rewrite procurement policy will provide increased opportunities for British Columbia's technology companies to compete more effectively. Rather than establishing preferential procurement policies, which have the potential to prompt retaliatory moves from the U.S. and other global markets, the task group believes government should consider such measures as:

- Establishing pre-qualified vendor lists,
- Encouraging more consortia-based bids,
- Putting in place accelerated payment processes for smaller projects and vendors,

- Developing a communications and training program for both ministries and suppliers to provide a user-friendly guide to procurement policy and processes in the province, and
- Avoiding specifications that preclude British Columbia firms from competing.

The PTC is working with the Procurement and Supply Services Division of the Ministry of Management Services to provide input into its current work on Procurement Reform. Both the Industry Task Group and the government's Procurement Division encourage all interested members of the British Columbia technology community to provide feedback to the Procurement Reform Discussion Paper that is currently being written. This paper discusses legislation and policies that will enable a competitive, accountable framework promoting fair and open procurement throughout British Columbia. Copies of the paper are available at www.pc.gov.bc.ca.

Feedback should be sent by email to PCSURVEY@gems4.gov.bc.ca and copied to the PTC at Premiers.TechnologyCouncil@gems8.gov.bc.ca

Venture Capital

During the past quarter, the Industry Growth task group investigated ways to attract more venture capital to the province, as well as to ensure a more efficient flow of capital into British Columbian technology ventures. The PTC believes that the current conditions offered to the sole Labour Sponsored Venture Capital Corporation (LSVCC) operating in British Columbia are unfair to existing Venture Capital Corporations (VCC) and discourage new entrants to the market, thereby limiting the ability to grow a dynamic venture capital community in this province.

While there is a general shortage of capital in British Columbia for technology companies, this situation is particularly acute for those needing early stage capital and support. Most venture capital firms in British Columbia are focused on later stage investments. To address the financing gap for seed capital, the task group has worked closely with government during its review of the *Small Business Venture Capital Act* (*SBVC Act*). The *SBVC Act* allows small businesses to lever 'seed' or 'early stage' private sector capital using provincial tax credits offered to resident investors. This program has resulted in a rapid payback to the Province and has contributed towards significant growth in the technology industry. The task group believes that this has been an extremely successful program and that expansion of this program should be encouraged.

Recommendations

Accelerating 'Early Stage' Technology Investment:

The provincial government should proceed promptly with the following streamlining amendments to the *SBVC Act* to address the need for early stage capital investment in technology companies:

- Expand the tax credit budget legislated under the *SBVC Act* from $50 million to $100 million annually.

- Introduce an investment model under the *SBVC Act* that does not require the registration of a separate VCC to facilitate investment and tax credits under the programs in order to allow direct investment, cut red tape and reduce program registration costs.

- Increase the total amount of capital one business may receive under the program (beyond the current $3 million) to better reflect the capital needs of many early stage technology companies.

- Increase the employee threshold limit for a small business from 75 to at least 150.

- Allow approval for common investment regimen, such as multi-tranche investments over multiple years based on attainment of established milestones.

Levelling the Playing Field for Tax Credit Investment in British Columbia:

The provincial government should enable small businesses and venture capital managers participating under the *SBVC Act* to raise and invest venture capital, with the assistance of tax credits, under the same conditions that are presently offered to the one Labour Sponsored Venture Capital Corporation (LSVCC) operating in British Columbia and other LSVCCs operating throughout Canada.

To achieve parity with labour sponsored funds, the task group recommends the following amendments be made to the *SBVC Act*:

- Allow program investors the option to invest directly from their self-directed Retirement Savings Plans.

- Make the tax credit incentives available for program investment within 60 days after the calendar year.

- Increase program flexibility in program capital investment beyond simple common or preferred shares.

- Provide VCC investors up to 24 months to complete investments.

- Open up the tax credits provided to the sole LSVCC to competition by allowing other venture capital firms to enter the market to create a more dynamic venture capital community.

Additional Recommendations:

The provincial government should take steps to create an e-learning chair.

The provincial government should work with the federal government to change immigration rules so that spouses of employees moving to British Columbia can work here automatically.

The provincial government should expedite its efforts to rewrite its Policy and Legislative Framework around Procurement Reform so as to result in more streamlined, flexible, and cost-effective processes for both government and the British Columbia supplier community, ensuring fair and open procurement throughout the province. The government should also develop procurement policies and educational programs for both ministries and the supplier community which will provide British Columbia-based technology companies with the tools and skills required to compete more effectively for government contracts.

Next Steps

Over the upcoming quarter, the task group intends to:

- Continue to work with the Ministry of Competition, Science and Enterprise as it completes amendments to the *Small Business Venture Capital Act.*

- Continue to work with the BC Securities Commission and industry members on the New Economy and Adoption of Technologies (NEAT) initiative currently underway. We are optimistic that this important initiative will result in streamlined securities regulations that will help the raising of capital by technology companies.

- Continue investigating the use of stock options and the taxation of resulting capital gains as vehicles for attracting talent to the technology industry and retaining these employees.

- Examine issues raised in the province-wide consultations regarding the key drivers for growing technology companies outside the Lower Mainland, including participating in the Symposium on IT Procurement Policy to be hosted by the PTC.

Marketing & Public Awareness Task Group Report

Mission

The mission of the Marketing & Public Awareness Task Group is to ensure that British Columbia will be globally recognized as one of the top ten global technology centres having a vibrant technology industry with globally recognized leaders, and a focused and coordinated program of brand marketing.

Highlights of First Report

The Marketing & Public Awareness Task Group seeks to find innovative ways to market British Columbia's vibrant technology community, better quality of life, superior infrastructure, first-rate education system and business-friendly environment. This marketing goal, aimed at both domestic and international markets, will attract financial and human investment capital and lead more technology companies to locate within the province.

The task group has also examined ways to create a welcoming and informative environment for potential investors. It has looked for ways to facilitate their investigation into investment opportunities, including providing information on all aspects of living in British Columbia, such as schools, health care and tax policies. As well, the task group sought ways to increase this awareness among specific groups, including technology investors, highly skilled workers and site-selection consultants, individuals charged with identifying preferred locations for new technology facilities.

The task group has worked to design and implement indicators to measure the province's success in achieving awareness among and within both domestic and external audiences and to relate the achievement of specific targets to investment and employment growth.

Second Report Activities

British Columbia must have an effective marketing and communications plan if it is to build a dynamic technology industry. The government must take essential marketing steps if it wishes to attract the investment and human resources necessary to sustain industrial growth. Investors, businesses and talented workers must become aware of the attractive environment British Columbia offers to live, work and play. They must also become aware of the strides British Columbia has taken to become business-friendly and technologically advanced.

To prepare for the PTC's second report, the Marketing and Awareness Task Group commissioned a comparative review of marketing and promotional initiatives and business models from other jurisdictions. It also reviewed the results of recent pilot trials conducted by Investment Partnerships Canada (IPC)[3] before implementing a full branding campaign for Canada. The IPC designed these trials to assess the attitudes of the technology investment communities in Dallas and Boston towards Canada, to determine Canada's visibility, and to provide recommendations on strategy and positioning for a branding campaign.

Branding to Support Marketing

The PTC acknowledges and supports the recent request for proposal (RFP) issued by the Ministry of Competition, Science and Enterprise for the development of a provincial branding and marketing strategy. The RFP calls for an overarching branding and marketing strategy that will serve as a platform for the Province's marketing and communications efforts. This ambitious initiative will provide a communications platform to support the marketing and awareness activities for a variety of industrial sectors in the province. Therefore, it will likely also serve the dual goal of attracting investment to all sectors of the economy and of maintaining the market in specific sectors, particularly forestry. Attracting new investment is of particular concern to the burgeoning technology industry. These efforts exist within a context in which the provincial government must take the lead role in creating the business environment that will give British Columbia its competitive edge. Industry's role is to achieve superior growth and performance within that business environment.

Successful jurisdictional marketing campaigns require leadership, partnership and credibility. Strong campaign leadership must articulate a clear and well-communicated vision and direction. Success also requires that the plan be believable, well received by the majority of the public and supported by the evidence of experience. In other words, the campaign must present British Columbia accurately. Therefore, buy-in from the domestic audience and the creation of practical partnerships between individual stakeholders and the community at large are essential. It also follows that the provincial government must make good on the promise of the campaign through its messaging.

A marketing strategy is supported by the presence of a positive brand or image. It can either leverage off an existing positive macro-image (brand) or, where a positive image does not yet exist, create a brand to support the marketing strategy. An interesting result of the IPC report was the finding that Canada already benefits from a generally positive macro-image, at least in the technology investment communities of the two US cities studied. In this study, the critical issue was not the lack of a positive Canadian image, but the lack of 'presence of

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[3] Investment Partnerships Canada. *Branding Canada For Investment Promotion: Boston and Dallas Pilots.* Unpublished Report, March 2001.

mind'. That is, when technology investors from the United States thought of Canada, their impression was generally positive; however, a surprising 49% just didn't think of Canada when investment decisions were being made. As a result, the IPC study recommended that, for Canada, it is more important to focus on increasing visibility than trying to create a new brand.

Because the IPC report focused on Canada's image, it might be argued that it would be useful to conduct a similar study that would focus specifically on British Columbia's macro-image. However, one would expect that the results would be similar for the province. The 'Super Natural' branding campaign is widely regarded as having very successfully positioned British Columbia as a land of scenic beauty and a highly desirable tourist destination with the implication of high quality of life. High quality of life is an image of central importance to the needs of a technology brand.

As noted above, credibility must be a central concern of the provincial marketing effort. The credibility of the 'Super Natural' image has been challenged over the past few years, particularly by environmental groups that have sought to undermine international markets by portraying British Columbia as a place where unsustainable resource extraction and environment practices are leading to environmental degradation. Clearly, the provincial effort to establish a strategy to support market retention for the resource sector must find a way of countering these images. The task group is of the opinion that one of the most powerful images we can project is of British Columbia as a world leader in the application of environmentally benign or enhancing technologies in all industry sectors. This image can be used to convey two important narratives: 1) that we are engaged in ecologically sustainable industrial practices, and 2) that we are world leaders in technology that enhances productivity.

Technology Industry Marketing Strategy

The results of the IPC study suggest that a marketing campaign works best when it is highly focused. Specifically, the effort should target those individuals charged with making decisions on investment, the location of new facilities, and prospective employees. To develop effective narratives for each target audience, the provincial marketing effort must first determine the positive and negative perceptions these audiences have towards British Columbia. For example, the IPC pilot indicated that American Information Technology and Biotech investors have a generally positive perception of Canada. The Canadian business climate, Canada's skilled labour pool and the 'just-like-us perception' of Canadians were all considered positive. The study also identified mildly negative perceptions of Canada as a small marketplace with a high tax environment.

The IPC study also recommended the use of high-profile tactics to re-position Canada because the Canadian macro-image was already good but presence-of-mind was low. The recent high-level Canadian delegation to the Davos meeting in New York serves as an example of how this finding has been applied.

Finally, the IPC study indicated that messaging should be focused on specific sectors and concentrate on the narrow range of information sources that decision-makers use.

Marketing Support Structure and Funding Model

Several jurisdictions have employed different models for sustaining jurisdictional marketing efforts. Silicon Valley, the Big Apple and the Celtic Tiger all have a well-established business cluster and a strong brand presence. These best-known jurisdictional brands have not been contrived by marketers but by third parties, usually the media. In general, once a brand has been claimed, derivatives – such as Silicon this or that – are far less effective.

In jurisdictions that do not have an acknowledged presence, government agencies or public-private partnerships have led and financed marketing efforts. Tourism BC is an example of such a partnership. In British Columbia, several agencies and organizations have embarked on formal or informal marketing activities that focus in whole or in part on technology. These organizations including regional economic development agencies under the Invest BC initiative, the Vancouver Economic Development Commission, the Vancouver Board of Trade, industrial sector representatives (mining, forestry, tourism and high technology), the Provincial and Federal governments, and others. The degree of interest and effort currently dedicated to this purpose is unprecedented. As a result, the opportunity for a viable public-private partnership is not only great but also necessary to avoid mixed messages and potential conflict in the marketplace.

The task group acknowledges that the solution to the issue of branding and marketing must be a made-in-BC solution. While we can learn from the experience of other jurisdictions, at the end of the day we are selling a unique product: British Columbia.

Recommendations

The PTC recommends that the provincial government:

- Develop a provincial branding and marketing strategy that feature technology and innovation as key drivers supporting British Columbia's image as a place with a sustainable and vibrant economy, including resource and knowledge-based industries, and an unparalleled quality of life.

- Develop a strong macro-image positioning British Columbia as a desirable technology destination for investors, employees and site selectors.

- Develop and execute its provincial branding strategy in consultation with the technology community.

- Target its technology industry marketing effort at key audiences that include decision-makers in technology investment and site selection as well as highly skilled workers.

- Focus its technology industry marketing strategy initially on four sectors known as areas of strength within the province: biotechnology, wireless, alternative energy and new media.

- Focus its marketing strategy to attract highly skilled workers or those individuals that may be predisposed to move to Canada such as expatriate Canadian and British Columbian technology workers and members of communities that are already represented in British Columbia.

Next Steps

The Marketing and Awareness Task Group believes that it has completed its task of assessing ways to market British Columbia so that it becomes globally recognized as a technology centre. For the next quarter, this task group will either be reassigned to a new task or will disband and its members will join other existing task groups.

Conclusion

The Premier's Technology Council has made considerable progress this past quarter. Most significantly, the PTC engaged in a series of consultation meetings in all regions of British Columbia. It also consulted with vendors and received many written submissions. The Council was extremely impressed with the well-considered and eloquent presentations by the more than 215 representatives of community groups, business, education, health, libraries, First Nations, the technology industry and other interested parties who attended these consultations. These consultations informed each task group's recommendations.

The Access and Opportunity Task Group identified the communities that have access to both broadband and public access sites. Through focused research and analysis, it has identified barriers to broadband access and devised workable strategies to expand broadband across the province – such as aggregating demand, making greater use of SPAN/BC, reforming procurement policies, and soliciting innovative ideas through an RFI – to overcome these barriers. It has encouraged government to find ways to meet its commitment to extend public access to all communities in British Columbia.

The Government Operations and Services Task Group worked closely with the Ministry of Health Services and Ministry of Health Planning to develop a series of recommendations that would establish a consolidated provincial strategy for health information management and information technology. These recommendations emphasize cooperation among Health Authorities, uniform standards and shared resource use.

The Industry Growth and Development Task Group focused on finding ways to improve the technology industry's access to capital and highly skilled workers. It presented a series of recommendations aimed at the *Small Business Venture Capital Act* to accelerate 'early stage' technology investment in British Columbia and to ensure a more efficient and equitable flow of capital into technology ventures in British Columbia.

The Marketing and Public Awareness Task Group's recommendations support the government's provincial branding initiative, but suggest that improving visibility is more important than creating a new brand. Any new brand devised should emphasize British Columbia's high quality of life, clean environment and its existing base of environmental industries.   This emphasis supports the image of British Columbia as a place with a sustainable, vibrant economy and an unparalleled quality of life.

During the consultation process, many technology companies throughout the province expressed frustration with the government's current procurement processes. Next quarter, the PTC intends to work closely with the Procurement

and Supply Services Division of the Ministry of Management Services to provide input into that group's current work to establish a policy and legislative framework for procurement reform in the province.

A major part of the PTC's work in the upcoming quarter will be to host a Symposium on IT Procurement Policy that will bring together both suppliers and representatives from government to discuss in an open and public forum issues surrounding the procurement process in British Columbia.

Appendix A: Consultations

Regional Meeting and Submission Participants

PRINCE GEORGE CONSULTATION

Anne Hogan, Administrator
Regional District of Fraser-Fort George

Lloyd Larsen, Partner
L & M Lumber, Nechako Lumber and Premium Pellet

Wendy Clement, Economic Development Officer
Communities Futures Development Corporation of Stuart Nechako

Darla Balogh, Assistant Community Development Officer
Community Futures Development Corporation of Nadina

Bob Allen, President
Bill May
ABC Communications / Open Source Solutions

Matt McGraw, Sales Director
Telus

Patrick Mann, Director - Computing and Telecommunications
Phil Ashman, Network Administrator
Max Blouw, Vice President - Research
Sharon Cochran, Vice President – Business and Administration
Toni Fletcher, Project Officer - Office of the Vice President, Research
Robin Fisher, Dean - College of Arts, Social & Health Science
Dr. Charles Jago, President
Dennis Macknak, Director - Regional Operations
Deborah Poff, Vice President - Academic and Provost
Shelley Rennick, Executive Assistant - President's Executive Council
Roger Wheate, Faculty - Geography
Lynda Williams, Project Manager-Centre for Teaching and Learning
University of Northern British Columbia

Kathy Lachman, Manager – Research, Communications and Special Projects
Prince George Development Corporation

Tim Thomas, Technology Business Analyst
Dawn Miller, Executive Director
Innovation Resource Centre

Ken Robertson, Administrator and E-Bus Principal
Nechako School Bus

Presentation of First Nation Issues:
Guy Hainstock
Prince George Native Friendship Centre
Robert Hogben
Prince George Native Friendship Centre
Bruce Allen
Carrier Sekina Family Services
Chris Thomas
Lheidli T'enneh
Ralph Wright
University of Northern British Columbia

Ed Graydon, President
Prince George Chamber of Commerce

Clayton Gray, President
Borealis Internet

Fausto Mauro, President and CEO
Tom Steadman, Advisor
Floating Rock.com

Michael Kerr, Industrial Technology Advisor
National Research Council – IRAP

Maggie Hutton, Industrial Technology Advisor
National Research Council – IRAP

Joseph Kiet Mendez, Chief Information Officer
Barry Cheal, Chief Operating Officer
Northern Interior Regional Health Board

Stephane Labonne, Executive Assistant
Bill Johnson, Supervisor – Computer Services
Kathleen Soltice, Director of Corporate Services
City of Prince George

Peter Thompson, Owner
Boatbuilding.com

Edel Toner-Rogala
Chief Librarian, Prince George Public Library
President, Prince George Freenet Association
Chair, Northern Capital Link Network

Pat Egan, Quality Assurance Manager / Marketing
Northern Steel

Clint Dahl, Co-Owner
Noratek Solutions

Doug McWilliams, Regional Manager
Shaw Cable

Don Wisenberg, Area Manager – Business
Market, Rural
Royal Bank of Canada

Bruce MacArthur, President
McGregor Group

Liard Irvine, Administrator
Village of McBride

Silvio Gislimberti, EDC Coordinator
Valemount Internet Society

Claire Green, President
French Canadian Club

Terry Weninger, President
College of New Caledonia

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Fort Nelson First Nations

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Dawson Creek Chamber of Commerce

Moira Green
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Arvo Koppel, System Administrator
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Jim Taylor
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Cole Bushe, Owner
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Bob Pavelich, Special Projects Coordinator
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Judy Amis
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Mark Stanistreet, Technology Systems
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Dan Gauvin, Advisory Board Coordinator
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Dan Arbeau, Owner
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Bev Hills, Communications Coordinator
Ktunaxa Kinbasket Tribal Council

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Castlegar and District Public Library

Deb Thomas, Chief Librarian
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nTouch Contact Centre Corporation

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Salmo CAP

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IP World Communications

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Everette Surgenor, Superintendent of Schools
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Steve Kennedy, Director, New Business
Monster, Vancouver, BC

John Kerr
Tatlayoko Think Tank,
Tatlayoko Lake, BC

Tony Marshall, Managing Director
Etonhall Computers, Chalkwell,
Essex, UK

Leslie Michaels, Account Manager
Bell Intrigna, Victoria, BC

Dave Steeves, President and CEO
Steeves & Associates, Vancouver, BC

Appendix B: Selected Quotes from Regional Consultations

The following selected quotes are a partial representation of the range and variety of comments made at regional consultation meetings.

Access and Opportunity: Network Infrastructure

Given the infrastructure, the people of the region will make things happen. We are communities of people that can be "resourceful", not only "resource-based".
Wendy Clement
Community Futures Development Corporation of Stuart/Nechako
Vanderhoof, BC

Rather than "build it and they will come", the phrase should be "as they grow, they will build it". The idea is to incubate and foster small regional companies. As a small company grows, its success will require the building of infrastructure. The important point with this approach is that government does not drive development of infrastructure but the economic success of the companies in a region will drive development.
Dan Cvitanovich
Wet Coast Internet Services
Duncan, BC

Education needs in the Nass are quite dramatic. For many reasons, the great majority of Nisga'a secondary students do poorly in mainstream educational institutions. The Nisga'a House of Knowledge has been customizing our instruction to the needs and culture with tremendous success. High speed Internet access, coupled with the use of video conferencing and electronic whiteboards would dramatically mitigate the demographic and geographic barriers to making the House of Learning's work more successful.
Darrell Roze
Wilp Wilxooskwhl Nisga'a (Nisga'a House of Learning)
New Aiyansh, BC

A long-term awareness and training strategy that exposes the Small and Medium-sized Enterprise (SME) community to the value associated with conducting both Business-to-Business and Business-to-Consumer e-commerce is necessary for future uptake of electronic business services.
Mary Jo O'Keefe
Community Futures Development Corporation
Vernon, BC

Issues and access to technology vary from region to region. British Columbia is not a flat floor. You can't roll out a program as you would roll out a carpet.
Edel Toner-Rogala
Prince George Public Library
Prince George, BC

Assembly First Nations Grand Chief Matthew Coon Come has said about aboriginal peoples, "We missed the Industrial Revolution. We will not miss the Information Technology Revolution". Other authors suggest the initiative to bridge the digital divide with the construction of a broadband or high-speed telecommunications network is like a new National Dream.
Bev Hills
Ktunaxa Kinbasket Tribal Council
Cranbrook, BC

The current analysis shows that the private sector alone will not solve the disparity in opportunities to IT and broadband access in BC. There is simply a lack of sufficient revenue and profit potential. In that situation government has an obligation to intervene.
Kell Petersen
Okanagan Institute for Strategic Development
Kelowna, BC

While it may seem at first glance that the relatively small populations may not justify the investment, I suggest that the rural populations of the Province will realize proportionately greater benefits by eliminating the constraints imposed by their remoteness and isolation.
Dan Pakula
Telegraph Trail Internet Society
Telegraph Creek, BC

The BC government has already proven itself as a wide-area network pioneer. As the first secure network in Canada connecting ministries and government offices across the entire province, SPAN/BC has served as a blueprint as other provinces seek to establish the same level of standardization and economies of scale.
Trevor Murphy
Myra Systems
Victoria, BC

Open infrastructure for the last mile would level the playing field and enable the small providers to compete. To this end, we support CMON's efforts to bring an alternative fibre backbone to the Columbia Basin. The mere mention of this seems to have spurred Telus to announce more widespread DSL access throughout the area.
Marty Hill
KBS Group
Fernie, BC

Recognize that letting the big guys duke it our over the provision of broadband access in urban areas will come at an expense to small communities. Recognize that promises by the big guys to provide future service to small communities is a mere "staking of territory" that will delay the delivery of services to these communities.
Arvo Koppel
Peace Region Internet Society
Dawson Creek, BC

We believe that the Corridors of Strength model is preferable to the other two models. It is an acknowledgement that long-haul networks and local access networks are different businesses with different users that require different solutions.
Pearse Walsh
Economic Development Commission Regional District of Central Okanagan
Kelowna, BC

The Corridors of Strength model is the least attractive model from a corporate point of view. For single subscribers there may be some benefit, but for the businesses that will be required to manage several locations, the bureaucracy will be high. Different suppliers equals different service providers, which means different billing systems, which in turn brings a major amount of bureaucracy to the systems support of business.
David Ball
KAL TIRE
Vernon, BC

Access and Opportunity: Public Access and Digital Literacy

We in the regions feel that not only are we underserved in terms of network infrastructure but that we are misunderstood -- and that our passion for our regions' future is underestimated.
Bruce Hardy
Kootenay Association for Science and Technology (KAST)
Nelson, BC

The Internet is a reality and part of some people's daily lives. In our First Nation community, this is not the case. It has been said that the Internet and computer technology is the way of the future. Our future is presently being limited by our limited access to the Internet and the required infrastructure.
Liz Logan
Fort Nelson First Nation
Fort Nelson, BC

Libraries are cost-effective ways of delivering the promise of technology to many at a very low cost. Providing information sources through consortia lessens the cost for individual libraries. Fund what works – libraries work!
Ed Curell
Terrace Public Library
Terrace, BC

The government of BC could take a leadership role in recognizing that public libraries and community access sites are assisting governments with delivering citizen-centred services. Public libraries and community access sites provide access and in the case of public libraries, direct assistance in navigating the maze of government material online. Compensate public libraries for doing this work.
Edel Toner-Rogala
Prince George Public Library
Prince George, BC

Government Operations & Services

Many people, after retirement, move to Osoyoos and hope to remain there. However, the drawback for many is that the closest hospital is 30 – 45 minutes away. If e-health were implemented in clinics, we would be able to get x-ray analyses and lab results transmitted with ease.
John Brugman
Osoyoos Business and Community Development Centre
Osoyoos, BC

Now more than ever, this area needs an advanced communication and information technology strategy to foster regional cooperation and innovativeness, to provide a framework that focuses on the unique qualities of our healthcare system, and to decrease inherent challenges faced by remote areas within the Interior Health Authority. The design of an integrated healthcare system that meets these challenges will enable the Interior Health care provider to deliver "smart care" which means that the most appropriate care will be provided by informed healthcare professionals in a timely and cost-effective manner.
Margarita Loyola
Interior Health Authority
Trail, BC

If e-government is pursued, the government will need to balance opportunities for residents to give money with opportunities for government to give service.
Edel Toner-Rogala
Prince George Public Library
Prince George, BC

Industry Growth and Development

Distance education has an enormous potential to increase access to education and training – especially in rural and small town BC.
Adrian Kershaw
University College of the Cariboo
Kamloops, BC

Many companies, high tech and otherwise, are poised to expand. Client lists, technical capacity and business savvy have brought them to the point where they are ready to grow – something which cannot be done if qualified employees can not be found locally or enticed to the community.
Maggie Hutton
National Research Council, IRAP
Prince George, BC

We need to eat our own dog food. The BC Government needs to use, invest in and promote built-in BC technologies.
Dave Harestad
eOptimize Inc.
Kamloops, BC

It has been my experience that the single most limiting factor to innovation and development of software is the lack of access to patient risk capital. For the small, high-tech company there is no reasonably affordable source of risk capital outside of our own personal assets and finances. Banks require financing based upon "solid, virtually risk-free" assets. Venture capital is expensive and difficult to acquire for companies outside the lower mainland.
Don Reimer
D.R. Systems
Nanaimo, BC

To create a more investment-friendly environment, we need to go further to facilitate investment by small investors in small business. Small companies quite often become large companies and small investors can become large investors.
Dave Harestad
eOptimize Inc.
Kamloops, BC

Marketing and Public Awareness

The Canadian media and press have not always shown interest in technology-based companies in the northern parts of the province. Many well-known technology based companies in the lower mainland have been promoted and profited in the media but my experience has been that getting the media to look at the North is next to impossible. This media attention/exposure is critical for many technology-based companies. Getting exposure in the US is great for business but it is frustrating to run a company in BC that is technology based and breaking new ground … and not received any interest by the Canadian media.
Gordon Currie
Eldoren Consulting
Dawson Creek, BC

Appendix C: Broadband Coverage in British Columbia

Communities in British Columbia
with either a School, Healthcare Facility or Library

Legend

Blue   Locations of 361 communities with either
        a school, hospital or library.

Broadband Coverage in British Columbia

Legend

🟡 Yellow — Communities with broadband services (Cable, DSL and/or Wireless) available today

⚪ White — Communities with broadband services (Cable, DSL and/or Wireless) scheduled within 12 months

🔴 Red — Communities without broadband
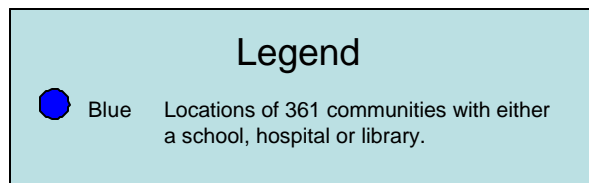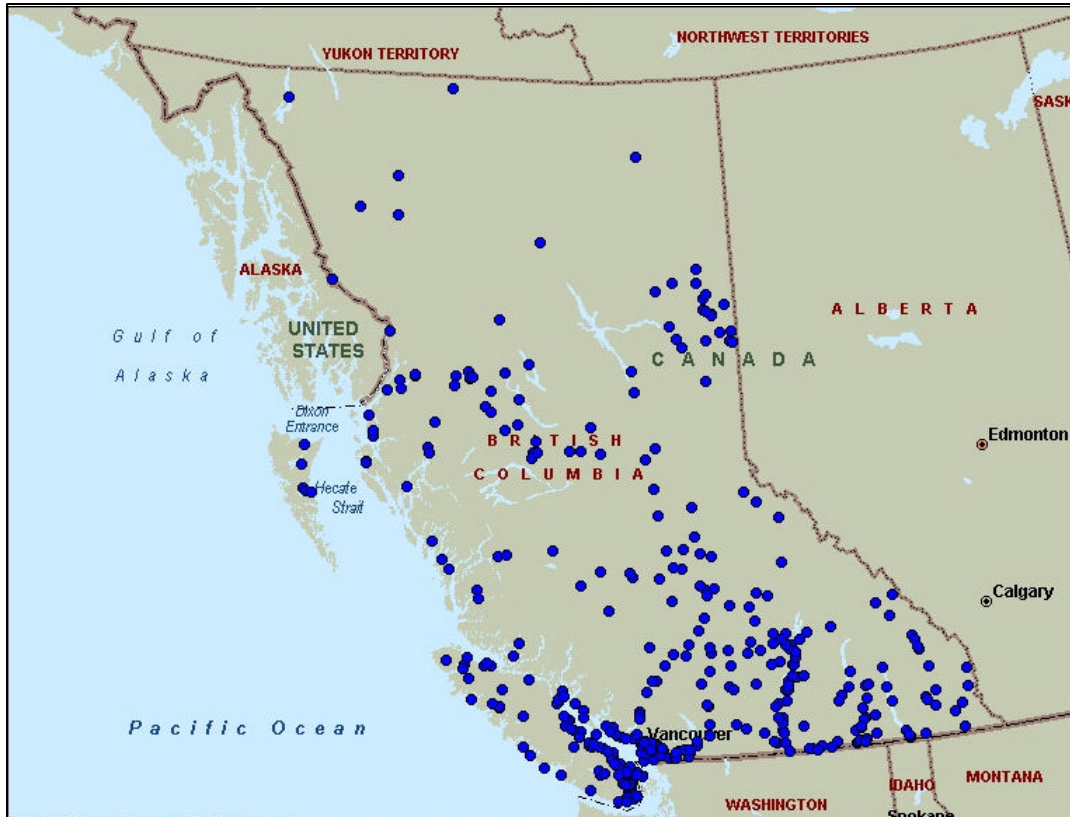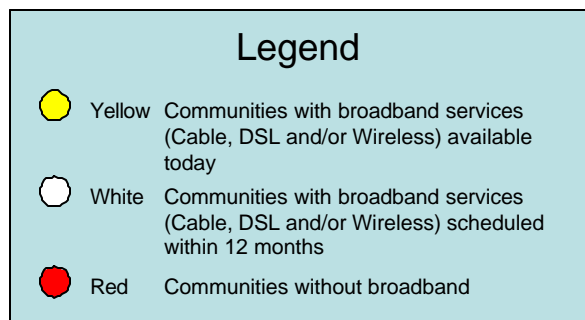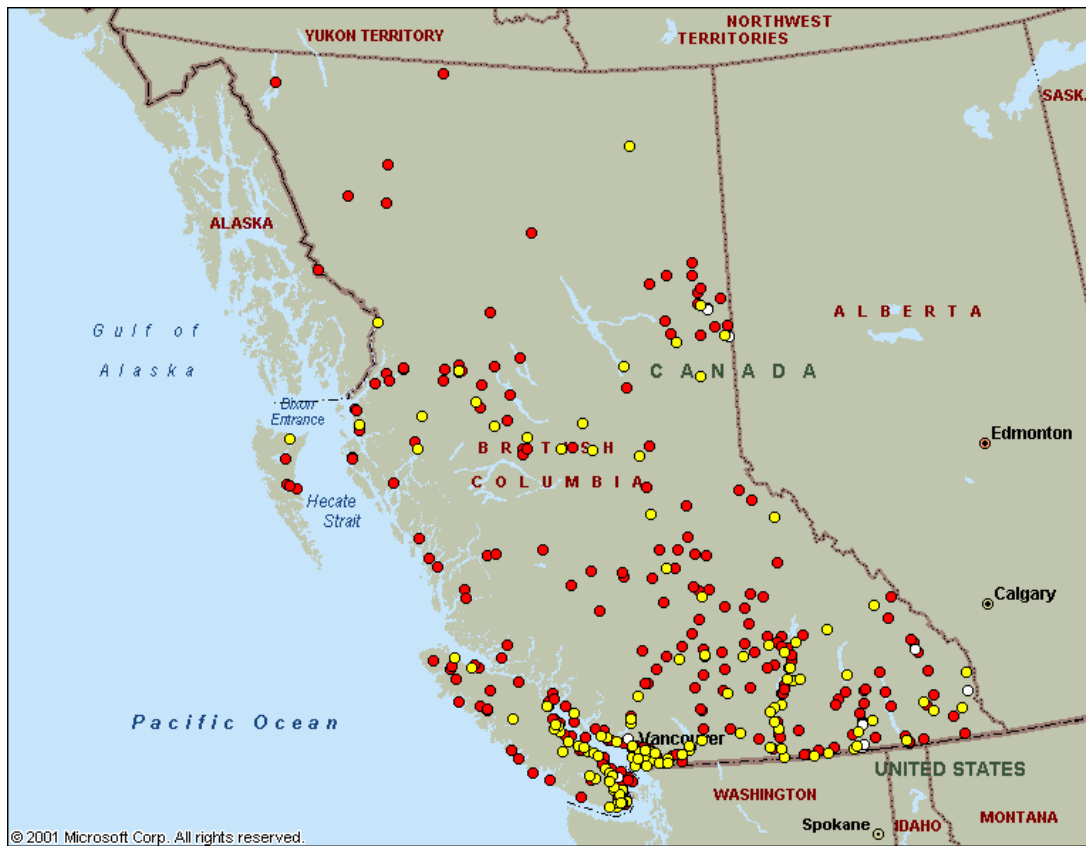
British Columbia Communities and the Digital Divide - Gap Analysis

Introduction

The data in this table is an update of the work in Appendix B of the PTC's first quarterly report, dated November 22, 2001. The data has been assembled from marketing data solicited from, and provided by, competitive businesses in British Columbia.   The PTC acknowledges this assistance but wishes to state that the quality of this data is dependent on the accuracy of the information received by the PTC analysis team.

The PTC's first quarterly report dealt only with the province's 155 incorporated communities. The PTC's definition of community includes 361 communities in the province with a public school, health care facility, or library. This table has been adjusted to reflect broadband (1.5 Mbps) service availability to these 361 communities.

Explanations of the column labels follow the table. The elements in each cell of the table represent either a "yes" (1) or "no" (0). At the bottom of each column, the totals represent the number of communities with the respective service (yes).

BC Digital Divide - Gap Analysis								

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
70 Mile House	311	0	0	0	0	0	1	1
100 Mile House	1739	0	1	0	1	1	1	0
108 Mile Ranch	2441	0	0	0	0	0	1	1
150 Mile House	1142	0	0	0	0	0	1	1
Abbotsford	115463	1	0	1	0	1	1	0
Adams Lake	141	0	0	0	0	0	0	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Agassiz	INCL	0	0	1	0	0	1	0
Ahousat	51	0	0	0	0	0	1	1
Aldergrove	INCL	1	0	1	0	0	1	0
Alert Bay	583	0	0	0	0	0	1	1
Alexis Creek	162	0	0	0	0	0	1	1
Anahim Lake	163	0	0	0	0	0	1	1
Anmore	1344	1	0	1	0	0	1	0
Armstrong	4256	1	0	1	0	0	1	0
Ashcroft	1788	0	0	1	0	0	1	0
Atlin	300	0	0	0	0	0	1	1
Baldonnel	644	0	0	0	0	0	1	1
Bamfield	245	0	0	0	0	0	1	1
Barriere	767	0	0	0	0	0	1	1
Bear Lake	227	0	0	0	0	0	1	1
Beaverdell	206	0	0	0	0	0	1	1
Belcarra	682	1	0	1	0	0	0	0
Bella Bella	254	0	0	0	0	0	1	1
Bella Coola	167	0	0	0	0	0	1	1
Big Lake (Ranch)	337	0	0	0	0	0	1	1
Black Creek	933	0	0	0	0	0	1	1
Blue River	278	0	0	0	0	0	1	1
Boston Bar	233	0	0	0	0	0	1	1
Bowen Island	3335	0	0	1	0	0	1	0
Bowser		0	0	1	0	0	1	0
Brackendale	1073	0	0	1	0	0	1	0
Brentwood Bay	INCL	0	0	1	0	0	1	0
Bridge Lake	298	0	0	0	0	0	1	1
Buick Creek	58	0	0	0	0	0	1	1
Burnaby	193954	1	0	1	0	0	1	0
Burns Lake	1942	0	1	0	0	1	1	0
Burton	167	0	0	0	0	0	1	1
Cache Creek	1056	0	0	0	0	0	1	1
Campbell River	28456	1	0	1	0	0	1	0

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Canal Flats	709	0	0	0	0	0	1	1
Canoe	779	0	0	0	0	0	1	1
Cape Mudge	189	0	0	0	0	0	0	1
Cassidy	978	0	0	0	0	0	1	1
Castlegar	7002	1	0	1	0	0	1	0
Cawston	1013	0	0	0	0	0	1	1
Cedar	4440	0	1	1	0	0	1	0
Celista	461	0	0	0	0	0	1	1
Central Saanich (DM)	15348	1	0	1	0	0	1	0
Charlie Lake	1727	0	0	0	0	0	1	1
Chase	2460	0	0	1	0	0	1	0
Chemainus	INCL	0	1	1	0	0	1	0
Chetwynd	2591	0	0	0	0	1	1	0
Chilanko Forks	65	0	0	0	0	0	0	1
Chilliwack	62927	1	0	1	0	0	1	0
Christina Lake	1035	0	0	1	0	0	1	0
Clearbrook	INCL	1	0	0	0	0	1	0
Clearview		0	0	0	0	0	1	1
Clearwater	1015	0	0	0	0	0	1	1
Clinton	718	0	0	0	0	0	1	1
Coal Harbour	215	0	0	0	0	0	1	1
Cobble Hill	1753	1	0	1	0	0	1	0
Coldstream	9106	0	1	1	0	0	1	0
Colwood	13745	1	0	1	0	0	1	0
Comox	1172	1	0	1	0	0	1	0
Coombs	1372	0	0	1	0	0	1	0
Coquitlam	112890	1	0	1	0	0	1	0
Courtenay	18304	1	0	1	0	0	1	0
Cranbrook	18476	1	0	1	0	1	1	0
Crawford Bay	328	0	0	0	0	0	1	1
Crescent Valley	675	0	0	0	1	0	1	0
Creston	4795	1	0	1	0	0	1	0
Crofton	723	0	0	1	0	0	1	0

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Cultus Lake	637	0	0	0	0	0	1	1
Cumberland	2618	0	0	1	0	0	1	0
Danskin	219	0	0	0	0	0	0	1
D'Arcy	153	0	0	0	0	0	1	1
Dawson Creek	10754	1	0	0	1	1	1	0
Dease Lake	318	0	0	0	0	0	1	1
Delta	96950	1	0	1	0	0	1	0
Denman Island	1048	0	0	0	0	0	1	1
Deroche	149	0	0	0	0	0	1	1
Dewdney	589	0	0	0	1	0	1	0
Dog Creek	1739	0	0	0	0	0	1	1
Dolphin Island	655	0	0	0	0	0	1	1
Douglas Lake 3	171	0	0	0	0	0	0	1
Duncan	4699	1	0	1	0	1	1	0
Dunster	424	0	0	0	0	0	1	1
Edgewater	369	0	0	0	0	0	1	1
Edgewood	160	0	0	0	0	0	1	1
Elkford	2589	0	0	0	0	1	1	0
Enderby	2818	0	0	0	0	0	1	1
Erickson	934	0	0	0	0	0	1	1
Errington	2122	0	0	0	0	0	1	1
Esquimalt	16127	1	0	1	0	0	1	0
Falkland	747	0	0	1	0	0	1	0
Farmington	445	0	0	0	0	0	1	1
Fauquier	219	0	0	0	0	0	1	1
Fernie	4611	0	1	1	0	0	1	0
Field	449	0	0	0	0	0	1	1
Forest Grove	371	0	0	0	0	0	1	1
Fort Babine	215	0	0	0	0	0	0	1
Fort Fraser	308	0	0	0	0	0	1	1
Fort Nelson	4188	1	0	0	0	0	1	0
Fort St. James	1927	0	0	0	0	1	1	0
Fort St. John	16034	1	0	0	1	1	1	0

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Fort Ware 1	215	0	0	0	0	0	0	1
Francois Lake	284	0	0	0	0	0	1	1
Fraser Lake	1268	0	0	0	0	1	1	0
Fruitvale	2025	0	0	0	1	0	1	0
Gabriola Island	3522	0	0	1	0	0	1	0
Galiano Island	1071	0	0	0	0	0	1	1
Ganges	INCL	0	1	0	0	0	1	0
Garibaldi Highlands	1302	0	0	0	0	0	1	1
Genelle	823	0	0	1	0	0	1	0
Gibsons	3906	0	1	1	0	0	1	0
Gilford Island		0	0	0	0	0	1	1
Gitwinksihlkw	212	0	0	0	0	0	1	1
Gold Bridge	223	0	0	0	0	0	1	1
Gold River	1359	0	0	1	0	0	1	0
Golden	1020	0	1	1	0	1	1	0
Grand Forks	4054	1	0	1	0	1	1	0
Granisle	353	0	0	0	0	0	1	1
Grasmere	184	0	0	0	0	0	1	1
Grassy Plains	218	0	0	0	0	0	1	1
Greenville	242	0	0	0	0	0	1	1
Greenwood	666	0	0	1	0	0	1	0
Grindrod	1419	0	0	0	0	0	1	1
Groundbirch	440	0	0	0	0	0	1	1
Hagensborg	279	0	0	0	0	0	1	1
Halfmoon Bay	358	0	0	1	0	0	1	0
Hanceville	112	0	0	0	0	0	0	1
Harrison Hot Springs	1343	0	0	1	0	0	1	0
Hartley Bay	162	0	0	0	0	0	1	1
Hazelton	345	0	1	0	0	1	1	0
Hedley	272	0	0	0	0	0	1	1
Heffley Creek	535	0	0	0	0	0	1	1
Highlands	1674	0	0	1	0	0	1	0
Hixon	264	0	0	0	0	0	1	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Holberg	39	0	0	0	0	0	1	1
Honeymoon Bay	629	0	0	1	0	0	1	0
Hope	6184	1	0	0	0	0	1	0
Hornby Island	966	0	0	0	0	0	1	1
Horsefly	238	0	0	0	0	0	1	1
Houston	3577	0	0	0	0	1	1	0
Hudson's Hope	1039	0	0	0	0	0	1	1
Invermere	2858	0	1	0	0	0	1	0
Ioco - GVRD	807	0	0	0	0	0	1	1
Iskut	88	0	0	0	0	0	0	1
Jaffray	498	0	0	0	0	0	1	1
Kaleden	1269	0	0	0	0	0	1	1
Kamloops	77281	1	0	1	0	1	1	0
Kaslo	1032	0	0	0	0	0	1	1
Kelowna	96288	1	0	1	0	0	1	0
Kent	4926	0	0	1	0	0	1	0
Keremeos	1197	0	0	0	0	1	1	0
Kettle Valley	98	0	0	0	0	0	1	1
Kimberley	6484	0	1	0	0	1	1	0
Kincolith	339	0	0	0	0	0	1	1
Kingcome Inlet		0	0	0	0	0	0	1
Kispiox 1	651	0	0	0	0	0	0	1
Kitimat	10285	1	0	0	0	0	1	0
Kitamaat Village	283	0	0	0	0	0	0	1
Kitkatla		0	0	0	0	0	1	1
Kitwancool		0	0	0	0	0	0	1
Kitwanga	426	0	0	0	0	0	1	1
Klemtu	295	0	0	0	0	0	0	1
Kuper Island 7	302	0	0	0	0	0	0	1
Kyuquot	160	0	0	0	0	0	1	1
Lac La Hache	396	0	0	0	0	0	1	1
Ladysmith	6587	0	1	1	0	0	1	0
Lake Country	9267	0	0	0	0	0	1	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Lake Cowichan	2827	0	1	1	0	0	1	0
Langford	18840	0	0	1	0	0	1	0
Langley	23643	1	0	1	0	0	1	0
Langley (Fort)	86896	1	0	1	0	0	1	0
Lantzville	3643	0	0	1	0	0	1	0
Lasqueti Island	367	0	0	0	0	0	1	1
Laxgalts'ap		0	0	0	0	0	1	1
Lax Kw'alaams	212	0	0	0	0	0	1	1
Lazo	795	0	0	0	0	0	1	1
Likely	439	0	0	0	0	0	1	1
Lillooet	2741	0	1	0	0	1	1	0
Lions Bay	1379	0	1	0	0	0	1	0
Lister	84	0	0	0	0	0	1	1
Little Fort		0	0	0	0	0	1	1
Logan Lake	2185	0	0	0	0	0	1	1
Lower Nicola	859	0	0	0	0	0	1	1
Lower Post	28	0	0	0	0	0	1	1
Lumby	1618	0	0	1	0	1	1	0
Lund	265	0	0	0	0	0	1	1
Lytton	319	0	0	0	0	0	1	1
Mackenzie	5206	0	1	1	0	0	1	0
Madeira Park	540	0	0	1	0	0	1	0
Malakwa	649	0	0	0	0	0	1	1
Mansons Landing	134	0	0	0	0	0	1	1
Maple Ridge	63169	1	0	1	0	1	1	0
Marysville	1291	0	0	0	0	0	1	1
Masset	926	0	0	1	0	0	1	0
Mayne Island	880	0	0	0	0	0	1	1
McBride	711	0	0	0	0	0	1	1
McLeese Lake	261	0	0	0	0	0	1	1
Mcleod Lake	69	0	0	0	0	0	1	1
Meadow Creek	318	0	0	0	0	0	1	1
Merritt	7088	1	0	0	0	1	1	0

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Merville	2069	0	0	0	0	0	0	1
Metchosin	4857	0	0	1	0	0	1	0
Midway	638	0	0	0	0	0	1	1
Mill Bay	1974	0	0	1	0	0	1	0
Mission	31272	1	0	1	0	0	1	0
Moberly Lake	238	0	0	0	0	0	1	1
Montney	551	0	0	0	0	0	0	1
Montrose	1153	0	0	0	1	0	1	0
Moricetown 2	159	0	0	0	0	0	0	1
Mount Currie	1054	0	0	0	0	0	0	1
Mount Lehman	INCL	0	0	0	0	0	1	1
Nakusp	1698	0	0	0	0	1	1	0
Nanaimo	73000	1	0	1	0	1	1	0
Nanoose Bay	4723	0	0	1	0	0	1	0
Naramata	1791	0	0	1	0	0	1	0
Nelson	9298	1	0	1	0	0	1	0
Nemaiah Valley	46	0	0	0	0	0	1	1
New Aiyansh	716	0	0	0	0	0	1	1
New Denver	538	0	0	0	0	0	1	1
New Hazelton	750	0	0	0	0	0	1	1
New Westminster	54656	1	0	1	0	0	1	0
North Bend	150	0	0	0	0	0	1	1
North Cowichan	26148	0	0	1	0	0	1	0
North Saanich (DM)	10436	1	0	1	0	0	1	0
North Vancouver (DM)	82310	1	0	1	0	0	1	0
North Vancouver (C)	44303	1	0	1	0	0	1	0
Oak Bay	17798	1	0	1	0	0	1	0
Okanagan Centre	1094	0	0	0	0	0	1	1
Okanagan Falls	1971	0	0	0	0	0	1	1
Oliver	4224	0	1	0	0	1	1	0
Osoyoos	4295	0	1	0	0	1	1	0
Oweekeno	96	0	0	0	0	0	1	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Oyama	739	0	0	0	0	0	1	1
Parksville	10323	1	0	1	0	1	1	0
Parson	251	0	0	0	0	0	1	1
Pavillion	109	0	0	0	0	0	1	1
Peachland	4654	0	0	1	0	0	1	0
Pemberton	1637	0	0	0	0	0	1	1
Pender Island	1776	0	0	0	0	0	1	1
Penticton	30985	1	0	1	0	0	1	0
Pinantan Lake	868	0	0	0	0	0	1	1
Pitt Meadows	14670	1	0	1	0	0	1	0
Port Alberni	17743	1	0	1	0	0	1	0
Port Alice	1126	0	0	0	0	0	1	1
Port Clements	516	0	0	0	0	0	1	1
Port Coquitlam	51257	1	0	1	0	0	1	0
Port Edward	659	0	0	0	0	0	1	1
Port Hardy	4574	0	1	1	0	0	1	0
Port McNeill	2821	0	1	0	0	1	1	0
Port Moody	23816	1	0	1	0	0	1	0
Port Renfrew	161	0	0	0	0	0	1	1
Port Simpson	26	0	0	0	0	0	1	1
Pouce Coupe	833	0	0	0	1	0	1	0
Powell River	12983	0	1	1	0	1	1	0
Prespatou	260	0	0	0	0	0	1	1
Prince George	72406	1	0	1	0	1	1	0
Prince Rupert	14643	1	0	0	0	1	1	0
Princeton	2610	0	0	1	0	0	1	0
Qualicum Beach	6921	0	1	1	0	0	1	0
Quathiaski Cove	409	0	0	0	0	0	1	1
Quatsino	85	0	0	0	0	0	1	1
Queen Charlotte City	119	0	0	0	0	0	1	1
Quesnel	10044	1	0	1	0	1	1	0
Radium Hot Springs	583	0	0	0	0	0	1	1
Read Island	65	0	0	0	0	0	1	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Revelstoke	7500	1	0	1	0	0	1	0
Richmond	16435	1	0	1	0	0	1	0
Riske Creek	128	0	0	0	0	0	1	1
Rivers Inlet	42	0	0	0	0	0	1	1
Roberts Creek	3080	0	0	0	0	0	1	1
Robson	1654	0	0	1	0	0	1	0
Rock Creek	324	0	0	1	0	0	1	0
Rolla	125	0	0	0	0	0	1	1
Rossland	3646	1	0	0	1	0	1	0
Royston	1699	0	0	1	0	0	1	0
Saanich	103654	1	0	1	0	0	1	0
Saanichton	INCL	0	0	1	0	0	1	0
Salmo	1120	0	0	0	0	0	1	1
Salmon Arm	15210	1	0	1	0	1	1	0
Salt Spring Island	9349	0	0	0	0	0	1	1
Sandspit	435	0	0	0	0	0	1	1
Sardis	INCL	1	0	1	0	0	1	0
Saturna Island	319	0	0	0	0	0	1	1
Savona	804	0	0	0	0	0	1	1
Sayward	379	0	0	0	0	0	1	1
Sechelt	7775	0	1	1	0	0	1	0
Sechelt Ind Gov Dist	35	0	1	1	0	0	0	0
Shalalth	113	0	0	0	0	0	1	1
Shawnigan Lake	4608	0	1	1	0	0	1	0
Sicamous	2720	0	0	1	0	0	1	0
Sidney	10929	1	0	1	0	0	1	0
Silverton	222	0	0	0	0	0	0	1
Skidegate	181	0	0	0	0	0	1	1
Slocan	337	0	0	0	0	0	1	1
Smithers	5414	1	0	0	0	1	1	0
Sointula	646	0	0	0	0	0	1	1
Sooke	9662	1	0	1	0	0	1	0
Sorrento	1197	0	0	0	0	0	1	1

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
South Hazelton	499	0	0	0	0	0	1	1
South Slocan	675	0	0	0	0	0	1	1
Spallumcheen	5134	0	0	0	0	0	0	1
Sparwood	3812	0	1	0	0	0	1	0
Spences Bridge	460	0	0	0	0	0	1	1
Squamish	14247	1	0	1	0	0	1	0
Stewart	661	0	0	0	0	1	1	0
Summerland	10713	1	0	1	0	1	1	0
Surrey	347825	1	0	1	0	0	1	0
Tahsis	600	0	0	0	0	0	1	1
Tahsis River		0	0	0	0	0	1	1
Takla Landing	40	0	0	0	0	0	0	1
Tappen	788	0	0	0	0	0	1	1
Tatla Lake	147	0	0	0	0	0	1	1
Taylor	1143	0	0	0	1	0	1	0
Telegraph Creek	88	0	0	0	0	0	1	1
Telkwa	1417	0	0	0	0	0	1	1
Terrace	12109	1	0	0	0	1	1	0
Thetis Lake	349	0	0	0	0	0	1	1
Tofino	1466	0	0	0	0	0	1	1
Topley	116	0	0	0	0	0	1	1
Trail	7575	1	0	1	0	1	1	0
Tsawwassen	474	1	0	1	0	0	0	0
Tulameen	223	0	0	0	0	0	1	1
Tumbler Ridge	1851	0	0	0	0	1	1	0
Ucluelet	1559	0	0	0	0	0	1	1
Union Bay	1167	0	0	1	0	0	1	0
Upper Halfway	412	0	0	0	0	0	1	1
Upper Pine		0	0	0	0	0	1	1
Valemount	1195	0	0	0	0	1	1	0
Vananda	338	0	0	0	0	0	1	1
Vancouver (C)	545671	1	0	1	0	0	1	0
Vanderhoof	4390	0	1	0	0	1	1	0

Communities	Population	DSL Service Available now.	DSL Service Within 12 Months.	Cable-Based Service Available now.	Cable-Based Service Within 12 Months.	Wireless Service Available now.	SPAN/BC POP (School present).	Communities Lacking Broadband Services.
Vavenby	518	0	0	0	0	0	1	1
Vernon	33494	1	0	1	0	1	1	0
Victoria (C)	74125	1	0	1	0	1	1	0
View Royal	7271	0	1	1	0	0	1	0
Waglisla	128	0	0	0	0	0	0	1
Warfield	1739	0	0	0	1	0	1	0
Wasa	259	0	0	0	0	0	1	1
Wells	265	0	0	0	0	0	1	1
West Vancouver	41421	1	0	1	0	1	1	0
Westbank	15700	1	0	1	0	0	1	0
Westwold	362	0	0	0	0	0	1	1
Whistler	8896	1	0	1	0	0	1	0
White Rock	18250	1	0	1	0	0	1	0
Williams Lake	11153	1	0	1	0	1	1	0
Willow River	197	0	0	0	0	0	1	1
Wilson Creek	904	0	0	0	0	0	1	1
Windermere	1060	0	0	0	0	0	1	1
Winfield	259	1	0	0	0	0	1	0
Winlaw	273	0	0	0	0	0	1	1
Wonowon	391	0	0	0	0	0	1	1
Woss	349	0	0	0	0	0	1	1
Wynndel	591	0	0	0	0	0	1	1
Yahk	168	0	0	0	0	0	1	1
Yale	171	0	0	0	0	0	1	1
Youbou	955	0	0	1	0	0	1	0
Zeballos	224	0	0	0	0	0	1	1
TOTALS: 361	**3391388**	**74**	**29**	**118**	**11**	**45**	**335**	**201**

Column Label Descriptions

Community

- Any location in British Columbia with both a place name and a public school, library or health care facility. A school includes provincially and federally (First Nations) funded schools.

- The community names and the population figures shown follow standard geographic classifications (SGC) and population definitions. For example:

    o Vancouver (C) is the 'City of Vancouver' (e.g. not including surrounding municipalities such as Burnaby, Surrey, etc.).

    o Some place names are duplicated (e.g. North Vancouver), where there is both a city (C) and a District Municipality (DM).

    o Some smaller communities are contained within larger municipalities (e.g. Saanichton is located within the Saanich DM boundary). Other examples would be Yarrow, located within Chilliwack, and Ladner, located within Delta.

- With respect to these communities that are contained within another municipality, the extent of broadband service has not yet been determined, and does not yet appear in the table. It is expected these broadband services will be determined before the next report is published.

Population

- The population figures shown were drawn from data provided by BCStats. These are readily available for all Incorporated municipalities (2001 Census of Canada), which taken together, account for over 87% of total population of British Columbia. Determination of population for the remaining (unincorporated) communities is less easily obtained. Where available, this population was derived from Dissemination Area totals from the 2001 census, which implies both the area and population maybe greater than the indicated community. Designated Places, which by definition are not incorporated municipalities but have been defined using local knowledge of the area and the contained population was also identified based on the 2001 Census. In some cases, where data was not available, cells were left blank, which is NOT to be viewed as meaning zero population. To help clarify this anomaly, the table indicates places where the population count has been included within another larger municipality with 'INCL'. The PTC considers this gap analysis as work-in-progress and expects to steadily improve the quantification of population served with broadband services for the next report.

DSL service Available Now

- A '1', indicates one, or more, suppliers offer service.

DSL Service Within 12 Months

- A '1' indicates DSL service is scheduled within the next 12 months.

Cable-Based Service Available Now

- A '1' indicates that one, or more, cable companies offer service.

Cable-Based Service Within 12 Months

- A '1' indicates cable-based service scheduled within the next 12 months.

Wireless Service Available now

- A '1' indicates availability of wireless services now.

SPAN/BC POP (School present)

- A '1' in this column indicates that the community already has a school attached to the Provincial Learning Network, and therefore also to SPAN/BC. There are 26 exceptions. Although considered school sites for the purposes of this gap analysis, federally supported schools on Native Reserves are not presently connected to the PLNet. These locations are nonetheless valid candidates for communications POPs for broadband deployment.

Communities Lacking Broadband Services

- This column shows communities that have currently no broadband service and are not scheduled to receive service in the next 12 months. The communities listed in this column represent the Digital Divide in British Columbia.

Appendix D: Public Access Sites in British Columbia

The information in this table relates to sites created by the federal Community Access Program (CAP) and those located in public libraries. (Note: some libraries are CAP sites and have not been counted twice). The table does not take into account public access sites that may exist throughout the Province in places such as Internet cafes, community centres, town halls, general stores, etc., unless they are CAP sites.

Location	Number of Communities	Total Sites	Public Access Types					
			Library	School	College	Community Centre	First Nation	Other
Urban	19 (5%)	562 (49%)	67 (12%)	330 (59%)	0 (0%)	143 (25%)	15 (3%)	7 (1%)
Rural	342 (95%)	583 (51%)	164 (28%)	161 (28%)	5 (1%)	133 (23%)	78 (13%)	42 (7%)
Total	**361**	**1,145**	**231**	**491**	**5**	**276**	**93**	**49**

Appendix E: Profiles of e-Government Services

To illustrate the extent of planning that has occurred in some parts of government, the PTC would like to profile two services: BC Bid and the Enterprise Portal.

BC Bid

During the PTC's consultations throughout the province, a number of companies described difficulties in bidding on government contracts, as well as lengthy delays in receiving payment. The PTC has found that the provincial government is aware of these and many other shortcomings and has undertaken an aggressive program to address them.

BC Bid is an ambitious BC public sector procurement project, with a target implementation date of June 2002 for Phase I. Among other things, BC Bid will be used to:

- Provide fair and open access to the bid opportunities of both ministries and other funded public bodies;
- Provide a one-stop location for all BC public sector bid opportunities;
- Enable suppliers to provide on-line quotes and proposals;
- Provide templates for preparing solicitations and subsequent amendments;
- Enable public sector buyers to evaluate quotes and issue awards; and
- Provide notification of bid opportunities to registered suppliers according to their preferences.

BC Bid benefits will include:

- Increased efficiencies and savings in the procurement process and the cost of goods, services, and construction;
- Increased access and streamlined processes for suppliers;
- Supports implementation of shared procurement services;
- Enhanced strategic procurement, with buying power aggregated across a wider base; and
- Flexibility for supporting various business models and systems throughout the BC public sector.

BC Bid will be integrating with other technology and business solutions being deployed in government such as:

- **Enterprise Portal**: a single gateway for public, suppliers and government employees with a common look and feel, security and authentication;
- **Integration Broker:** a common method for interfacing and sharing information between systems; and
- **Procure-to-Pay:** an initiative to streamline all business processes through the complete purchase order to payment cycle.

Enterprise Portal

Simplified Public Access

The Enterprise Portal will provide a single on-line entry point to government's electronic services and information. All of government's existing on-line services will be available through this portal. The portal will also organize these services and information in a way that focuses on the needs of the public, rather than the internal organization of government. As a result, citizens and businesses will no longer have to know the names of ministries or program areas to access the on-line services and information that they need.

Over time, government's existing 280,000 Web pages will be consolidated and logically reorganized. Even then, the amount of information available through the portal will be significant and, in some cases, potentially overwhelming.
In order to further simplify public access, the portal will allow individuals and businesses to "personalize" the types of information and services that are highlighted for them. In addition, the portal will provide four primary groupings of information and services, focused on specific audiences:

- **Consumers**: citizen, businesses and visitors that use or interact with government services;
- **Suppliers:** suppliers who provide goods and services to government;
- **Partners:** partners who deliver services on behalf of government; and
- **Employees:** government employees.

Consumers
(of Government Services)

Employees

Employee Portal View

Suppliers

Citizen

Business

Public Sector

Visitors

Enterprise Portal Consumer View

Government Programs and Services

E-Procurement Portal View

Vendors of Goods and Services

Program Specific Extranet Portal Views

Health | Education | Justice | Etc.

A Single Portal with logical views for each audience

Service Delivery Partnerships

A government-wide approach!

Business | Public Sector

Partners

Other levels of government (Federal, Municipal, Regional) will also be invited to use the Province's enterprise portal. In this way, on-line services can be further integrated so that individuals and businesses will no longer need to know which level of government to contact to get the information and services they need. Ultimately, through the single portal approach, personalization, the alignment of information and services by audience, and cooperation with other levels of government, the Province is taking a major step towards simplifying the way government interacts with individuals and businesses.

Improved Government Efficiency

Through the use of a single collection of portal infrastructure, government will also achieve improved efficiency. Rather than multiple, separate purchases of portal technology, government is making a single purchase that will be used across the British Columbia government, and also made available to the broader public sector.

In this way, economies of scale will be achieved, and on-line applications will be developed to a common standard. In addition, a "translation" feature will allow older computer applications to work with one another, and with newer applications, without the need to redevelop them.

Timelines

A specific date for the launch of the portal has not been chosen, although it is likely that it will take place in Summer 2002. At the time of launch, the portal will not be a "final" product. It will remain a work in progress, as new services and improved functionality are added, and as the Province receives feedback from the public on what works well, and what can be improved.

Appendix F: Government Service Inventory

	Service Name	Service Description
1	Aboriginal Business Directory	Aboriginal business directory.
2	Aboriginal Education	Aboriginal Education Branch services.
3	Accessibility Program	Building access handbook and checklist, newsletter, and flyers for universal accessibility in the built environment.
4	Accreditation Program for Schools	Provincial requirements for school accreditation and community involvement in school planning.
5	Administering Estates	Protecting and settling an estate when someone dies without a will.
6	Adoption	Adoption brochures, questionnaire and application forms.
7	Adoption Information from Vital Statistics	Vital Statistics Adoption Records under the new Adoption Act, filing a Disclosure Veto or No-Contact Declaration.
8	Adult Basic Education	Vocational training and basic skills programs for adults.
9	Adult Care Information	Adult Care Information and Regulations.
10	Advertising Guidelines - Licensed Establishments	Information on advertising by licensed establishments.
11	Agricultural Training and Education	Agricultural training and education courses available on a variety of topics such as: horticulture, livestock, farm management and more.
12	Agriculture in the Classroom	Teaching resources for career information, promotion of awareness and understanding of food systems and sustainable agriculture for the school system. Tips for Tours - farm tour information.
13	Agriculture Industry: InfoBasket	Agriculture industry producers and processors one-stop information shopping.
14	Air Quality	Air quality publications.
15	Air Quality Codes and Criteria	Emission and air quality codes and criteria.
16	Air Quality Legislation	Air quality legislation information.
17	Air Resources Branch	Air quality issues and up to date information.
18	Amazing Time Machine	BC historical documents, images and other multimedia information in a format designed for school age children.
19	Applicant Inventory System	Apply for government employment through the Recruitment Access Office's web-based Applicant Inventory System (AIS).
20	Aquifers in BC (Maps and Classification Database)	Planning, management and protection of BC's groundwater information.
21	Artifacts BC	One-stop finding aid for artifacts, archival material and historic sites in the Province of BC for students, researchers, teachers, public and children.
22	Auto Crime and Fraud	Auto theft, break-in and vandalism information.
23	Autoplan Claims and Repairs	Autoplan claim filing procedures.
24	Autoplan Insurance	Access to Autoplan information and services.
25	Autoplan Insurance Broker Locations	Autoplan Broker search by postal code.
26	Avalanche Safety	Avalanche safety information: how to protect yourself from the dangers of avalanches, obtaining highways information, backcountry avalanche information etc.
27	B.C. Film Classification	Information on film, video, and video game classification.

	Service Name	Service Description
28	B.C. Human Rights Advisory Council	Informs the public about the role of the B.C. Human Rights Commission, brings public concerns before the commission, and advises on matters relevant to the Human Rights code.
29	B.C. Investment Management Corporation	Manage investments for various public sector clients in British Columbia, including pension funds, crown agencies, trust funds and the provincial government.
30	B.C. Manufacturers' Directory	A searchable database concerning manufacturing establishments in British Columbia including product type, company size and contact information.
31	B.C. Safe School Centre	Designed to help parents, educators, students, police and the community foster safe and supportive learning environments for children and youth.
32	B.C. Utilities Commission: Complaint Handling Procedures	The B.C. Utilities Commission receives complaints from utility customers who are unable to resolve disputes with their respective utilities providers.
33	B.C.'s Salmon Marketing Council	Trade and wholesale use supplier's lists, salmon market database, resource catalog, bulletins and newsletters.
34	Baby Names	Vital Statistics list of most popular Baby Names.
35	Base Mapping and Geomatic Services	Managing base geographical information as a corporate service to government and British Columbians. The Provincial Baseline Atlas contains data relating to BC's topography, geographic names, geodetic control, air photography, and derived products.
36	Base Mapping and Geomatic Services - Air Photo Program	Aerial photography contract specifications, maps and samples.
37	BC Ambulance Service Fee information	British Columbia Ambulance Service Fee information.
38	BC Ambulance Service Paramedic Qualifications	Qualifications and requirements for BCAS Paramedics.
39	BC Archives	Central archives service and agency responsible for recorded information management within the BC government.
40	BC Archives Cartographic Records	Catalogue of cartographic records at the BC Archives.
41	BC Archives Textual Records	Catalogue of textual records at the BC Archives.
42	BC Archives Visual Records	BC images: over 60,000 images available online.
43	BC Arts Council	Arts Council operating and project assistance information and forms.
44	BC Assessment - Owner's Certification for Unused Farmland in the Agricultural Land Reserve	BC Assessment - apply to hold unused land in reserve as per the Standards for Classification of Land As A Farm.
45	BC Assets and Land Corporation	Crown Lands currently available for sale.
46	BC Benefits	Applying for BC Benefits: income and assets, service screening, meeting with the Financial Assistance Worker etc.
47	BC Bids	Bid opportunities for the public sector.
48	BC Board of Parole	Parole criteria, appeal process, victim and parole based hearings, parole vs. probation definition, parole eligibility, policy and procedures etc.
49	BC Buildings Corporation Disposals	BCBC properties for sale with pictures and specifications.
50	BC Buildings Corporation Technical Manuals and List of	Approved cable installers; Client Comfort Systems Design Manual; plus technical standards and specifications.

	Service Name	Service Description
	Approved Cable Installers	
51	BC Cancer Agency	Patients, public and care provider information, statistics, research etc.
52	BC Crime Prevention Association	BC Crime Prevention membership application form and subscription to newsletter.
53	BC Family Bonus	Family Bonus Program and Canada Child Tax Benefit Program information and forms for low and modest income working families.
54	BC Ferries	BC Ferries information.
55	BC Ferries Fare Index	BC Ferries fares and parking rates.
56	BC Ferries On-Line Reservation Service	Reservation service for vehicular and commercial traffic on major ferry routes.
57	BC Film Classification - Licensing	BC Film licensing information, forms and fee schedule.
58	BC Fire Service Personnel Certification	BC Fire Service Personnel Provincial Certification Program.
59	BC First Nations	Directory of First Nations participating in the BC Treaty Commission process.
60	BC Fisheries Licenses	Angling guide, aquaculture, commercial harvesting, and seafood processing license information. Freshwater and saltwater angling, and recreational shellfish harvesting license information.
61	BC Gazette	Notices to Creditors; Name Changes; Notices of Incorporations; or Public Tenders instructions and search capability.
62	BC Geographical Names	Official place names for BC maps and records.
63	BC Government Directory	Search for telephone numbers, email addresses, individual employees and programs in the BC Government directory.
64	BC Health Guide	A comprehensive Web site addressing common health topics, tests and procedures; which complements the BC HealthGuide Handbook.
65	BC Heritage	Introduction to the facilities and services available at any one of the 13 BC Heritage historic sites where public programs are presented.
66	BC Housing	Housing assistance information for low and moderate-income families.
67	BC Human Rights Commission	Investigates and mediates complaints of discrimination, and educates the public about their rights and responsibilities under the Human Rights Code.
68	BC Human Rights Tribunal	Conducts public hearings on complaints referred to the tribunal by the B.C. Human Rights Commission.
69	BC Hydro	BC Hydro payment options, online account, moving information, outage information, BC Gas rates.
70	BC Identification Card	BC identification card information.
71	BC Lottery Corporation	Winning numbers, draws, corporate information, how to play, history etc.
72	BC Manufacturing and Processing Tax Credit	Manufacturing and processing tax credit information and forms.
73	BC OnLine: New Account	BC OnLine: Choose the Account Management Tab on this page to find all the resources you need to set up and manage a BC OnLine account.

	Service Name	Service Description
74	BC Opportunities	Career planning and option resources.
75	BC Parks	BC Parks information: party size guidelines, reservations, park finder, frequently asked questions etc.
76	BC Parks Group Camping and Picnicking Reservations	Information on provincial parks that offer reservable camping and picnicking facilities for groups of 15 people or more.
77	BC Parks Volunteer	Park hosts volunteer information.
78	BC Rail Freight Information	BC Rail freight service: shipping, marketing, and search capabilities.
79	BC Rail Passenger Information	BC Rail passenger service schedules and rates.
80	BC Scientific Research and Experimental Development Tax Credit	Scientific Research and Experimental Development Tax Credit information and forms.
81	BC Securities Commission	BC Securities Commission documents, policies, rules, etc.
82	BC Stats	Population, labour force, business economics, etc. statistics.
83	BC Student Assistance Program Application Status	Student financial aid application status.
84	BC Student Financial Assistance	BC Student Assistance Program for post-secondary education.
85	BC WorkInfoNet	One-Start Shop for career, job and labour market information.
86	Be Safe	Personal, family, home, neighbourhood, and community safety.
87	Bear Aware	Bears in the wild and communities. Strategies for preventing problems with bears.
88	Being Stalked: What to Do	Suggestions and resources for increasing your safety if you are being stalked, threatened or intimidated.
89	Benefits Cheque Issue Dates	BC benefits cheque issue dates calendar.
90	Better Business Bureau	Consumer and business guidance.
91	Better Learning Magazine	Education magazine for parents and students in BC.
92	Big Trees of BC	BC's largest native trees information and nomination form.
93	Birth Certificate	How to order a birth certificate.
94	Birth Event	Register a birth and order a birth certificate.
95	Board Resourcing and Development Office	Agencies, Boards and Commissions directory lists and conduct guidelines for appointees.
96	Boiler and Pressure Safety Program	Boiler and Pressure Safety Program - colleges, examination and licensing fees schedule information.
97	Bowron Lake Canoe Circuit Reservations	Bowron Lake Canoe Circuit: space is limited so reserve early.
98	Bridging Employability Program	Employability programs for women leaving abusive relationships.
99	Bright Lights	Education publication showcasing the education system.
100	British Columbia Ambulance Service	BC Ambulance Service overview, fees, statistics, contact information.
101	British Columbia Film	Administers funding to expand/diversify the cultural industries of independent film and video production in British Columbia. Resources, forms, press releases, e-subscription to 'Information Update'.
102	Builders Lien Act	BC's New Builders Lien Act user information and support with forms such as "Notice of Intent" and "Claim of Lien".
103	Bus Pass - BC Transit	BC Transit bus pass, PRO Pass, and U-Pass information.
104	Business Equity Programs	Equity Capital, Employee Share Ownership, Community Venture Capital, and Green Venture Capital programs and forms.

	Service Name	Service Description
105	Buy BC	Buy BC program information and updates, BC Cuisine program, BC Sharing Program, Farmers' Market Program information.
106	Buying a New or Used Vehicle	Step-by-step guide on buying a new or used vehicle, including information on terms and regulations.
107	Buying Travel Services	Information on buying travel services and an explanation of the travel assurance fund.
108	Campgrounds, Trails and Interpretive Forest Sites	Campgrounds, trails and interpretive forest sites.
109	Canada/BC Business Service Centre	Small businesses research and training services.
110	Canada-BC Infrastructure Program	Canada-BC Infrastructure Program guide and application kit to apply for funding.
111	Canadian Citizenship	Canadian citizenship procedures, rights and responsibilities.
112	Care Card Information	Care Card Information for Medical Services Plan Beneficiaries.
113	Career Planning	Post-secondary education and training options.
114	Career/Life Transitions for Students with Diverse Needs	Resource material to promote effective communication and information sharing among teachers, parents and students for students with diverse needs.
115	Careers with the BC Forest Service	Forest Service position descriptions and listing of colleges and universities.
116	Change of Name	Change of name application, certificate and eligibility requirements.
117	Changing Your Address for Property Taxes	Address change/update for property assessment & taxation purposes.
118	Child Care BC	Child Care BC program information, forms, funding assistance, grants, news releases and other program links.
119	Child Care Information	Child Care Licensing Regulations and Publications.
120	Child Support Guidelines	What parents need to know about the 1997 federal child support guidelines.
121	Child, Youth and Family Advocate of BC	Responsible for protecting the rights of children, youth and their families and ensuring their voices are heard and considered in the provision of government services.
122	Children in Film	Child employment in the film industry; application guidelines and forms for employers and parents or guardians.
123	Children Who Witness Abuse	Community based counselling programs for children who have witnessed abuse.
124	Children's Commission	Reviews all child deaths in BC, assesses government services for children under 19 in the province, and advises government on improving these services.
125	Citizenship Certificate	How to apply for a citizenship certificate.
126	Clean Air Day	Clean Air Day events, poster, and news releases.
127	Climate Change	Climate change and impact information.
128	Clinical Practice Guidelines and Protocols	Guidelines and Protocols for Medical Practitioners.
129	Clinical Practices and Protocols Advisory Committee	Clinical Practices and Protocols Advisory Committee newsletter.
130	Coast Log Average Market Value Reports	Log average market value reports.

	Service Name	Service Description
131	College Pension Plan	College pension plan forms.
132	Commemorative & Special Event Certificates	Vital Statistics Commemorative & Special Event Certificates.
133	Community Business Development	Small business toolkit guidelines and application form.
134	Community Care Facilities	Legislation, policy/guidelines for residential care facilities and childcare facilities.
135	Community Care Facilities Licensing Contacts	Community Care Facilities Licensing Contacts.
136	Community Forest Pilot Project	New community forest tenure to increase the participation of communities and First Nations in the management of local forests.
137	Community Liaison Division	Community-based funding programs and initiatives related to cross-cultural understanding, anti-racism, and successful settlement of newcomers.
138	Community Living Resources	Community living service links and contact information for adults.
139	Community Solutions	Urban Community Development Unit – Community Solutions Funding Program – Funding Guidelines.
140	Conditions at Major Ferry Terminals	Ferry terminal conditions information (parking, weather) and service bulletins.
141	Congratulatory Messages	Congratulatory messages for birthdays, weddings and anniversaries.
142	Conservation Data Centre	Rare and endangered plants, animals and plant communities: collection and dissemination of information.
143	Consumer Services	Consumer services: problem prevention and resolution.
144	Consumer Services – Problem Prevention and Resolution	Consumer services general complaint form.
145	Consumer Services Acts	Consumer Services: this division investigates alleged breaches of the Debt Collection, Cemetery and Funeral Services, Consumer Protection, Credit Reporting, Guide Animal, Motor Dealer etc.
146	Consumer Taxation Branch	Consumer Taxation Branch information on sales tax (PST), tobacco/fuel/horse racing tax and hotel/motel/B&B taxes.
147	Consumer Taxation Branch Forms	Consumer Taxation Branch forms and contact information.
148	Contaminated Sites Program	Contaminated site assessment and clean up (guidance documents, application forms, instructions and schedules).
149	Cooperatives	Cooperatives - incorporate or start guidelines.
150	Corporate and Personal Properties Registry	Creating and registering business and not-for-profit entities; registering and securing personal property interests; and registering ownership and location of manufactured homes.
151	Corporate Annual Report System (CARS)	The Corporate Annual Report System (CARS) enables B.C. companies to file annual reports over the Internet in real time using their BC OnLine account or credit card payment.
152	Corporate Income Tax Information Bulletins	Corporate Income Tax information and subscription: scientific, film and television, manufacturing and processing, mining, small business, production etc. tax credit bulletins.
153	Corporate Registry (requires BC OnLine account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.

	Service Name	Service Description
154	Corporate Registry Forms	A wide variety of Corporate Registry forms such as: B.C. company, extra-provincial, society, cooperative, partnership, proprietorship, and limited liability.
155	Corporation Capital Tax	Capital tax payable by corporations with a permanent establishment in British Columbia.
156	Corporation Capital Tax Information Bulletins	Corporation Capital Tax information bulletins and subscription.
157	Cougar Safety Tips	Safety Guide to Cougars: track recognition, tips for home, hiking, safe -guarding children and working in cougar country.
158	Counselling Programs for Women	Community based counselling programs for women who have experienced sexual assault, relationship violence or childhood abuse.
159	Court Services	Court administrative service: registry and trial support, prisoner custody and escort, courthouse facilities and security.
160	Credit Reporting Agencies	A list of registered credit reporting agencies.
161	Criminal Injury Compensation Program	The Workers' Compensation Board administers compensation for workplace injury or disease.
162	Crop Insurance Program for B.C.	British Columbia's Crop Insurance Program offers a basic crop insurance package with additional optional policies to suit individual farm needs.
163	Crown Land Registry Services	Crown Land Registry Services database, official surveys and field books, Atlas-digital imaging project, etc.
164	Crown Youth Employment Initiative	BC Crown Corp. employment opportunities for those under 24.
165	Cycling Information	Cycling policy and legislation information.
166	Death Event	Death certificates, list of funeral homes, correction to a death record.
167	Debt Collection	Guidelines outlining various debt collection practices.
168	Debt Collection - Licensing	Files and links required for application as a Debt Collection Agency, Debt Collector or Debt Pooler in B.C.
169	Debt Management Branch	Borrowing programs, debt issuance, BC Savings Bonds, debt outstanding and special project financing.
170	Digital Terrain Map Library	Terrain and slope stability related maps in digital format.
171	Disability Benefits Program	Resources and benefits for persons with disabilities.
172	Disability Benefits Rates	Disability benefit rates, support allowance and shelter maximum.
173	Disability Exemptions	Tax exemption information for persons with a disability.
174	Disability Weblinks	A Federal, Provincial and Territory joint undertaking listing disability services throughout Canada.
175	Disaster Financial Assistance Program	Eligibility, available assistance, requirements, and application form and procedure.
176	Disaster Response Routes	Identified routes that must be left open for emergency vehicles in the event of a disaster.
177	Discover Camping	BC Provincial Parks on-line or phone campground reservations (season opens March 1, 2002).
178	Dispute Resolution	Non-adversarial dispute resolution options within the justice system.
179	Divorce	Divorce and separation information links in the Electronic Law Library.
180	Divorce: Statement of Claim Form 128	Statement of Claim: Family Law Proceeding - Form 128 (Rule 60 (9).

	Service Name	Service Description
181	Do-It-Yourself Divorce	Do-It-Yourself Divorce requirements and proceedings.
182	Douglas-fir Cone and Seed Insect Identification System	Douglas-fir cone and seed pests identification tool.
183	Drinking Water Program	Guidelines for planning ground and surface water supplies, water testing, well construction and maintenance guidelines.
184	Drinking Water Protection Act	Drinking water supply and protection information. Water system assessments and plans.
185	Driver Licensing	Driver's license application procedures.
186	Driver Ticket and Penalties	Driver information on provincial violation tickets and penalties.
187	Driver Training	Driver training information for passenger, motorcycle and commercial vehicles.
188	Early Childhood Education Application for Registration and Renewal	Application form for registration and renewal of license as an Early Childhood, Infant Toddler or Special Needs Educator.
189	Early Childhood Education Information	The Early Childhood Educator in British Columbia booklet.
190	Eco Education Programs	Eco program information.
191	Education Lending Program - Royal BC Museum	Bird and animal specimens can be loaned for education purposed to schools, communities and individuals.
192	Education News Subscription (EdInfo)	A weekly electronic digest of education news and information distributed by the B.C. Ministry of Education to subscribers with an interest in the K-12 community.
193	Elections BC Financial Reports and Forms	Election BC topics instructions and forms such as Party registration, initiative financing, and leadership contesting.
194	Elections BC Recall Process	Elections recall process in BC instructions and forms.
195	Electrical and Gas Inspection System (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
196	Electrical Safety Program	Electrical safety regulations, schedule of fees for homeowners and contractors.
197	Electronic Commerce Resource Centre	Forestry scale data submission information and form.
198	Electronic Law Library	Electronic Law Library resources.
199	Elevating Devices Program	Elevating device fee and inspection schedule including lifts, hoists, elevators, escalators, moving walks, and amusement rides.
200	Email Notification Service	Ministry of Forests email notices, newsletter and updates on a variety of topics available.
201	Emergency Social Services - Training Program	Emergency Social Services training programs for volunteers and the public from a variety of institutions such as the Red Cross, Justice Institute and BC Housing.
202	Employer Bankruptcy	Information for employees affected by an employer who has ceased business due to a bankruptcy or insolvency.
203	Employers' Advisers	Workers' Compensation Board appeal, assessment and claim forms.
204	Employers' Advisers Office	Educational seminars on the workers' compensation system.
205	Employers' Corner	Employer fact sheets with email request capability for more specific queries.
206	Employment Insurance Benefits	Maternity, parental, sickness benefits, regular benefits, appeal process etc.

	Service Name	Service Description
207	Employment Opportunities: Consumer Taxation Branch	Employment opportunities with Consumer Taxation.
208	Employment Opportunities: Income Taxation	Employment opportunities with the Income Taxation Branch.
209	Employment Services	Labour Market Attachment programs, industry, training and adjustment services, employment opportunities for persons with disabilities.
210	Employment Standards Branch	Employment Standards Branch forms.
211	Employment Standards Branch Complaint Forms	Employment Standards Branch Act or Regulation contravention complaints.
212	Employment Standards Tribunal	Conducts appeals of Determinations issued by the Director of Employment Standards, provide recommendations on requests for exclusion, invites public input on forums.
213	Employment Standards Tribunal Appeal	Employment Standards Tribunal decision appeal form.
214	End Racism Awards	End Racism Award nomination form.
215	Energy and Mines Assessment Reports	Energy and Mines reference and research tool for mineral exploration, academic studies, resource management.
216	Enquiry BC E-mail	Enquiry BC services by e-mail.
217	Environment and Lands Regions and Park Districts	Park maps, program information, permit application forms, etc.
218	Environment Youth Team	Youth (16-24) training and experience on environmental and outdoor recreation projects.
219	Environmental Trends	Environmental statistical and graphical information.
220	Ergonomics	Health and Safety Publications regarding backs and back belts, wrist braces, PC mouse and computer workstation information.
221	Expropriation Compensation Board	Determines the amount of money paid when a public agency takes property for the public interest (expropriation), if there is disagreement about the property's value.
222	Family Court	Family Court manual: procedures, reciprocal maintenance enforcement orders, extra-provincial custody and access orders etc.
223	Family Justice	Resource information on counselling, legal advice, court procedures, co-operative avenues, basic family law, child/spousal support, custody and access etc. related to separation and divorce.
224	Farm Business Management Information Network BC	Farm business management information and tools.
225	Farm Classification	Farm classification application.
226	Farm Distress Operating Loan Guarantee	Farm distress operating loan application form.
227	Farm Workers	Farm worker definition, schedule of rates, stat and vacation pay information.
228	Film and Television Tax Credit	Film and television tax information and forms for refundable tax credits.
229	Fire Commissioner's Office	Fire safety tips, events calendar, public education, training and certification, and regional offices listing.

	Service Name	Service Description
230	First Citizens' Fund	First Citizens' Fund guidelines and contact information for enhancing social, educational and economic development for North American Aboriginals in BC.
231	First Job in Science & Technology	Science, technology and engineering post-secondary graduate assistance to obtain full-time, first-time jobs in their fields.
232	First Nations Exemptions	Tax exemption information for First Nations individuals and bands situated on a reserve or designated reserve land.
233	Fish Hatcheries and Stocking	Fish stocking programs, hatcheries and visitor centres.
234	Fisheries Inventory Tools and Data	Fisheries Data Warehouse standards, data entry tools, and digital base maps.
235	Fisheries Project Registry	Fisheries projects' data through map-enabled access.
236	Fisheries Renewal BC Programs	Fisheries Renewal BC's three strategic investment areas information and application forms.
237	FishWizard	Fish, fish habitat and resource data for BC lakes and streams map-enabled access.
238	Flood Hazard Management.	Flood hazard management information which includes BC's Flood Plan, snow level forecasts, etc.
239	Food Protection Services	Food business starting and planning guidelines; FoodSafe training program.
240	FOODSAFE	FOODSAFE training program for safe food handling procedures, worker health and safety information.
241	Forest Fire Reports	Fire weather maps, fire danger class statistics, and wildfire reports and statistics.
242	Forest Management Certification	Forest certification updates in BC.
243	Forest Practices Branch - Operational Adjustment Factor Calculator	Forestry Silviculture - estimate the stocking gap component of Operational Adjustment Factor Calculator and appropriate TIPSY establishment density.
244	Forest Practices Branch - Publications and Products	Forest Practices publications and products.
245	Forest Practices Code	Forest Practices Code of BC Act, Regulations and guidebooks, training information such as an information manual.
246	Forest Scale/Timber Mark Sites	Scale sites by timber mark or timber marks by scale site.
247	Forest Service Recreation Program, Information and Guide	Forest Service campgrounds and trails recreation maps, with user fees, recreation site information, and guidelines for use of these areas.
248	Forest Worker Transition Program	Toll-free number available from anywhere in Canada for questions regarding the Forest Worker Transition Program.
249	Forest/Vegetation Inventory of BC	Forest cover and sample data map and attribute information that calibrates growth and yield models.
250	Forestry Contract Opportunities	Forestry contract opportunities.
251	Forestry Division Services - Publications Catalogue	Forestry Division catalog of publications.
252	Forestry Recreation Maps and Information	Forestry recreation site maps and information.
253	Forestry-Related Electronic Forms	Forestry-related forms for licensees and contractors.
254	Forests Genetic Council of British Columbia Operational Tree Improvement Program	Forests Genetic Council of B.C. Operational Tree Improvement program call for proposal, application forms, budget form and guidelines.

	Service Name	Service Description
255	Forests Information System	Information systems data dictionaries, contractor software and glossary.
256	Forests Public Consultation	Forests list of current and past public consultation opportunities.
257	Forests Resources Inventory Committee Publications	Forests Resources Inventory Committee inter-agency information and publications.
258	Forests Training Catalogue	Training information for courses developed by Ministry of Forests.
259	Foster Care	Foster care handbook, standards, publications, guardianship and child protection resources.
260	Freedom of Information and Protection of Privacy	Freedom of Information Act searches and decisions rendered.
261	Freshwater Fisheries Regulations	Freshwater Fisheries Regulations synopsis for anglers.
262	Gaming Revenue	Licensed gaming events and direct charitable access application information.
263	Genealogical Services	Genealogical services providing family history research and vital statistics records.
264	General Advertising Guidelines	Provides help in preparing advertising material.
265	Goods and Services Tax (GST) and Harmonized Sales Tax (HST)	Electronic filing and remitting, GST/HST TELEFILE, guides, forms, news and HST information.
266	Government Agents	Government Agents offices - one stop government access to registrations, payments, forms and information at 59 locations throughout BC.
267	Government Publications	Government publications ordering information.
268	Graduation (Grade 11 and 12)	Graduate transcript information.
269	Graduation Information for Grades 8 - 12	Answers to questions a Grade 8-12 student might have such as; work and life after graduation, what it takes to graduate, other ways to earn graduation credits etc.
270	Green Buildings BC	Green Buildings BC initiative retrofit projects application kit, how-to-guide, and eligibility information.
271	Green Economy Development Fund	Green Economy Development Fund non-repayable-grant information for new technologies and processes that benefit BC's environment and economy.
272	Greening Communities Initiatives	Greening initiatives for project strategies that link reducing greenhouse gas emissions to social, economical and environmental aspects of community life.
273	Gypsy Moth in British Columbia	Gypsy Moth management activities and information.
274	Habitat Inventory and Analysis	Ecosystem and habitat inventory and mapping.
275	Hate/Bias Crime	Policy created by the Hate Crime Team who ensures the effective identification, investigation and prosecution of crimes motivated by hate.
276	Health Authorities	Regional Health Authorities information and profiles.
277	Health Files	Fact sheets about a wide range of public and environmental health and safety issues.
278	Health Information Management	Health Information Management Standards and HealthNet/BC information.
279	Health Library	Full library services are available to Public Health Staff across the province.

	Service Name	Service Description
280	HealthNet/BC	Standards and policy descriptions for Health Sector data and technology.
281	HealthNet/BC Products and Services	Information on HealthNet/BC compliant products or services.
282	Healthy Kids	Program under BC Benefits that extends basic dental and vision care to children in low-income families.
283	HelloBC	Tourism BC information.
284	HIV/AIDS	Information on HIV/AIDS, and services available.
285	Home Invasion Protection	A pamphlet to improve the safety of your home and neighbourhood.
286	Home Owner Grants	Homeowner grants information, qualifications and forms, and bulletin update subscriptions.
287	Homeowner Protection Office	Homeowner Protection Office forms.
288	Human Rights Code	The Human Rights Code.
289	Hunting and Trapping Wildlife Management	Hunting information, regulations, open season definitions, maps and permit information.
290	Immunization and Your Child	Immunization information. Effectiveness and safety of the vaccination process.
291	Income Support Programs Index	Income assistance, family maintenance, disability benefits, youth works, hardship assistance information.
292	Income Taxation Branch	Income Taxation Branch: tax administration functions including audit and compliance, refunds, collection activities and vendor information.
293	Industrial Emissions	Industrial emissions criteria and guidelines.
294	Industry Training and Apprenticeship	Industry training and apprenticeship information and resources.
295	Information for MSP Health Care Practitioners	Enrolling with MSP, billing and information about programs and services.
296	Insurance Premium Tax	Tax information guide for licensed insurance companies that insure persons resident in the province or property located in the province.
297	Insurance Premium Tax Information Bulletin Subscription	Insurance Premium Tax information bulletins and subscription.
298	Integrated Justice System - JUSTIN	A single integrated database comprising almost every aspect of a criminal case.
299	Integrated Silviculture Information System	Forestry Silviculture - electronic transfer of obligation information from major licensees.
300	Intellectual Property Program	Intellectual Property - Requests for Proposals and Notices of Intent information and forms.
301	Interactive Business Planner	Electronic tool to assist entrepreneurs in the creation of a three-year business plan.
302	Interactive Export Planner	Interactive Export Planner to assist entrepreneurs in preparing an export plan or an export-focused business plan for their new or existing business.
303	International Financial Business Tax Refund	International Financial Business Tax refund information and forms.
304	International Financial Business Tax Refund Bulletin Subscription	International Financial Business Tax refund information bulletins and subscription.
305	Jury Duty	Jury duty information such as exemptions, qualifications, civil and criminal selection process.

	Service Name	Service Description
306	Justice Institute of BC	Justice Institute of BC Online Learning Centre.
307	K-12 Curriculum and Learning Resources	Integrated resource packages, learning outcomes, grade collections, evaluation processes etc.
308	Keeping Safe - Women at Work	Reduce the risk of violence in the workplace: safety awareness training, basic safety devices, safety programs.
309	Labour Market Information	Career and labour market information.
310	Labour Relations Board	Labour Relations Board forms.
311	Land and Resource Management Plans	Land and resource management plans for each region of BC.
312	Land and Resource Registries Portal	This single window provides clients with access to information regarding titles and encumbrances on private lands, Crown lands and surface and subsurface rights respecting resources.
313	Land Condition Site Registry (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
314	Land Reserve Commission	Land Reserve Commission information and forms.
315	Land Title Branch	Provides registration of title, land title searches, and copies of documents and survey plans.
316	Land Title Practice Manual Updates (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
317	Land Titles (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
318	LandData BC	Mapping and geographic data products and services.
319	Landlords and Tenants in B.C. Guide	Information about how the Residential Tenancy Act affects landlords and tenants in B.C.
320	Learn and Earn	Apprenticeship training possibilities for youth, scholarship information, event calendar, listings of trades and occupations.
321	Leasing a Vehicle	Information on leasing a vehicle.
322	Legal Services Society	Provides legal aid and education services to the public.
323	Legislative Proceedings and Documents	Legislative proceedings and associated documents such as Orders of the Day, Votes, Bills, and Debates.
324	Licensed Farm Labour Contractor	Licensed farm labour contractor application procedures.
325	Licensed Farm Labour Contractors Listing	Licensed farm labour contractors list.
326	Lieutenant-Governor - Government House	Historical and tour information, news releases, photographs, protocol and role information, volunteer opportunity forms, calendar of events etc. for the Office of the Lieutenant-Governor.
327	Liquor Appeal Board	Hears appeals to decisions made under the Liquor Control and Licensing Act and the Liquor Distribution Act.
328	Liquor Control and Licensing Branch	Liquor Control and Licensing Branch forms and fee information.
329	Liquor License - Manufacturers, Agents, and Representatives	Obtaining a Liquor Manufacturer's or Agent's license.
330	Liquor License - Special Occasion	Special occasion liquor license eligibility and application process.
331	Live Wires	Internet safety issues for parents, teachers and librarians.
332	Load Restrictions	Commercial vehicle load restriction information.
333	Local Government Act Advice	Advisory materials to aid local government in the implementation of the new Local Government Act.

	Service Name	Service Description
334	Logging Tax	Logging tax information and forms for individuals and corporations with net income derived from logging operations.
335	Logging Tax Bulletin Subscription	Logging Tax information bulletins and subscription.
336	Mammography Services Patient Guide	Mammography services guide and patient information.
337	Manufactured Homes Registry (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
338	Mapping and Resource Evaluation	Field projects, geological maps, and index to bedrock mapping.
339	Maps of British Columbia's major routes	Maps of British Columbia, showing major highway routes.
340	Marine Branch Ferry Schedules	Inland ferry schedules.
341	Marriage Event	Marriage license application, marriage certificate information and list of marriage commissioners.
342	Media Awareness Network	Practical support for media education in the home, school and community.
343	Mediation	An introduction to mediation as a process for resolving disputes.
344	Mediation Organizations	A list of mediation organizations, including contacts and mandates/activities.
345	Medical Services Plan	Information for MSP Beneficiaries.
346	Medical Services Plan - Group Plan	Information and forms for Medical Services Plan Group Administrators.
347	Medical Services Plan - Payment Schedule	Medical Services Commission list of fees payable to physicians for insured medical services provided to beneficiaries enrolled with MSP.
348	Medical Services Plan Eligibility and Enrollment Procedures	Medical services eligibility, enrollment, cancellation, moving from BC information and procedures.
349	Medical Services Plan Forms	Medical Services Plan forms.
350	Mental Health Act	Mental Health Act forms including Request for Admission, Consent for Treatment and Application for Warrant.
351	Mental Health Information Line	Mental health and mental illness information line.
352	Mineral Deposit Profiles	Mineral deposit profiles with guidelines for authors.
353	Mineral Inventory	Geological, location and economic information on metallic, industrial mineral and coalmines, deposits and occurrences.
354	Mineral Titles	Mineral and placer title - guide, fees, rental and work requirements information.
355	Mining Exploration Tax Credit	Mining exploration tax credit information and forms for eligible individuals and corporations conducting grassroots mineral exploration.
356	Mining Leases	Mining lease information and application forms.
357	Mining Statistics	Provincial mining statistics.
358	Mining Tax	Mining tax information and forms.
359	Mining Tax Bulletins	MiningTax information bulletins and subscription.
360	Minister's Advisory Council on Mental Health	The Council provides advice to the Minister of State for Mental Health to facilitate effective mental health reform and service delivery for the benefit of all British Columbians.
361	Ministry of Community, Aboriginal and Women's Services Events Calendar	Community, Aboriginal and Women's monthly event calendar, submission email and online calendars.

	Service Name	Service Description
362	Ministry of Competition, Science and Enterprise Library Holdings	Ministry of Employment and Investment library holdings catalogue.
363	Ministry of Education Programs and Services for Parents	Career planning, home schooling, school profile information.
364	Ministry of Forests Employee Hiring Process	Forests employee hiring process information including application, interview, etc.
365	Ministry of Human Resources - Office Directory	Ministry of Human Resources directory of offices.
366	MLA Lookup	MLA - Member of the Legislative Assembly name and contact information.
367	Motion Picture Appeal Board	Hears appeals by exhibitors and distributors of films and videos from decisions of the Film Classification Branch.
368	Motor Carrier Commission	Applications and forms for motor carriers (for hire passenger vehicles such as taxis, buses, limousines and charter tours).
369	Motor Dealer	Registered BC Motor Dealer application, change of address, renewal, etc.
370	Motor Dealer Customer Compensation Fund	An industry fund for vehicle buyers who face problems with vehicle dealers.
371	Mountain Resort Associations Act	Mountain resort development, maintenance and operation information.
372	Moving Your Manufactured Home	Manufactured homes: supplementary assessment and rural property tax clearance certificate guidelines.
373	Multiple Address Change	Provide BC residents with the option to use the Internet, Enquiry BC, Government Agents, or participating programs to submit change of address information to multiple government programs.
374	Municipal Pension Plan	Municipal pension plan forms.
375	Neighbourhood Enhancement Program	Neighbourhood enhancement resource, strategy and marketing information.
376	Office for Disability Issues	Advocate office that reviews policy and legislation that may affect persons with disabilities and recommends action.
377	Office of Primary and Rural Health Services	Provincial rural and remote health care issues.
378	Office of the Provincial Health Officer (PHO)	Health issue's in B.C. and Annual Reports from the Office of the Provincial Health Officer.
379	Oil and Gas Commission	Oil and Gas Commission related forms and checklists (includes pipelines, wells, geophysical, forestry, roads and streams).
380	Old Age Security Identification Card	How to replace your Old Age Security Identification Card.
381	Ombudsman	The Ombudsman receives inquiries and complaints about the practices and services provided by public bodies. Information available includes complaint forms, available remedies, Ombudsman Act, jurisdiction, publications and reports etc.
382	OneStop Business Registration	Register your business with multiple levels of government using one computer program at your nearest OneStop location.
383	Open Learning Agency - Services for Students With a Disability	Access and referrals to adaptive technology and equipment, exam modification, alternative course material formats etc.
384	Open School Courses and Resources	Open School's online courses and registration forms available through an interactive delivery environment.

	Service Name	Service Description
385	Opening Doors	Post-secondary academic search program and student guide.
386	Operating Mines and Owner/Operators	List of operating mines and owner/operators.
387	Order of British Columbia	Order of British Columbia nomination form.
388	Pardon Application Guide	Pardon application form, guidelines and procedures.
389	Parliament Building Tour Bookings	BC Parliament Buildings tour booking form.
390	Particulates	Particulates general information and Canada-wide standards.
391	Passport	How to replace your passport.
392	Passport Office	Passports: how to obtain or replace lost or stolen passports, office locations, on-line forms.
393	Patents	Patent database, filing and completing a patent application, payment of fees, patent agent renewal, order patent documents etc.
394	Patient Information Guides	Clinical Practice Guidelines and Protocol patient information guides.
395	Paying Your Property Taxes	Property tax general payment information.
396	Payment of MSP Premiums	MSP Payment of Premium information and Premium Assistance details for MSP Beneficiaries.
397	Pension Standards - BC	Pension Benefits Standards Regulation forms.
398	Personal Income Tax	Personal income tax information and forms.
399	Personal Income Tax Information Bulletins	Mining Exploration Tax Credit and BC Family Bonus Tax Benefits information bulletins and subscription.
400	Personal Information Directory	Summaries of BC government holdings with respect to Personal Information Banks, Information Sharing Agreements and Privacy Impact Assessments. The summary records do not contain personal information.
401	Personal Property Registry (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
402	Personal Services Establishments	Personal services establishment guidelines - tanning salons, tattooing, and ear and body piercing.
403	Pharmacare Benefit Groups	Eligibility process and benefit group descriptions; PharmaNet bulletins and site map.
404	Pharmacare Benefit Plans	Eligibility under various Pharmacare Plans.
405	Pharmacare Low Cost Alternative Policy	Details on Pharmacare's Low Cost Alternative policy and the Referenced Drug Program Booklet.
406	Pharmacare Trial Prescription Program	Medications eligible for the Trial Prescription program.
407	Physician Negotiations	Labour Relations and Negotiations Support for Physicians (Korbin Report).
408	Police and Crime Statistics	Police and crime statistics, publications, newsletters and reports .
409	Political Party Registration	Political party registration information and forms.
410	Political Tax Credit	Political tax credit for contributions to a BC political party constituency association or candidate.
411	Pollution Prevention and Remediation	Design, development and implementation of a wide array of pollution prevention and remediation activities utilizing resources such as legislation, stakeholders, regulation, education, guidelines, standards, planning processes etc.

	Service Name	Service Description
412	Port Vancouver	Shipping and trade, terminals and services, cruise information, filming applications and guidelines, career information etc.
413	Post-Adoption Openness Registry	Information and registration application for the Post-Adoption Openness Registry for children under the age of 19 who wish to register their interest in establishing some form of openness agreement.
414	Post-secondary Application Service of British Columbia	BC public post-secondary education institutions' application.
415	Production Services Tax Credit	Production services tax credit, for accredited film and video production corporations, information and forms.
416	Property Assessment (requires BC OnLine account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
417	Property Assessment Appeal Board	Property assessment appeal requests submission.
418	Property Forfeiture, Redemption and Revestment	Rural property: loss of ownership due to non-payment of taxes.
419	Property Ownership Records	Property ownership: guidelines to apply, change and update records.
420	Property Tax Deferment	Tax Deferment general information, application criteria and forms.
421	Property Tax Farm Extensions	Farm extension program: gives farmers extra time to pay rural property taxes without penalty.
422	Property Transfer Tax	Property transfer tax information and forms.
423	Property Transfer Tax Bulletins	Property Transfer Tax information bulletins and subscription.
424	Provincial Court of BC	Provides a judgment database and information on the Provincial Courts, Office of the Chief Judge, Judicial Council, Obiter Dicta, and rules of court.
425	Provincial Emergency Program	Maintains public awareness, preparedness, response and recovery programs for emergencies and disasters.
426	Provincial Exams	Grade 12 Provincial exams, keys and school reports for study, practice and teaching purposes.
427	Provincial Exams Program	Grade 12 provincial examinations information.
428	Provincial Government Career Opportunities	BC Public Service career opportunity information and applications.
429	Provincial Health Office Publication Order Form	Reports available from the Provincial Health Office.
430	Provincial Highways Road Reports	Road and weather conditions.
431	Provincial Nominee Program	Recruitment of foreign workers with highly specialized skills.
432	Provincial Tax Bulletins (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
433	Public Accounts	Public Accounts access.
434	Public Guardian and Trustee of British Columbia	Acts to protect legal and financial interests of children, support financial/personal decision-making processes for adults and administers the estate of deceased or missing persons when there is no one else available to do it.
435	Public Libraries of British Columbia	Virtual Reference Desk, listing of public libraries of British Columbia, search by Dewey category, subject listing, Dewey range.
436	Public Registry of Licensed Residential Builders	Licensed residential builders.

	Service Name	Service Description
437	Public Sector Pension Plans	BC pension plan information, form, and search capability for retired members of the BC Rail, College, Municipal, Public Service, Teachers' and Workers' Compensation Board.
438	Public Service Training Program	On-the-job training opportunities in the provincial public service for people with disabilities.
439	Public Transit in BC	BC Transit timetables, route maps, fares and services.
440	Purchasing Commission	Master Standing Offers Lists, Request for Proposal Templates, and "Welcome Mat" (via Services and Mandate) which offers step-by-step guide to suppliers.
441	Queen's Printer: LegalEze	Legal guide to the unofficial early consolidation of statutes and regulations of the province of British Columbia. License pricing information and system access form application.
442	Radiation Protection	Radiation protection advice related to public health concerns.
443	Real Estate Council of BC	Real Estate Council information, guides and forms for licensing, complaints, licensee search, consumer publications, list of council members and staff, etc.
444	Real Property Taxation Branch	Rural property tax information, forms, bulletins etc.
445	Recreation Site User Fees	Recreation sites and permit vendors information.
446	Refunds of Overpayments of Tax	Applying for a refund of overpayments of social service, hotel room, tobacco or motor fuel tax.
447	Regional Health Maps and Hospital Addresses	Information on community health councils, regional health boards, community health services societies, and hospital administrators.
448	Registration to Collect/Remit Tax	Vendor/Operator registrations and approvals to collect/remit tax and access to on-line forms and registration.
449	Renew/Replace Your Driver's License	Driver's license renewal or replacement.
450	Revised Statutes and Consolidated Regulations of British Columbia	The complete alphabetical listing of British Columbia Statutes with associated Regulations and related links.
451	River and Lake Data	Streams and lakes real-time data.
452	River Forecast Centre	Snow level, flood forecast and groundwater levels information.
453	Route Information	Ferry, highway, bike route information.
454	Royal British Columbia Museum	Museum schedules, events, publications, summer kids program, exhibits, research and learning resources etc.
455	Royal British Columbia Museum Collection Database	Database that allows you to define search parameters for the museum's natural and human heritage objects.
456	Rural Property Tax Payment Options	Rural property tax payment plan options.
457	Rural Property Tax Rates	Property taxation: determining tax rates that apply to specific rural properties.
458	Rural Property Tax System (requires BC OnLine Account)	BC OnLine: Choose the Service Tab on this page for access to a wide range of BC Government Registry information.
459	Rural Property Taxation Refunds	Rural property tax refund circumstances.
460	Safe Together	Brings together the resources, knowledge and people that are working towards preventing bullying and harassment in B.C.
461	Sales (Social Service) Tax Remittance	Sales tax remittance instructions and forms for registered operators/vendors, individuals and non-registered businesses.
462	Sales of Manufactured Homes	Manufactured homes social service tax applications and definitions.

	Service Name	Service Description
463	School Information	BC School Districts map and contact information, standard school calendar, public and independent schools book.
464	School of Radiation Therapy	Radiation Therapy diploma program, application requirements, professional profile.
465	School Trustee Election Procedures	School Trustee Election Procedures in BC guide.
466	Science and Technology Networking - BC	Science and technology information - private and public services sectors sources, programs and contacts.
467	Screening Mammography - Breast Cancer Screening	Screening mammography questions and answers, resources, what to expect etc.
468	Seniors Information	Seniors programs and benefits guide.
469	Sensitive Ecosystems Inventory	Sensitive Ecosystems Inventory and publications.
470	Septic System Program	Homeowners guide on septic systems maintenance and troubleshooting.
471	Service Quality Advocate	The Service Quality Advocate works for adults with developmental disabilities.
472	Serving it Right	Mandatory Responsible Beverage Program designed to encourage professional alcohol service.
473	Silviculture Guidelines	Employment Standards Act and Regulations as they apply to silviculture employment standards.
474	Silviculture Strategy	Forestry Silviculture - analyses reports for timber quantity, quality and habitat supply for individual management units. Search capability also available.
475	Silviculture Surveys Accreditation Program	Forestry Silviculture Surveys Accreditation Program brochure, dates and locations and registration; list of accredited surveyors; etc.
476	Skills Development and Fair Wage - Wage Rates	Skills development and wage rate schedule.
477	Small Business Sourcing Guides	Small business regulations, how-to's, financing, contacts, directories, associations, and marketing information.
478	Small Business Start-up Kit	Small business start-up kit and application forms.
479	Small Business Workshop	Business development techniques, ideas and information on starting a new venture and improving an existing small business.
480	Small Claims Court	Small Claims Court is where people can go to settle their differences in cases worth anything up to $10,000.
481	Small Woodlands Program	The Small Woodlands Program offers courses, consultations and other services that help private forest landowners in B.C. with a view to increasing wood supply, create forestry jobs, and stimulate traditional sources of rural income.
482	Social Insurance Number	Application process, forms and instructions to apply or replace a Social Insurance Card.
483	Social Insurance Number Card - If Lost or Stolen	What to do if your Social Insurance Number Card is lost or stolen.
484	Solutions for Small Business Series	Small business information publications.
485	Special Education	Special Education in BC review.
486	Special Education Technology (SET) -BC	Technology needs of students with physical disabilities and visual impairment.
487	Statutory Holidays	Statutory holiday dates for 2001 - 2003 and employee

|	Service Name	Service Description
		eligibility.
488	Strata Property Act	Strata property information, Acts and Regulations.
489	Stratospheric Ozone Depletion	Stratospheric ozone depletion: regulation, science, impact and control measures.
490	Student Financial Aid	Financial aid programs for post-secondary education.
491	Student Summer Works Job Postings	Secondary and Post-Secondary student summer work experience in their field of study or career.
492	Students with Disabilities in Public Post-Secondary Institutions	Resource Directory of Programs and Services for Students with Disabilities in Public Post-Secondary Institutions.
493	Students with Permanent Disabilities	Grant, assistance and loan programs for students with permanent disabilities.
494	Summer Institute For Educators	2001 Summer Institute for Educators program application information.
495	Superintendent of Motor Vehicles	Regulates access to driving privileges to help ensure the safe and responsible operation of motor vehicles in BC.
496	Superior Courts of BC	BC Supreme Court, Court of Appeal, reasons for judgment, etc…
497	Supports to Employment - Disability Benefits II	Provides assistance to persons with disabilities to attend training programs, volunteer or obtain employment.
498	Supreme Court Civil Rules	Supreme Court Civil Rules and amendments.
499	Surficial Geology and Hazards Mapping	Maps and databases describing types and distributions of unconsolidated sediments.
500	Surgical Wait List	Surgical Wait List information.
501	Surveyor General	Legal survey general instructions and reference materials.
502	Taking A Stand	Provides a variety of youth-based programs to help prevent crime, violence, and victimization.
503	Talent Agencies in BC	Talent agencies listing, regulations and fact sheets.
504	Tax Act Appeals	Appeal instructions for the Corporation Capital, Insurance Premium, Logging, Income, Mining , Property Transfer, International Business (Refund), and Income Tax Acts.
505	Tax Assessment Appeals	Appeal process and guidelines for Hotel Room, Social Service, Tobacco, Motor Fuel Tax Acts assessments or disallowed refunds.
506	Tax Audit	Tax audit procedures and information.
507	Tax Information Bulletin Subscription	Tax information bulletin subscription registration form.
508	Teachers' Pension Plan	Teachers' pension plan forms.
509	Termination of Employment	Employee termination procedures.
510	The Canadian Council on Rehabilitation and Work - WORKink	A virtual employment resource centre providing services to work seekers with disabilities, employer's and career practitioners.
511	Timber License Bid Proposal Sales	Timber opportunities for remanufacturing and specialty wood products. Bid proposal sales guidelines.
512	Timber Supply Review	Timber supply review news releases, maps, data packages, and reports.
513	Tobacco Strategy	Information on B.C.'s Tobacco Strategy, legislation and action on tobacco reduction and control.
514	Tobacco Control	Tobacco Sales Act, Violations and Fines.
515	Tobacco Facts	Tobacco Facts for youth.

	Service Name	Service Description
516	Tobacco Ingredients	British Columbia tobacco testing and disclosure.
517	Tobacco Tax Exemption Program	Exempt sale retail dealer information, guidelines, reporting requirements etc.
518	Toll-Free Information Lines	Ministry of Health Toll-Free Information Lines.
519	Tourism Opportunities Strategy and Tourism Inventory Project	Information tool that can be used to identify, develop and promote sustainable tourism opportunities around the province.
520	Trans Canada Trail (BC)	BC's Trans Canada Trail exploration guide, information, maps and suggested trips.
521	Transition House Programs	Listing of agencies with phone numbers where services can be obtained for women and children leaving abusive relationships.
522	Transportation Contract Document Sales	Highways Tender Document package order form for potential bidders and other interested parties.
523	Transportation Contract Information	Ministry of Transportation Tender Calls, Unverified Tender Results, and Tender Awards.
524	Transportation Reports and Publications	A listing of Transportation reports and publications by subject and title.
525	Travel Services	Travel agent, wholesaler or tour operator registration information.
526	Treaty Negotiations	Current status of individual treaty negotiations including the BC Treaty Commission's schedule of meetings.
527	Tree Book	Tree index, key identifiers, biogeoclimatic zones, searchable database information on trees of British Columbia.
528	Trust Administration	Explains the Public Guardian and Trustee of B.C.'s role in the management of individual children's trust portfolios.
529	Trust Fund - Child	A guide to help understand the Public Guardian and Trustee of B.C.'s role in managing a child's trust fund.
530	Trust Fund - Severely Injured Child	Explains the added considerations required when administering a trust fund for children of severe injuries.
531	Two-Year Tax Holiday For New Small Businesses	Two-year tax holiday for new small businesses information and forms.
532	Unclaimed Property Office	Unclaimed property held by government and non-government organizations .
533	Vehicle Emissions	Vehicle emission regulations, reports, fuel studies etc.
534	Venture Capital Credit for Corporations	Venture capital credit for corporations' information.
535	Video Conferencing	Videoconference services available to government and private sector organizations.
536	Violence Against Women and Children Initiative	Policies on the criminal justice system's response to violence against women and children.
537	Violence Against Women in Relationships	Part one of a three-part policy addressing the issue of violence against women and children.
538	Vital Events	Birth, marriage, and death registrations search.
539	Vital Statistics Fee Schedule	Vital Statistics services and credit card service price list.
540	Vital Statistics Forms Available Online	Vital Statistics Forms available online.
541	Vital Statistics Services Information	Vital Statistics Services information.
542	Voter Registration	Voter checklist or update to voter information.
543	Voter's Guide to Local Elections	Voter's guide to local elections in question and answer format.

	Service Name	Service Description
544	Warehousing and Asset Investment Recovery	Consolidated warehousing for government assets and sales information on surplus assets.
545	Waste Buster	The Waste Buster Web site gives British Columbians a chance to identify, report and help stamp out government waste.
546	Water Management	Water resource information for BC.
547	Water, Land and Air Protection - Observe, Record and Report	Reporting violation of federal or provincial environmental laws and regulations guidelines.
548	Web Safety	Web safety information from the Royal Canadian Mounted Police and related sites.
549	What's Key in the Labour Market	A catalogue of selected information resources for British Columbia career practitioners, young people and adult job seekers.
550	When Violence Happens: Getting Help	Contact information for getting help when violence happens.
551	Wildlife Species Inventory	Wildlife sightings submission to the province and information about inventory methods for different organisms.
552	Wills and Estates	Provides common definitions, answers questions and lists additional informational resources about wills and estates.
553	Wills Registry	Vital Statistics Wills Registry and information on Wills notices.
554	Women's Centres Directory	Women's centres directory.
555	Women's Health Information Forum	Women's health issues information and calendar of events.
556	Women's Services Library Catalogue	Women's Services library resources, includes catalogue search and ordering through inter-library loan request.
557	Woodlot License Program	Woodlot License Program brochure and application form to cut a Christmas tree.
558	Work Experience	Secondary school work experience.
559	Workers' Advisers	Workers' Advisers bulletin board (with upcoming training seminars and registration form), fact sheets, and appealing Workers' Compensation Board decisions worker's information kit.
560	Workers' Compensation Board Clearance Letter	Verification that a business, contractor or subcontractor is registered with the Workers' Compensation Board.
561	Workers' Compensation Board Publications and Resources	Workers' Compensation Board safety and health related materials.
562	Workers' Compensation Board Registration	Workers' Compensation Board registration information and instructions.
563	Workers' Compensation Review Board Appeal	Workers' Compensation Board appeal process information.
564	Working Together for Safe Communities	Taking a stand to prevent: sexual exploitation of youth, youth crime, violence and victimization and create safer communities.
565	Youth Action Teams	Develop and coordinate projects relating to crime and violence prevention, conflict resolution, peer mentorship, and positive role modeling.
566	Youth Against Violence Line	Anyone can leave a message at 1-800-680-4264 to get information, or to report a crime or potential crime. A BC Youth Crime Network officer will respond.

	Service Name	Service Description
567	Youth Development and 4-H Programs	Provide agricultural awareness and leadership training opportunities, enhance long-term job creation for youth and volunteers 9-19 in farm, rural non-farm and urban communities.
568	Youth Options - Job Start	Employment for youth not in school and with little or no work experience.
569	Youth Options BC	Youth employment opportunities, access to post-secondary education, and a voice for BC's youth.

Appendix G: 'Double the Opportunity' Estimates

The following chart indicates the Ministry of Advanced Education's estimates of the annual number of graduates in Computer Science and Electrical and Computer Engineering between 2001/02 and 2006/07 through its Double the Opportunity initiative.
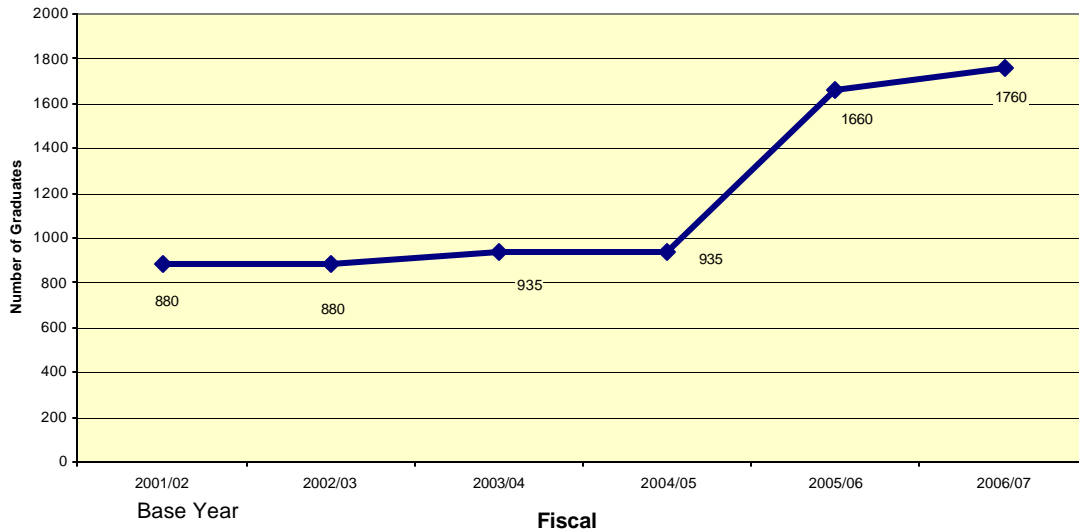
Notes
- The estimate includes four public universities (University of British Columbia, Simon Fraser University, University of Victoria and University of Northern British Columbia), five university colleges and the British Columbia Institute of Technology.
- The estimate includes Baccalaureate, Masters and Ph.D. graduates.
- Note that 2001/02 represents the base year. Additional student spaces will be allocated to institutions to support an increase in graduates, beginning in 2002/03.

Appendix H: Glossary

Asymmetrical Digital Subscriber Line (ADSL)
One form of DSL (Digital Subscriber Line). ADSL is asymmetric, which means that the connection delivers data downstream from Internet to your computer faster than it delivers data upstream.

Backbone
A backbone delivers major traffic aggregated from smaller attached networks for high-speed transmission, often spanning large geographic areas.

Cable Modem Service
High-speed Internet access provided via cable that is synonymous with the delivery of television signals. Cable digitally transmits data to a cable modem that links to the computer.

Digital Subscriber Line (DSL)
A broadband technology that employs existing copper-based telephone lines to digitally transmit and receive voice, video, and data traffic at high speeds.

Ethernet
Also known as the 802.3 standard, Ethernet is a LAN (local area network) access method. Ethernet is often a shared media LAN on which computers share the total available bandwidth at 10Mbps (Ethernet), 100Mbps (Fast Ethernet), or 1,000Mbps (Gigabit Ethernet).

Gigabit
Equivalent to one billion bits.

Intellectual Property (IP)
Broad category of intangible assets that are legally recognized as being proprietary to a firm. IP includes trademarks, copyrights, patents, customer databases, etc.

Internet Protocol (IP)
The network layer for the TCP/IP communications protocol suite. IP is a connectionless, best-effort packet switching protocol that provides packet routing, fragmentation and reassembly in the data link layer.

Internet Service Provider (ISP)
A firm that provides customers with access to the Internet.

Killer App(lication)
An exceptionally useful or exciting application that justifies the cost of a new system and drives its adoption.

Local Area Network (LAN)
Serve to link computers within a confined geographical area.

Local Access
Also known as the "last mile," local access is the connection between the telephone or cable company and the customer.

Local Exchange Carrier (LEC)
A firm that provides local communications services. Incumbents, known as ILECs, are the traditional and often dominant providers of local communications services. In contrast, Competitive Local Exchange Carriers (CLECs) offer communications services that compete with those offered by ILECs.

Long Distance Carrier (IXC)
A firm that provides inter-regional communications services.

Megabits Per Second (Mbps)
Rating of transmission speed that stands for one million bits per second.

Network
A network is a system that allows for the transmission of voice, video, and data among interconnected computers.

Packet
A packet is a block of data for transmission in packet switched systems.

Point of Presence (POP)
A point where long distance carriers (IXC) connect to the line of local phone companies. For ISPs, a POP is the local exchange users connect to via modem for access to the Internet.

Transmission Control Protocol (TCP)
Is the transport control for the TCP/IP communications protocol suite. TCP ensures that messages are sent accurately and in their entirety.

WAN (Wide Area Network)
Serve to link networks and computers across geographical areas.

Wavelength Division Multiplexing (WDM)
A technology that dramatically increases the capacity of fiber with the use of lasers to transmit several wavelengths of light. In WDM, signals travel within a unique colour band simultaneously over a single strand of fiber.

Appendix I: Summary of Recommendations

Access and Opportunity

Network Infrastructure

Second Quarter Report

Recommendations

The PTC recommends that the provincial government:

- Upgrade and extend SPAN/BC so it is capable of delivering advanced broadband network infrastructure to the communities of British Columbia.

- Aggregate total public sector demand (including core government, health authorities, schools, etc) where feasible to upgrade and expand SPAN/BC so that it will be capable of providing next-generation broadband infrastructure to the communities of British Columbia.

- Investigate fully the economics as well as the potential benefits or obstacles inherent in aggregating public sector demand.

- Investigate all potential levers including – but not limited to – aggregating public demand, so that it can prompt service providers to extend and update their current telecommunications network infrastructure.

- Find ways to open up SPAN/BC to allow communities to take advantage of the government's broadband infrastructure in those communities where the private sector is unlikely to provide high speed Internet access to citizens and businesses.

- Reform procurement policy to allow for flexible, creative and competitive procurement models that will stimulate the private sector to upgrade and expand their broadband network infrastructure, as well as encourage the entry of local service providers, such as community-based networks, into the marketplace. To this end, two or three communities should be identified as pilot sites for further detailed planning, and implementation.

- Conduct a Request for Information that solicits vendor and community stakeholder reaction to these recommendations, and taps into the innovative and creative potential for public-private partnerships that exists in the marketplace.

First Quarter Report

No recommendations. Focused on establishing definitions, determining models to examine, collecting information and creating a public consultation process.

Public Access and Digital Literacy Recommendations

Second Quarter Report

The PTC recommends that the provincial government:

- Make sure that there is public access to the Internet in every community in British Columbia.

- Work closely with the federal government to coordinate the allocation of scarce public dollars for public access.

- Find ways to sustain existing public access sites in the province and meet the growing public demand by increasing, where necessary (based on demographics and usage patterns), the number of sites, the number of public access terminals, the available bandwidth, and the hours of operation.

- Develop a complete map-based inventory of all public access sites by community to determine if the levels of public access and location of sites are appropriate for the size and demographics of the population.

- Improve awareness and visibility of public access.

- Increase staffing levels at public access sites through programs like Youth@BC, through partnering with Industry Canada's CAP Youth program, or through use of the Labour Force Development Agreement with the federal government to train unemployed individuals to work at access sites.

- Work with the First Nations of British Columbia and the federal government to bring information technology, including public Internet access, to remote First Nations communities in British Columbia.

- Determine if the province's 58 sCAT locations and if existing PLNet facilities could be used by the public to access the Internet.

First Quarter Report

No recommendations. Focused on establishing definitions, determining models to examine, collecting information and creating a public consultation process.

Government Operations & Services

Second Quarter Report

The PTC recommends that the provincial government:

- Continue meetings between the executive of the new Health Authorities and the Ministry of Health Services and Ministry of Health Planning to discuss province-wide health information and information technology standards that will apply to all six Health Authorities as they move to restructure and consolidate.

- Ensure each of the Health Authorities appoints a person to be responsible for information management and technology with the task of implementing the appropriate standards in collaboration with the Ministry of Health Services and the other health authorities.

- Ensure that the designated chief information and technology officers of each authority work with the Ministry of Health Services and Ministry of Health Planning and other appropriate ministries to establish integrated technology standards province-wide. At a minimum these information and technology officers should:

  o Establish a consolidated provincial strategy for Health Information Management and Information Technology (IM/IT).

  o Adopt and implement common health information technology infrastructure and standards.

  o Develop a provincial strategy to facilitate Telehealth and electronic health record initiatives in consultation with medical and continuing education units of the colleges and universities.

  o Evaluate and seize opportunities for moving towards shared services where practical and cost-effective.

  o Identify policy changes needed to support the electronic delivery and management of health services.

- o Recognize information technology development as a strategic investment.

- o Facilitate the advancement of key e-health and Electronic Health Record initiatives.

- Establish a British Columbia e-Health Think Tank composed of e-health visionaries, not senior IT staff, who will examine the applications side of e-health, since it will be compelling applications that drive down costs and improve the delivery of health services to the remote and rural regions of the province.

- Extend its standards beyond just ministries to its agencies and other government service providers.

First Quarter Report

No recommendations. Focused on identifying e-health, e-learning, and e-procurement as three areas that can drive British Columbia's e-government initiative.

Industry Growth & Development

Second Quarter Report

Recommendations

Accelerating 'Early Stage' Technology Investment:

The provincial government should proceed promptly with the following streamlining amendments to the *SBVC Act* to address the need for early stage capital investment in technology companies:

- Expand the tax credit budget legislated under the *SBVC Act* from $50 million to $100 million annually.

- Introduce an investment model under the *SBVC Act* that does not require the registration of a separate VCC to facilitate investment and tax credits under the programs in order to allow direct investment, cut red tape and reduce program registration costs.

- Increase the total amount of capital one business may receive under the program (beyond the current $3 million) to better reflect the capital needs of many early stage technology companies.

- Increase the employee threshold limit for a small business from 75 to at least 150.

- Allow approval for common investment regimen, such as multi-tranche investments over multiple years based on attainment of established milestones.

Levelling the Playing Field for Tax Credit Investment in British Columbia:

The provincial government should enable small businesses and venture capital managers participating under the *SBVC Act* to raise and invest venture capital, with the assistance of tax credits, under the same conditions that are presently offered to the one Labour Sponsored Venture Capital Corporation (LSVCC) operating in British Columbia and other LSVCCs operating throughout Canada.

To achieve parity with labour sponsored funds, the task group recommends the following amendments be made to the *SBVC Act*:

- Allow program investors the option to invest directly from their self-directed Retirement Savings Plans.

- Make the tax credit incentives available for program investment within 60 days after the calendar year.

- Increase program flexibility in program capital investment beyond simple common or preferred shares.

- Provide VCC investors up to 24 months to complete investments.

- Open up the tax credits provided to the sole LSVCC to competition by allowing other venture capital firms to enter the market to create a more dynamic venture capital community.

Additional Recommendations:

The provincial government should take steps to create an e-learning chair.

The provincial government should work with the federal government to change immigration rules so that spouses of employees moving to British Columbia can work here automatically.

The provincial government should expedite its efforts to rewrite its Policy and Legislative Framework around Procurement Reform so as to result in more streamlined, flexible, and cost-effective processes for both government and the

British Columbia supplier community, ensuring fair and open procurement throughout the province. The government should also develop procurement policies and educational programs for both ministries and the supplier community which will provide British Columbia-based technology companies with the tools and skills required to compete more effectively for government contracts.

First Quarter Report

Recommended that government:

- Double the number of computer science and electrical engineering graduates from B.C. post-secondary institutions.

- Establish 20 B.C. Research Chairs in the fields of medical, social, environmental, and technological research.

- Attract senior professionals to accelerate industry growth and learning including:

    - Making changes to immigration policy.
    - Establishing an Info-Office to aid in the recruitment of out of province technology workers and relocation of technology companies to B.C.
    - Implementation of a competitive provincial stock option program for B.C. workers.
    - Resolution of cross-boarder security issues with the U.S.

Marketing & Public Awareness

Second Quarter Report

The PTC recommends that the provincial government:

- Develop a provincial branding and marketing strategy that feature technology and innovation as key drivers supporting British Columbia's image as a place with a sustainable and vibrant economy, including resource and knowledge-based industries, and an unparalleled quality of life.

- Develop a strong macro-image positioning British Columbia as a desirable technology destination for investors, employees and site selectors.

- Develop and execute its provincial branding strategy in consultation with the technology community.

- Target its technology industry marketing effort at key audiences that include decision makers in technology investment, site selection and highly skilled workers.

- Focus its technology industry marketing strategy initially on four sectors known as areas of strength within the province: biotechnology, wireless, alternative energy and new media.

- Focus its marketing strategy to attract highly skilled workers or those individuals that may be predisposed to move to Canada such as expatriate Canadian and British Columbian technology workers and members of communities that are already represented in British Columbia.

First Quarter Report

Recommended that government:

- Establish a domestic and international campaign to promote British Columbia's quality of life, superior infrastructure, education system, technology community and business-friendly environment.

- Educate British Columbians about the benefits of being fully connected, including access to relevant Internet-based applications and information, and increasing e-government services.

Appendix J: The Premier's Technology Council

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Premier
Office of the Premier

Co-Chair
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Sr. Vice President
Electronic Arts, Inc.

Members:

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Chief Operating Officer
PMC-Sierra Inc.

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Crystal Decisions

Mr. David Sutcliffe
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Marilyn Hutchinson, Mid-Island Science, Technology and Innovation Council (MISTIC)
Catharine Wright, Executive Director, Interior Science and Innovation Council
Margret Horvath, Executive Director, Okanagan Science and Technology Council (OSTEC)

Associations

Canarie, Dr. Andrew Bjerring, President and CEO

Other Individuals

Paul Fletcher, Deloitte & Touche
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