

**COMMUNITY ONLINE AND PUBLIC POLICY:
TELECOMMUNITIES CANADA'S SUBMISSION
TO THE TELECOMMUNICATIONS POLICY REVIEW**

AUGUST 15, 2005

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CHANGING THE FRAMEWORK OF ISSUES

When we frame issues in terms of a citizen's relationship to governance online, or an individual's relationship to social networks and community in a Knowledge Society, a transformation in the nature of the public good comes into view.

The **Telecommunications Policy Review Consultation Paper (CP)** begins with:

“The continued development of advanced telecommunications networks and services is of critical importance to Canadian society.” (CP 1)

We agree that this opening statement is true. But we submit that the analysis of issues which follows from it understates the case. Making the assumption that issues of technology and market transformation alone will set the framework for public policy constrains the analysis in ways that make issues difficult to see. It's a question of process, not products. We are all now dependent on Internet Protocol (IP) based telecommunications networks. We know that our experience of them involves fundamental changes in both the functions and structure of basic socio-economic and political relationships. The overall processes by which communications networks shape transactions and relationships are more fundamental to understanding the need for policy change than are the particulars of the production and consumption of goods and services.

Telecommunities Canada (TC) is a national association for sharing the practices of community networks. We are a group of community networking advocates and participatory researchers who act to understand what happens when people choose to shape the uses of ICTs in their communities. We seek to remind Canada's public policy debates that existing community networks directly experience the effective use of ICTs for community development. Together with like-minded groups, our goal is to connect policy and practice in ways that expand and improve the ability of communities to design their own future. (See for example: **Beyond the**

Information Society: enabling communities to create the world we want. TC, May 2005.
<http://www.tc.ca/enabling.html>)

TC has never taken the conventional view of social change as technology driven. We have always assumed there is an emerging set of social and cultural changes of which the Internet is a symptom. By making this supposition we can then ask, “What new social forms are the most viable in that new environment?” TC’s answer is that the form or process called “community,” re-defined by being online, is the one most viable.

Yes, a society and its technologies interact. We do make our networks and then our networks do make us. But the interaction is not a matter of deciding on which is the chicken and which is the egg. Tools are made in the context of cultural needs and practices. For example, in making music, the art grows out of constant practice, then adding one more note. A person who sees the way things are done in that society one day asks, “I wonder if I can make this thing in a different way?”

In our view, community networking should not be defined institutionally. We define community networking as the shared experiences of communities of practice related to understanding how community is achieved online.

The Consultation Paper proposes issues in terms of technologies, public utilities and change in an industry in relation to its markets. It does not propose issues in terms of a citizen’s relationship to governance online or an individual’s relationship to social networks in a Knowledge Society. We see these issues as representing a transformation in the nature of the public good.

Our interpretation of essential public policy issues may stretch the limits of the Panel’s mandate. However, it is the structure of the Federal Government itself that separates issues of transition to a connected Canada into silos of responsibility. It does this in a way that blocks any comprehensive discussion of the horizontal impact of networks on Canadian society. Given our view that community online is at least as central to an understanding of the content of necessary public policy in a Knowledge Society as the telecommunications industry, it is tempting to follow the easy path and squeeze all of our recommendations under the headings of:

- **“F. Other Issues”** *F.1 What other issues should the Panel take into account in making its recommendations?* (CP 38), and
- **“G. Implementation.”** *G.5 What other measures should be taken to implement the telecommunications policy and regulatory changes discussed in this document?* (CP 39)

But, in what follows, we will provide several detailed examples of how the assumptions implicit in the Review’s questions would need to change to fit that view.

A SUMMARY OF TC'S RECOMMENDED "MUST DO" LIST

We identify a major issue – the story of community-based daily life online and its absence from public policy debate. Within the framework of that issue, we can buy into an “infrastructure” strategy, as opposed to a sector support strategy. But the trick is that infrastructure in a Knowledge Society is far different from an Industrial Society. There is now far more at stake than issues of industry support. We recommend an approach to policy and regulatory reform that is open, transparent, and broadly representative of Canadian experience of the Knowledge Society, something that points toward where we’re going, not where we’ve been:

- National processes must affirm the central role of the individual in community as the key to development.
- Capitalize on the capacity that community online has to intensify the horizontal integration and expression of practice and experience.
- Seek broader public participation in dialogue on the nature of Canada as a Knowledge Society.
- The proper infrastructure is a mesh of open networks – controlled locally so that the decisions to interconnect remain at the ends – in the hands of the participating communities and municipalities. Canada should go its own way and become the benchmark for local networks that are open.
- Since the key to productivity rests in the complexity and diversity of the connections that individuals and communities can initiate and sustain, invest in the development of “groupware,” as an essential and continuing need.
- Governments at all levels have an essential policy and regulatory role in enabling the use of IP to grow and thrive by sustaining the existence of the Internet “backbone” as a network of IP-based networks. Changes to Internet governance should not impede the development of the Internet as a commons.
- Since the real market is now in services rather than “access,” policy discussion must now consider how all application and services providers can operate on a level playing field. The fastest route to growth in broadband use will focus on community-based approaches to open networks that foster the growth of services and markets online through flat access prices for IP.
- Municipalities in particular should be assisted to own, operate and control local open networks as a means of accelerating the growth and diversity of local markets for use of online applications and services.
- Financial and program responses to the “digital divide” must be designed to support community-based initiatives.

- Strategies for support of ICT use and development must ensure self-identification, openness, inclusion and participation.
- Those working to design, implement and operate systems of ICT use must take responsibility to ensure that the characteristics of communities are respected and included in the outcomes of their professional work and practices.

TO INTERACT IS TO PARTICIPATE

The telecommunications industry is only part of the picture in seeking to understand the socio-economic and political impact of the Internet. In a Canada that is connected, the central issue of any “telecom” policy review is really going to be about emerging new forms of governance.

Any review of Canada’s policies for support of the “communications technology industry” must be conducted against the broader context of Canada’s capacity to address its own transition to a Knowledge Society. A review should ask, “What is the real operating model of a Knowledge Society’ and where does it come from?” To answer that question, people at the centre of any national policy planning process need to interact deeply with the changing nature of citizens’ experience. Without achieving a broader consensus on the socio-economic and political context of Canada’s transition, we all have very little basis for understanding and discussing what needs to be done in response.

Canada’s transition toward becoming a Knowledge Society is well advanced. To mirror the changes that have occurred as a consequence, new and different models of dialogue are now necessary. There is much to be gained by effectively informing a process of policy formulation through public participation that is more broadly socio-economic in its scope and implications. The issues of public interest and policy involved have grown much more complex than the phrase “telecommunications industry” encompasses. They should no longer be considered outside of the context of experience with effective use of those technologies.

The diffusion of Information and Communications Technologies (ICTs) is certainly a prime contributor to productivity growth everywhere in our economy. But it is also a potent indicator of change in social structure. Therefore, while we agree that the creation of a favourable environment for the spread of ICTs remains an important responsibility for policy makers, we see the demands of that responsibility to be much greater than previous reviews have anticipated. For example:

- Open networks (operator neutral networks) are the key to the growth of essential new competitors and the emergence of now unknowable new services in a networked economy. We need new business and regulatory models that support the interactive peer-to-peer traffic that is now understood clearly as the key to rapid growth in broadband use.
- If a networked market can best be understood as a “community” of actors, then the consumers of those services are as much a factor in the balance of distributed functions as any of the other actors. But when are their voices ever heard in the “business case?”

- In a Connected Canada, there are unnoticed local communities of place, practice and interest that are interacting globally and thereby expressing Canadian experience of transition directly. These groups exhibit characteristics of being global, horizontal, distributed and self-organizing. We can begin a process of review by identifying and talking with those who have already made the transition to daily life online. We can ask them how they would design an increased national capacity to understand what is happening to us all.
- The lessons emerging from hands-on community experience of broadband show us that, whatever the applications of broadband to daily living may be, they are not to be found exclusively in sectors of service. They are to be found in the new ways that people connect to each other. As any sector adapts, what it learns about transition will be found in two places. First in that sector's openness (its connection) to other processes and institutions of anticipation within Canadian society overall. Second, in the way that augmented social networks change relationships among autonomous individuals.

No one agency, including TC, can have a lock on Canadian experience of transition. But we believe that the “will” of citizens online is changing in ways that can be discovered by taking a different approach to listening and learning from what is already there. We have always assumed that the condition of being in community and online presages emerging new forms of governance and innovation related to the nature of self-organizing and distributed systems. Given acceptance of the assumption that community online is an essential structural principle, what new picture of Canada as a Knowledge Society will emerge, and what are the implications of that picture for public policy?

This is a very broad question. The narrower views provided by using such policy filters as “IT sector,” or “broadcasting” or “telecommunications industry” are no longer very useful in looking for a deeper understanding. In essence, in a networked society, we are all “application providers.” From that governance perspective, such things as reviewing telecommunications policy, revisiting Connecting Canada and addressing the democratic deficit are all inextricably linked.

In other words, in a Canada that is connected, the central issue of any “telecom” policy review is really going to be about emerging new forms of governance. That places the idea of community online at the heart of any understanding of how the politics of decision-making adapt to transition.

Within TC, we will continue to work toward our own long-term goal for sharing of Canadian community networking experience. We will seek to more fully inform the processes of socio-economic and political change through research, design, implementation and sharing of experience about information and communications technologies that augment social networks. We will intensify the horizontal linkages among communities of practice about community online. In drawing upon that experience, we feel we are pointing to an ongoing and dynamic capacity that is essential to the socio-economic development and political evolution of Canada.

The so-called “users” (the "demand" side of the equation) are, in reality the citizens of Canada. They really do know a great deal about transition and convergence. We are all online now in one way or another and, as a consequence, we are beginning to see our experiences in a different light. In the production and consumption of services that operate through networks, all sorts of new balances of actors and distributed functions are beginning emerge. It would be useful to seek broader public participation in dialogue on the nature of Canada as a Knowledge Society. Such a dialogue would surface and express what Canadians are learning about how the online context now reshapes questions about the public interest.

We are pointing to a gap that exists between citizens’ experience and governments’ perception of what drives transition. By what method or means can we narrow that gap? Assuming that, by now in a highly “Connected Canada,” something quite different will be lurking below the surface of awareness, we believe a new understanding can surface about how the consequences of connectivity inform public opinion and behavior. What Canada then gains from tapping into that experience is enhanced national capacity to express what we are learning about our transition to a Knowledge Society.

THE SIGNIFICANCE OF A NETWORKED ECONOMY

The socio-economic and political benefits of network economics emerge from the density of possible connections. But, in saying as we do, that understanding of change begins in socio-economic impact assessment and not in technology, we are obligated to provide an example of what that might mean. Consider what follows in this section as a working hypothesis.

A synthesis of community networking experience would explain what we are seeing in socio-economic change from an alternative view. We believe that it would show:

- a. A structure of self-organizing networks that distribute functions among all participants, and
- b. That such a structure is most easily observed in operation by reference to the idea of community online and an understanding of the groupwares that support it, and
- c. That the fastest route to growth in broadband use will focus on community-based approaches to open networks that foster the growth of services and markets online through flat access prices for IP.

It is in Canada’s long-term interest that the multiplicity of networks thrives and increases, because the socio-economic and political benefits of network economics emerge from the density of possible connections. A networked economy must ensure that communities of practice can learn when and how to link together.

There is nothing passive about “interaction” in a networked economy. Working together online is like a conversation where everyone is speaking and responding. In the dynamic fluidity of networks as conversations, predicting the future of demand is going to be too slow a means of organizing a response and it always going to be wrong. Finding the meaning of interaction resides in the present moment, in the act and not in the end, not in the product itself, but in the

interaction that occurs as consequence of use. In effect, production becomes improvised in the present moment as a response to the situational experience of demand.

Interactive connectivity will increase, with the result that the social networks, the key determinants of our identity as individuals, will be altered in complex ways. Ultimately, the always-unpredictable behaviour of humans as social beings is going to get even more unpredictable. Because of IP, where the observers become part of the observed system and no longer external and neutral, we all get to become participant/observers. The greater the degree of complexity and accessibility of the models of our individual and networked behaviours, the more that those mirrors of the self cause the outcomes of the systems so observed from within to become uncertain.

The “masses” – mass movements, mass markets – never existed, except as social constructs. It has always been the individual, the whole being, that came into participation in social networks. Now, in the political economy of online networks, the roles of citizen, consumer and producer converge, and the behaviours of individuals in those networks cannot be explained by reference to any of those roles in isolation.

More than the death of distance, what the steady reduction of transaction costs in networks really does is eliminate time as a factor in the response to demand made by systems of production. This is not merely an increase in speed. Just as the human mind can learn to catch the ball in flight without thought, networks of production can respond to demand. Without the need to use managed or organized actions to anticipate demand, production no longer means anything at all. It just is.

Such systems of production are experiential. They interact in the present moment through relationships that continually alter as new learning occurs through experience. On the other hand, block that learning and the systems fall apart.

Improvisation focuses on the act of making, rather than the product as an object. Because it supplies the context for learning, decision-making resides as much in the consumption (use) of a product as it does in its creation. Communities of practice, where demand and supply and user and creator converge, become central to the act of producing.

A dynamic distributed network is good at learning from experience. Another word for learning from experience is memory. A network remembers what it learns, but it dynamically relates experience to memory, continuously revising memory in the process. Neither learning nor memory nor participation are scarce resources, so the economics of demand don't apply. What is a scarce resource is attention. A dynamic distributed network is much better at allocating resources to the problem of attention than is a mechanistic or “managed” system. A distributed network is neither top down, nor bottom up. It is distributed. The best groupware is going to be that which feeds back what the participants of a network are paying attention to – i.e. to the total sum of experience from all interacting individuals.

A community online that self-organizes and then dissolves is not the product of an ideology that shapes beliefs among the particular individuals that compose it. Yet every individual in it writes

and performs the scripts of its discourse in the context of a system of beliefs. The community online will have a subject that engages its attention, and it will remember practices that are the result of the collective experience of engaging with that subject. It does not thereby maintain a group ideology. It merely reacts to the context of experience.

WHAT'S FAILURE IN MARKETS ONLINE?

In the demand-driven world of networked economies, the consumer is as much a part of the community of use as is the so-called “producer.”

In exploring the role of governments (at all levels) in telecommunications markets, it's important to avoid technological determinism. It is not the “technological landscape” (CP 21) that's changing. It's the society that's changing and creating technologies that express that change.

C. Regulatory Institutions

1 The Government Role in Telecommunications Markets

C.1 Is the allocation of governance and operational functions outlined above (i.e. policy development and law making, regulation, and network operation and service provision) appropriate for Canada? If so, is it being properly applied under the current regulatory framework? If not, please describe the preferred allocation of functions. (CP 21)

2 The Implications of Convergence

C.22 Please provide comments on the nature and extent of convergence as a technological and industry trend and propose any changes to Canadian telecommunications regulatory framework that should be made to ensure this framework can cope adequately with technological changes. (CP 28)

“Telus suffers from the same malaise that drags down incumbent telephone companies across North America. Long-distance revenues are plummeting. Local phone sales are about to do the same. Traditional telcos are dead meat.”

(Derek DeCloet. **How to get the biggest payoff from wireless.** Globe and Mail, September 16 2004, B20).

“Our ability to efficiently deliver a competitive quadruple play is a key differentiator.”

(Pierre Blouin, President, Bell Consumer Group, quoted in Catherine McLean. **Bell Canada buys cable assets.** Globe and Mail, August 3 2005, B2).

“This is not telecom as usual. There is no incumbency advantage any longer.”

(Mirko Bibic, Bell Canada Chief of Regulatory Affairs, quoted in, Simon Avery. **Bell says regulators too slow on developing rules for VOIP.** Globe and Mail, September 15 2004, B6).

“We don’t today see the ability, from the financial point of view, to make fibre to the home work, given bandwidth capability of fibre to the node and the likelihood of further improvement in compression technology that will allow the delivery of even more services.”

(Michael Sabia, BCE CIO, quoted in: Simon Avery. **Sabia lays out a new BCE: lower costs, more wireless.** Globe and Mail, December 16 2004, B1).

The incumbent telecommunications carriers view the idea of “convergence” of media as a major source of their problems. But what we see happening is not convergence. It’s a replacement of one set of communications technologies with another. Via interactive communications based on IP, there are now many more stakeholders involved in what used to be called telecommunications when Connecting Canada was conceived.

To use the primary carriers own language, what was formerly viewed as a telecom market has already become “services” market that includes the “triple play” of data, voice and images over the same IP-based networks. The discussion must move to considering how all application providers gain access to existing infrastructure. This is a change that the current framework of regulations and policies does not anticipate. To rely on the prime carriers themselves to resolve the difficulties is to be reactive in the extreme.

In Canadian media, the call to re-shape the laws and institutions that govern the telecommunications industry appear to be driven more by Michael Sabia, BCE CEO, than by the Government of Canada. Given BCE’s dominant carrier position, Sabia’s claims that technological change have somehow moved BCE and the other prime carriers beyond anti-competitive behaviour seems disingenuous.

BCE knows what’s good for BCE and believes that it has successfully repositioned itself to compete in an industry radically transformed by technology. Michael Sabia has said,

“We’re not yet in the seventh-inning stretch. But I do think we’re through the early parts of the game. I think the pattern of the game is set, and I think the plans for the rest of the game are very clearly set.” (Simon Avery. **Sabia lays out a new BCE: lower costs, more wireless.** Globe and Mail, December 16 2004, B1 and B7, p. B1).

“This industry is so integral to our success as a country that it warrants a high place on the public agenda.” (Michael Sabia, BCE CEO, quoted in: Simon Tuck. **BCE’s Sabia warns Canada is neglecting vital tech sector.** Globe and Mail, September 28, 2004, B3).

Given a consistent set of Government policies centered on defending the significance of IP and open systems, we believe that no existing prime carrier can continue to dominate the market. But we do see a reasonable risk that the pattern of the game as perceived by BCE and the pattern of the game as perceived by Industry Canada is similar. If so, that would be unfortunate.

E. Making the Most of Technology

E.1 What is the relationship between investment in ICT and productivity? In particular, in what industries does investment in ICT increase productivity? Under what circumstances does this occur? (CP 33)

In the world according to community networking, the investment in “groupware,” or the capacity of an individual or group to grow and sustain community online, is an essential and continuing need. The key to productivity is always going to rest in the complexity and diversity of the connections that individuals and communities can initiate and sustain.

E.3 Are Canadian businesses and governments under-investing in ICT? On what basis can the Canadian level of ICT investment be assessed to determine if it is appropriate? Is ICT investment by the United States the appropriate comparison point? If not, which jurisdictions should Canada use as a benchmark (CP 34)

Canada should go its own way and become the benchmark for local networks that are open.

E. Making the Most of Technology

4 ICT in the Home

E.16 What measures, if any, should the federal government take to increase the usage of the Internet and adoption of ICT by consumers? (CP 38)

By reference to citizens, not “consumers.”

“The war for subscribers is on, and all carriers, service providers and cable companies are doing everything in their power to lock customers in. If they can own the subscriber and provide voice, video and TV service, they can up-sell them additional services.”

Jim Dondero, vice-president , wireline and optical marketing, Nortel Networks Corp quoted in **THE FIGHT FOR THE ‘BIG, FAT PIPE,’ National Post, 2/23/05**

VOIP is the first thing that challenges the supply-sided and network control-centered business model of the prime telecommunications carriers with a user-centered demand model. In the future, those systems that are defined by end-use, and not by capacity to supply, are going to work better. But, if the interaction in those systems goes both ways, how can it be called a “big fat pipe?”

Jim Dondero is wrong, and he is not alone in taking a supply-sided view. If the networks remain open, then in the longer -term, “bundling” of services is a ridiculous strategy. First, it is NOT in the consumer’s interest to get trapped into the role of “subscriber,” and it is NOT in the nature of their experience with IP that they will allow themselves to be so trapped. Second, in the demand-driven world of networked economies, the consumer is as much a part of the community of use as is the so-called “producer.”

“The dogma of the age held that ordinary people had no need to upload; they were consumers, not producers. Fast-forward to today, and the poster child of the new Internet regime is BitTorrent. The brilliance of BitTorrent is in its exploitation of near-symmetrical communication rates. Users upload stuff while they are downloading. It assumes participation, not mere consumption. Our communication infrastructure has taken only the first steps in this great shift from audience to participants, but that is where it will go in the next decade.”

(Kevin Kelly. **We are the Web.** Wired, August 2005, 92-99, 132-135, pp 99,132).

“This process of ‘regulatory classification’ is by no means a purely administrative act. A lot is at stake and different interest groups have therefore mobilized to shape the respective outcomes. Because legacy regulatory systems in Europe and the United States differ, the regulatory treatment of VOIP in the two markets is beginning to differ as well. Yet in both markets there is a substantial danger that fitting VOIP into existing classifications will force VOIP to look like regular telephony, thereby limiting its innovative potential.”

(David Bach and Jonathan Sallet . **The challenges of classification: emerging VOIP regulation in Europe and the United States.** First Monday, July 2005 (volume 10, number 7).
http://firstmonday.org/issues/issue10_7/bach/).

The revenue for carriers can and must accrue from relationships with applications and service providers for access to consumers via the backbones, not in direct carrier-consumer relationships that tie together connection and use. Otherwise, the real markets, which emerge through innovation in and proliferation of applications and services, will continue to be strangled. On the other hand, providing revenue from carrier-provider relationships in response to end-use will insure that carriers have an incentive to assist in an explosive growth of the market for services.

“In some respects, we are a communications company. Since day one, the customer has been the guiding voice. We gave them the avenue and forums to communicate. It means we don’t have to hope what we introduce will be well adopted.”

(Jordan Banks, Managing Director of E-Bay Canada, quoted in: Simon Avery. **From early Web visions, they spun gold.** Globe and Mail, August 1 2005, B4).

The long-term benefit of open networks is going to be found in the liberating effect on end users and application developers long constrained by bandwidth limitations. In particular, this will give them the impetus to develop new applications and services that otherwise would not be feasible. The lowering of risk to providers of services lowers the barriers to entrepreneurialism and innovation.

IP RULES

In a Knowledge Society, the IP networks are essential public goods. Ensuring access to end-to-end connectivity in those networks is the responsibility of governments, not corporations.

The world now stands on the back of IP. You ask, “What does IP stand on?” It’s all IP, all the way down.

We agree that, “Internet Protocol (IP) networks have been a fundamental driver of innovation and demand for connectivity” (CP 4). But that word “protocol” in “Internet Protocol” has very broad implications. It is IP that makes networks, including social networks, “open.” And there is nothing inherent in the competitive strategies of the telecommunications industries that guarantees that the networks stay open. But it is essential that regulation ensures that they do.

“Mr Berners-Lee saw computer data everywhere linked together, believing it possible to connect anything with anything, in a system free of hierarchical classification. He also realized that the system had to be entirely decentralized, so that people anywhere could use it, without needing permission, and links could be added by anyone with ease.”

(Simon Avery. **The humble beginnings of the World Wide Web.**

Globe and Mail, August 1 2005, B4).

The CP correctly identifies the significance of Internet Protocol (IP) as the key driver of change. But it has not followed that identification to the logical conclusion that the “protocol” in IP means a radical revision in our understanding of the nature of governance. This doesn’t mean that governments should “regulate” the Internet. What it must do, its policy role, is to enable the use of IP to grow and thrive. Nothing in the present policy formulation processes or regulatory institutions meets this need. This is not a matter of policy for the “telecommunications industry” as such. The role has neither been anticipated nor addressed.

A. The Changing Telecommunications Environment

Forces Shaping the Future

A.1 Comment on the technological developments described above and provide your views on how telecommunications and ICT technologies will change over the next 10 years. (CP 7)

A.4 Are there likely to be multiple IP network providers offering service to the home, business and public sector? (CP 7)

A.5 Is the Canadian competitive environment in telecommunications likely to evolve into a form of duopoly (i.e. incumbent local exchange carriers (ILECs) versus cable companies? (CP 7)

Yes, there must and will be multiple providers, and, no, it will not evolve into a duopoly. New and localized carriers are emerging, and the cost of ownership continues to decline.

A.7 Assuming a “one pipe, multiple applications” environment does evolve, describe the effect of this environment on the market position of existing service providers(CP 8)

That phrase “one pipe” is just one more dangerous metaphor. Given the role of IP and the physics of ubiquitous fibre, the fabric of the telecom infrastructure won’t be “pipe-like.” The fact that the structure is mostly a function of software code will be more clearly visible. Access to IP transport networks will be a commodity.

A.9 Provide any other comments on the implications of IP and other new technologies for the Canadian telecommunications and ICT sector that the Panel should take into account in developing its recommendations. (CP 8)

B. The Regulatory Framework

1 Policy Objectives

B.3 What should be the overall objectives of economic regulation? (CP 13)

It should be to sustain the existence of the Internet “backbone” as a network of IP-based networks that exists for the public good.

Learning encodes experience. What is different about being online is that the learning of communities as interacting entities, not just individual knowledge, becomes accessible. As a consequence, both individuals and communities can know far more about the context of any decisions they face. Conventionally, such new informing of the politics of decision-making is being viewed as a threat to existing institutions of governance. And indeed, its impact is, as yet, immeasurable. But, actually, it adds a new kind of resilience to the fabric of Canadian society.

Community online is thought to be an issue of the rural, the remote and the margins of socio-economic and political change in Canada. But, unnoticed, it has actually moved to the heart of Canada’s experience of the structures that govern interaction in a Knowledge Society. The missing ingredient in the policy equation is acknowledgement of the capacity that community online has to intensify the horizontal integration and expression of experience. In an online world, learning is a matter of both individuals and the communities they inhabit.

On October 13, 2004, the Globe and Mail (E1-E6) published **“Connecting Canadians: an information supplement from Bell.”** It explained, across 6 newspaper pages, how we all had been enabled by Bell “to live the digital life style.”

“Life has become on demand.” (E1).

“It seems that to be Canadian is to be connected.” E1

If community is the fabric that binds us, then it is technology that strengthens these ties, overlapping our lives, unifying our experiences and connecting us to one another in ways we never thought imaginable. It enriches our lives by virtue of bringing those who matter to us closer and adding perspective to a world we may not understand. We are all connected. (E3).

The supplement subtly implies we can control our personal relations in the same manner that digital TV controls our channel experience. It speaks to “a new kind of reality” as if Bell had created it. If companies like Bell do succeed in appropriating and commodifying community, then an important battle will have been lost. But life is, of course, far more than a consumer choice of lifestyle, and being a connected Canadian in daily life online is a function of Internet protocol, not Bell.

“The protocols that run in the Internet’s servers, such as the ones used to direct IP packets to their destinations, are described as algorithms – a set of instructions for finding the best path for a packet to take. But the protocols

can also be understood as optimizations – a way to make the best use of the available communications resources given their constraints. Recent research has shown how to solve such constrained optimizations using distributed systems rather than central processors. Thus IO nodes might one day be configured to solve global network management problems through their local behavior so that higher level Internet architecture can emerge from their interactions ... An IO network will be indistinguishable from the computers; it really will be the computer.”

(Neil Gershenfeld, Raffi Krikorian and Danny Cohen. **The Internet of things**. Scientific American, October 2004, 76-81, p. 81).

So, let's take a metaphorical leap. Imagine two scenarios - communities online as distributed systems or the prime telecommunications carriers as central processors. Then ask – which of these is a future that works for you?

In the Knowledge Society, structure is a function of adherence to a protocol - Internet Protocol. All that infrastructure requires to grow appropriately, and to be sustained, is agreement to play by the rules of IP. But we should not expect the rules that govern a Knowledge Society to be the same as those of an Industrial Society.

- It's not about owning hardware or software. The hardware and software can be public or private.
- It's not about turf wars.
- It's not about outsourcing IT departments as administrative overhead
- It's not about making a business case

IP is about end-to-end connectivity in open networks. A level-playing field (an open market) for Internet-based services can only be built from a structure of local decisions. The proper infrastructure is a mesh of open networks – controlled locally so that the decisions to interconnect remain at the ends – in the hands of the participating communities and municipalities.

Imagining that competition is served by a limited number of carriers (as the Review document does) misses the point that a networked economy and an industrial economy (imagined as a structure of “sectors”) is not the same. In essence, a networked economy is a fluid structure of self-organizing communities of interest and of practice. IP sustains the flow of that economy. Anything that blocks the possibility of connection to occur, and the networks of association, production, distribution and consumption to emerge, is wrong.

Internet governance does not only mean governance **of** the Internet. It also means governance **by** the Internet.

If all telecom networks are IP based, then what is now being called “telecom regulation” is, in effect, a form of Internet governance. Or, to put that perhaps more tentatively, that telecom

policy and Internet governance are rapidly converging. If so, then incremental tinkering with existing institutional regulating frameworks isn't going to get the job done.

DEFINING SOCIAL VALUES IN OPEN SYSTEMS

Realizing the opportunities of community as it goes online requires a vision of open systems of access, design, practice, and policy debate.

B. The Regulatory Framework

4 Social regulation

B.32 Are other changes in the Canadian telecommunications policy and regulatory framework warranted in order to protect the interests of Canadian consumers? (CP 20)

In the context of e-governance, citizens are not “consumers” of government services. They have a right to expect all levels of government to engage effectively with them, and with their networks and communities, interactively and online.

“In this paper, the term social regulation refers to regulation intended to address a range of issues related to social values, such as protection of privacy, access by disabled consumers, public safety and basic consumer protection measures such as clarity in billing, reasonable terms of payment and prior consent to transfer of service.” (CP 19)

TC uses a broader definition of “social values.” Realizing the opportunities of community as it goes online requires a vision of open systems of access, design, practice, and policy debate. To ensure that policies and practices align with the quality of community essential to a Knowledge Society, we recommend that:

- national processes affirm the central role of the individual in community as the key to development.
- financial and program responses to the “digital divide” be designed to support community-based initiatives.
- changes to Internet governance not impede the development of the Internet as a commons.
- strategies for support of ICT use and development ensure self-identification, openness, inclusion and participation.

- those working to design, implement and operate systems of ICT use take responsibility to ensure that the characteristics of communities are respected and included in the outcomes of their professional work and practices.

D. Canada's Connectivity Agenda

D.1 What is the current status of access to broadband and advanced ICT in Canada? Is this situation likely to improve or deteriorate with the introduction of new technologies? Specifically what emerging technologies will increase or decrease the gap experienced by unserved and underserved communities, and in what time frame? (CP 31)

Descending bandwidth costs, and the realization that the markets are in applications and services, not access, will decrease the gap. But the impacts of those two factors are the very things that the prime carriers seek to contain.

The fact of marginalization does not disappear when daily life moves online. What does change is the qualitative nature of its characteristics. Social services agencies now have a new program reality, a new basic necessity in the life of their clients called "being online." This is a significant structural change in the nature of services delivery, and those agencies do not have the program dollars to respond. Response requires a different way of seeing the problem of how the poor are always with us. It's not the "digital divide" or "emerging technologies" that make the gap. It's society online that perpetuates the gap in different ways.

The route to finding an answer to that question does not lie in contemplating change in ICT infrastructure. That way of seeing the problem just perpetuates a sterile technological determinism that will always describe change as a function of the marketing of technologies. The key lies in viewing the Internet as a symptom of underlying change, not a cause of it, in our understanding of how the world works. That view sets public policy debate free to focus on the use of the technology, on what it is that people actually do. Instead of seeing the Internet in terms of technology policy, we can ask what's it for?

ENABLING LOCAL GOVERNMENT CAPABILITIES FOR USE OF ICTS FOR DEVELOPMENT AS A FIRST PRIORITY IN PUBLIC POLICY

Municipalities are largely asleep to the nature of their own direct responsibilities to ensure that their communities have adequate access to open networks and the potential they represent for community development online.

D. Canada's Connectivity Agenda

D.2 Is government or regulatory intervention required to expand Canada's telecommunications network connectivity – or should this be left to the market? Given the level of competition in the broadband access market, as well as the fact that new access and IP

technologies are reducing costs for consumers and improving the business case for service providers, is government or regulatory intervention still required ? (CP 31-32)

D.8 What should be the roles of the various stakeholders – the private sector, CRTC, federal and provincial governments, non-profit organizations, and communities themselves – in bridging Canada’s broadband divide?(CP 32)

Telecom policy and Internet governance are converging. The use of IP-based communications creates a new and now essential communications “space.” It is governments’ responsibility to ensure that space continues to thrive. Municipalities in particular should be assisted to own, operate and control local open networks as a means of accelerating the growth and diversity of local markets for use of online applications and services. To see the infrastructure of a networked economy as a duopoly of prime carriers of telephone and cable is a dead-end trap.

The economics of open broadband networks are becoming so cheap that anyone, local governments, school boards, community associations, can build and operate one, and usually cheaper than they can buy or outsource the “service.”

It is going to take both private and public investment. What is new is not that governments still do have an investment role. It’s in where the public moneys most urgently need to be applied. They need to be locally applied.

As the Internet re-defines the spaces we live in, what are the consequences for governance? And, particularly in municipalities, what is the relationship of broadband open networks to their socioeconomic development? We believe that E-governance strategies are not technology policy. They are development policy. They bring the idea of community into the heart of politics in a different way.

In an online world, it is unreasonable to expect that the issue of transformation of governance can be left to the municipal IT department or to the prime telecommunications carriers. The advent of broadband Internet-based services challenges local governments to understand and respond to the political economy of the Knowledge Society in a different way. There is a growing gap between the way that citizens live their daily life in a Knowledge Society and the content of public policy debate that elected politicians imagine. That gap may, in part, explain the growing public disenchantment with political process.

Here then is a different way of asking public policy questions about the appropriate uses of Information and Communications Technologies (ICTs) for development.

Key issues for a new local government policy framework:

Infrastructure: Internet Protocol (IP) creates a structure of end-to-end connectivity in open networks. But those are networks of people, not of technologies. They allow for the emergence of what the economist Yochai Benkler has called “commons-based peer production.”

Effective access: Strategies to alleviate poverty are central to economic growth in a networked economy, not in competition with it. Individuals in their communities must be able to make effective use of ICTs to inform their choices about what they produce, what they consume and what they do in relation to others.

Local use and application: Shifting focus from controlling “access” to supporting services allows local markets for online services to thrive.

Community development: In communities of interest and of practice, what we know (indigenous knowledge), and the way we do things around here, are the true sources of innovation.

Enabling policy capacity: How can municipalities grow capacity to learn from experience as the Internet becomes central to their socioeconomic and political development?

By “infrastructure” we mean the social fabric of institutions, organizations and markets as open networks.

Networks reduce transaction costs. Are we doing enough to ensure that local businesses, organizations and individuals can gain that advantage?

Action for local governments: start where?

- Where’s the support for locally controlled broadband networks?
- Where’s the think tank (policy capacity)?
- Where’s the skunk works (link of municipal government to broadband technical innovation and cost reduction)?
- What separates backbone operation from services provision (So that open access and a level playing field on price encourages the growth of new local business on the network)?
- Who will speak about the lessons that get learned?

It is now very clear that incumbent telecommunications carriers are going to continue to show anti-competitive behaviour. It is now very clear that de-regulated local networks are critical to innovation. What measures do municipalities need to take to create the conditions conducive to the development of ICT infrastructure needed for growth within a modern economy? And what will provide equitable access to that economy for all their citizens? This is a local problem - because no one else is going to address it.

A community based open network is as much a matter of legal, financial and contractual organization as it is applying technology. That means the essential partners involved must be quite diverse. Since creativity is derived from the end users, not the network managers, the design processes of an “open” network must be transparent. Ongoing public discussion of the long-term goals, based on the opportunities of aggregation of community demand and community ownership of an open network, would let other potential partners and innovators clearly see the possibilities of participation.

Nobody knows what will happen when broadband Internet access becomes ubiquitous at low cost. When we get there, we will probably discover that it isn't quite where we expected to go. But we do know that a community can accelerate the pace at which the cost of bandwidth for its citizens descends toward zero. And we do know that our communities can learn in the process of supporting that descent.

MOVING TOWARD PROGRAMS THAT ACCESS COMMUNITY

Here are two examples of policy making that do take community-based programs into account.

C. Regulatory Institutions

1 The Government Role in Telecommunications Markets - Policy making

C.9 Should there be any other changes to the telecommunications policy-making process in Canada? (CP 22)

The reality is that anyone in a Knowledge or Learning Society can and should be able to build and operate networks. The real applications are in the interactivity that IP makes possible. The Internet overall is a public good or commons to be regulated in the public interest, not a "market" and therefore subject to the question of market failure.

New Zealand's Digital Strategy

New Zealand does have a new Digital Strategy (NZDS) that illustrates in part how the practices of community networking can play a greater role in public policy for development. (The Digital Strategy: creating our digital future. Ministry of Communication, Government of New Zealand, May 16 2005. http://www.digitalstrategy.govt.nz/templates/Page_165.aspx). The NZDS states, "Communities themselves are best placed to determine their own needs, in partnership with local government and other organizations. To be effective, initiatives must come from communities themselves." (NZDS p. 33-34).

The success of the NZDS is going to depend on the degree to which policies largely internal to government reflect a consensus that has been reached, or may be reached, in the public sphere. Or, to put that another way, it will depend on who gets to tell the story of community networking in New Zealand. It will only work if citizens and their governments are speaking with one voice. But the NZDS does represent an opportunity for the significance of community networking to shine through because:

- The national strategy has actually been set up to learn what daily life in a knowledge society, mediated by broadband connectivity, will be like.
- "Community" is actually recognized as one of the "critical agents of change." That acknowledgement of the role of community in a knowledge society may be a world first.
- Although imagined as a key technology component of a national productivity initiative, the goals are societal, rather than sectoral or primarily economic, and therefore horizontal in their implications.

A community view of Industry Canada's Community Access Program (CAP)

(From: Gareth Shearman, President, Telecommunities Canada, and Peter Frampton, Chair, National Association of Community Access Programs. **CAP – 10 years of investment....**

Telecommunities Canada – a decade of experience: what we know. Delivered during "Paving the Road to Tunis WSIS II: The Views of Canada's Civil Society on the Geneva Plan of Action and the Prospects for Phase II," Winnipeg, May 13-15, 2005. <http://www.tc.ca/winnipeg2005/>).

In that National Capital FreeNet was the prototype for SchoolNet and thus also for CAP, community networking in Canada led the way to "Connecting Canadians." It was the citizens of Canada acting together who first showed the Federal Government what was possible online, and not the reverse.

CAP is a collaboration platform with a proven track record that has touched over 5 million Canadians. The program has brought people together in communities, spawned over 2,000 additional projects across the country each year, engaged over 20,000 community partners, and leveraging well over 150 million dollars.

CAP has been sold as a model for ICT integration to the world. But our experience at home is informative. We need to be careful about what are we exporting because:

- The centralized, program based funding approach makes communities vulnerable to the whimsical winds of change
- Administrivia cripples community capacity (not accountability)
- The "infrastructure" model does not address the reality of the process of technology adoption
- The success of this work depends upon an integrated approach
- The communities have learned that self sufficiency is a better phrase than sustainability

Communities are at the heart of social and economic life. They are the social networks that will forge a "Learning Society." How do we use technology tactically within our communities in order to:

- Break down the digital divide
- Build sustainable communities (IC)
- Build Community Capacity (Social Development)
- Build Skills and Employment (HRSDC)
- Celebrate (Heritage)

We need horizontal policies & practices across governments that align with the quality of community:

- Affirming role of individuals in community
- Financial and program responses to the digital divide
- Internet as a commons
- Strategies that support self-identification, openness, inclusion and participation

Success has been found in the unintended outcomes. A more community led approach to program delivery is needed (& we can learn from our international community investments). But the community based policy environment is weak in Canada. After a decade of investment, no strategic research exists to guide the future, and only in the last year has sharing begun beyond closed regional boundaries. We need to educate government on the creativity of communities. We need to figure out how to aggregate the wide variety of unintended outcomes.