

Individual Digital Rights Nancy Paterson

In discussions of new media (digital) technologies and their impact on individual rights in Canada, we turn first to The Canadian Charter of Rights and Freedoms¹ and its guarantee for Canadians of the following fundamental freedoms:

- a) freedom of conscience and religion;
- b) freedom of thought, belief, opinion and expression, including freedom of the press and other media of communication;
- c) freedom of peaceful assembly; and
- d) freedom of association.

These freedoms are subject only to such reasonable limits prescribed by law as can be demonstrably justified in a free and democratic society. This means both that a limitation on freedom of expression can be permitted if this criteria is met and conversely that the invalidation of such a limitation is required if such a limitation is shown to be unjustified in a free and democratic society.

My purpose in writing this paper is to make a case for the government's role in establishing and supporting individual rights of Canadians vis-à-vis regulation of the Internet, however that regulation is undertaken, and whatever body is charged with this task. These rights I term 'individual *digital* rights' as a means of distinguishing them from those rights as they were originally included in documents such as the Canadian Charter of Rights and Freedoms. The Internet has extended our capabilities (speed, range and volume) for obtaining, processing and exchanging information as well as for engaging in communications. The Canadian Charter of Human Rights was written before the full impact of these changes was clear. At the very least this document warrants reexamination; does the Charter as it currently reads allow for the necessary extension of our rights to include digital freedom of expression?

The purpose of the Canadian Human Rights Act is to protect Canadians from discrimination and the federal and provincial Human Rights Commissions were set up to assist with specific dispute resolution. As part of the Constitution itself, the Charter is, in some respects, Canada's most important law because it can render invalid or inoperative any laws that are inconsistent with its provisions. Over the past 20 years, Canadian courts have rendered more than 300 decisions in which they invoke the Charter to bring Canadian laws into accordance with the principles and values of Canadian society. A clear understanding of individual rights as they have been extended by digital media should be prioritized. These 'rights' themselves should not be left for the courts to determine on a case-by-case basis; the role of the courts should be to ensure that these rights are protected and upheld.

Article 19 of the UN Universal Declaration of Human Rights², states that we all share the right to "freedom of opinion and expression; this right includes freedom to hold opinions

¹ Constitution Act, 1982

² Available: <http://www.unhchr.ch/udhr/lang/eng.htm>

without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers.”

Written and adopted in 1948, this declaration demonstrates an understanding of the larger range of individual rights which are not adequately addressed either through the ‘freedom of expression’ phrasing of the Canadian Charter, or the ‘freedom of speech’ guaranteed by the First Amendment of the US Constitution.³ The Charter comes closer to the spirit of the UN Declaration in its guarantee for ‘freedom of thought, belief, opinion and expression, including freedom of the press and other media of communication’ whereas the Amendment to the US Constitution refers only to ‘freedom of speech’ with no mention of media. What is included in the UN Declaration which is missing from both the equivalent US and Canadian document, is the recognition that human rights, individual rights, must include the ability to seek, access and distribute information and ideas (as a means of forming opinions) *in addition* to the freedom to hold and express opinions.

Over the past two decades, decisions of the Supreme Court of Canada have attempted to establish the range of digitally-based activities and actions which are covered by the seemingly catch-all phrase ‘freedom of expression’ and rule on whether specific individual expressions fall within or outside of the parameters of the Criminal Code. Although not specifically mentioned in the Charter, our starting point is the consensus that the Internet is included under the designation of ‘other media of communication.’

Domestically, it has been the Canadian Radio-television Telecommunications Commission (CRTC) which has issued statements and decisions on the government’s behalf regarding Internet regulation. This has been in the interest of containing the Internet within an existing policy model. When issues of convergence and the regulation of digital environments/products were first presented to Canadian policy makers, the over-riding concern was whether these activities should be defined as the equivalent of telecommunications, broadcasting or publishing. Should the Internet be regulated as a broadcast medium (like television) or as a variation on telephone service (ie. as a common carrier)? Other arguments have been made for the Internet as publisher (or self-publisher as in the case of weblogs). And an overarching position champions the Internet as a ‘commons’ where nonrivalrous resources are freely available to be used, shared and exchanged.⁴ Overconsumption is not the only threat to resources held in commons. Lessig insists that “where there is a benefit from leaving a resource free, we should see whether there is a way to avoid overconsumption or inadequate incentives, without its falling under either state or private (market) control. (Future of Ideas, p. 22)

³ The significance of the phrasing of these documents can be demonstrated through related legislation. Matt Skala, a notable critic of New Media Copyright Extensions in Canada, argues that Intellectual Property (specifically Copyright) is a privilege rather than a natural right which cannot supersede freedom of expression which is protected in the Canadian Charter. In the US, the DMCA (Digital Millennium Copyright Act) which includes protection for DRM (Digital Rights Management) technologies, has become law because, in spite of rhetoric to the contrary, their Constitution prioritizes protection of property whereas freedom of speech is protected only through an Amendment.

⁴ Lawrence Lessig details the value of the Internet as a communications commons as a means for promoting innovation.

It is my position that the privatization of the Internet has rendered irrelevant the question of government vs. corporate control of this resource. What is at issue is the role of Internet regulation in ensuring that this resource continues to exist as a commons, with individual digital rights protection.

Under whose mandate and which regulatory regime should govern online activities and services? That is the question we ask next. The question we must answer first, however, is: in whose interest is Internet regulation being proposed?

In February 2002, the federal government of Canada launched a 10-year innovation strategy with the stated intention of moving Canada to the front ranks of the world's most innovative countries. Fifteen goals designed to build on investments already made in research and innovation, were intended to ensure that essential research and technological expertise would be available to enterprises of all sizes, as well as providing access to venture capital financing. The strategy, as outlined in the Industry Canada report 'Achieving Excellence: Investing in People, Knowledge and Opportunity,' recognizes the necessity of considering knowledge to be a strategic national asset. It focuses on how the federal government might facilitate the strengthening of Canada's science and research capacity in order to ensure that this knowledge contributes to building an innovative economy of benefit to all Canadians. The range of these goals are intended to ensure that Canada becomes a world leader in areas such as: developing and applying the path-breaking technologies of the 21st century; creating and commercializing new knowledge; promoting continuous learning; training skilled workers; ensuring a strong and competitive business environment; and strengthening the social economy.⁵

What the government must realize is that a federal innovation strategy can be achieved only with an underlying intent to support it. The only correct answer to the question of whose interest should government regulation of the Internet serve is, of course, the individuals who comprise the Canadian public. If the government can be said to exist for the primary purpose of improving the lives of its citizens, then identifying the rights and interests of these citizens must be the government's first priority.

Democracies traditionally attempt to empower the productivity and protection of its individual members. In Canada these rights are guaranteed in the Charter. Yet organizations such as the Electronic Frontier Foundation (EFF), European Digital Rights and Digital Rights are now compelled to lobby on behalf of individuals and individual digital rights. The key issue which these advocacy groups address is: when did the status of the individual in our democracies change from 'citizen' to 'consumer'? (also, what are the implications of this transformation).

This research will trace, primarily through government reports, the development of a unique Canadian interpretation of individual digital rights. Particularly with respect to

⁵ The United Nations Human Development Report, 2001 included a technology achievement index which measured national economies against eight parameters: patents granted to residents, receipts of royalties and license fees, internet hosts per 1000 people, high and medium technology exports, number of telephones per 1000 people, electricity consumption, mean years of schooling and enrollment in post secondary science education. Using these criteria, Canada was ranked as eighth.

copyright and participation in P2P filesharing (presently of music), many foreign governments seem to be waiting and watching for the decisions of Canadian courts.⁶ The politics of bandwidth and interconnection (both public and private peering) must be considered within the larger context of interactivity. The inevitable evolution of the interface and the transition from a passive to an active viewing model, taken together bandwidth and interconnection constitute a new way of framing democracy and individual rights.

Notwithstanding the pressures of compulsory WIPO treaty compliance, it seems that Canadians have so far enjoyed the ‘benefit of the doubt’ with respect to how individual rights are impacted by these issues.⁷ Individual digital rights, however, should not be secondary considerations which arise only after the potential of new media and technologies are explored.

‘Individual Digital Rights,’ are the means by which independent citizens are empowered to access, produce and distribute information/content within a digital environment – and the corresponding public policies which facilitates this. What has been lost in the transition from a public IP network to a privatized IP network, is the background for this research.

Marshall McLuhan recognized in Understanding Media that “the development of writing and the visual organization of life made possible the discovery of individualism, introspection and so on.” (45) In fact, in The Gutenberg Galaxy he credits print with having created “national uniformity and government centralism, but also individualism and opposition to government as such.” (235) If print alone can be credited with such a radical transformation of human experience and interaction, what is the potential and opportunity for new media, which combine audio, visual (still and moving images), text, computer graphics and multi-dimensional representations? Unless we have the ability to exchange, share and distribute what we are empowered to produce and develop, the answer is: none.

Just as print did in the past, new media technologies today empower the individual. With access to new media technologies, we are no longer just consumers, but are our own developers of media products. But when we are hindered from sharing, distributing or selling these products, when we are essentially stopped from *seeking, accessing and distributing information and ideas*, our freedom of expression is infringed. Arguments supporting freedom of expression or speech include the description of such freedom as a fundamental right essential for the discovery of the truth, an important aspect of self-fulfillment and self-realization and a condition with the potential to promote tolerance.

⁶ Reference

⁷ Michael Geist, who holds the Canada Research Chair in Internet and E-commerce Law at the University of Ottawa, recognizes the barriers that are sometimes created by copyright legislation and takes the news media to task for erroneously trumpeting an end to peer-to-peer as part of the government's proposed copyright reforms.

The United Nations Declaration was written in language intended to promote inclusion of cultures at various levels of economic and technological development. As privileged citizens of a first-world nation, completely immersed in a high-tech capitalist socio-economic model, the assumption is made that our governments support and promote our basic individual/human rights. Despite evidence to the contrary, we hold fast to the belief that *our* elected representatives have as their ultimate goal *our* interests and priorities. A sober examination of the facts reveals that this is not necessarily so. More often than not, corporate or political interests are served, often with disregard for individual liberties and rights. The case in point has been the privatization of the Internet and the subsequent attitudes towards Internet regulation.

The task at hand, then, is twofold. First, to expand the Canadian understanding of individual rights to include individual *digital* rights and in doing so, to delineate what those individual digital rights might be. Then, with these revised definitions in hand it will be the government's task to advance and support these rights. This paper will undertake to define individual digital rights and, using the example of Internet privatization, will suggest a possible route for the task of advancing and supporting these rights.

The purpose in exploring 'individual digital rights' is not to define 'selfhood' nor to delve too deeply into a philosophical examination of the related question of 'identity'. Admittedly our conception of 'self' is central to the way we think and act in the world and also affects political discourse, technological advancements and legal development. In fact, "what we think of individuals and how we conceive of the integrity of persons implicitly or explicitly determines how we think we ought to go about building nations, economies, and legal systems, and how we in fact operate in our own and other cultures." (Baldine).⁸

Unfortunately, Individualism is a term with negative connotations, largely due to the perception that a philosophy which prioritizes the interests of the individual, must do so at the expense of the rest of society. Another criticism of Individualism came from those (including the Marxists) who claimed that the 'individual' had been invented (rather than merely having their existence politically affirmed) in the 16th century, purely for the sake of inspiring and sustaining economic productivity. This perspective held that that in order to create motivation for wealth-creation, the 'individual' was imbued with an artificial significance. A more recent and altogether unfortunate development is the postmodernist celebration of fragmentation and depersonalization as expressions of individual freedom.

In fact, Individualism was one of the three theories (along with Relativism⁹ and Rationalism¹⁰) which fueled the Enlightenment. The first recorded use of the term 'individualism' was in the 1840 translation of de Tocqueville's Democracy in America. On the heels of the French and the industrial revolutions, as honest doubt began to

⁸ Society for Philosophy and Technology http://scholar.lib.vt.edu/ejournals/SPT/v3_n2html/BALDINE.html

⁹ Relativism is the concept that different ideas, cultures, beliefs and value systems have equal merit

¹⁰ Rationalism is the conviction that using the power of reason, we can arrive at the truth, thereby making progress towards the improvement of human life

replace unreasoning faith, the founders of the modern social sciences (Marx, Durkheim, Weber, etc.) undertook to compare those societies based on the group (holistic) with those which emphasized the interests of individuals. Recognizing the importance of the individual and their rights as a citizen inspired classical liberal political principles which mandated that the consent of the governed be upheld in public policy. In fact, the classical liberal political ethos evaluated the quality of any given society on the basis of how loyal it was to the mission of securing the rights of individual citizens to their liberty and pursuit of happiness. Modern individualists such as Rawls continue to argue that individual rights (on which western legal systems rest) must be regarded as fundamental. Rawls argues not that individual rights should be interpreted in terms of a predetermined good, but that the individual is preeminent. Rights have priority over the good, and the 'good' can only be considered once the interests and integrity of individuals is assured. "The conception of human identity in this view is that persons' dignity is inseparable from their individuality and separateness from others and from the society in which they live. The self involved in this conception is a free moral agent, and a person's individuality is prior to his or her ends, or telos." (Baldine)

The dominant view in Canada is that individualism, as opposed to collectivism, defines North American politics. In fact, the model of citizenship dominating the recent and contemporary theory and practice of western democracies rests on the premise that individual liberties are at the heart of citizenship rights (freedom of association, speech and conscience) as well as the premise of citizenship being defined in national terms (the nation state is seen as the privileged locus for political participation, self-government and solidarity). (Kymlicka: 266)

According to T.H. Marshall, the history of citizenship can be seen as a three-stage evolution: in the 18th century citizens acquired civil rights, in the 19th century they acquired political rights, and in the 20th century, they acquired social rights. (Marshall 1965). The individual's right to exist (their philosophical and physical manifestation in the world), their sovereignty or right to make choices and to control their own human resources, are all, in theory at least, protected through democratic public policy. Included among an individual's resources are their own productivity and creativity. These belong to each individual alone unless the individual chooses to employ them for the benefit or profit of a larger cause, an institution or another individual. Whatever its origins or justification, it is clear that individualism and economics have been, and will continue to be, inextricably linked. This is fortunate as the battle for individual digital rights may be framed as the battle to secure an advantage in technological innovation, a goal for which the Canadian government has already expressed support.

The support of individual rights can be described as a means towards achieving successful, long-term innovation. Canada currently has a reputation as a 'last adopter' on many issues relating to intellectual property legislation. The Canadian federal government has developed a reputation of waiting for legal precedents before moving on many issues including digital satellite TV, same-sex marriage, file-sharing, etc. For example, prosecution for downloading and file-sharing of copyrighted material is well underway in the U.S. while in Canada this issue is still being debated in the courts. The phrase 'last

adopter' is particularly relevant in relation to the slow implementation of global treaty requirements at WTO and WIPO. It may be possible, for example, to comply with WTO treaty requirements while implementing Internet infrastructure policies which support individual digital human rights.

Whether by accident or design, Canada is poised to be established as a defender of individual digital rights. If successful, the prioritizing of individual rights over the rights of business and government, will be a practical victory, necessary to liberate innovation from the grip of corporate monopolies and the stranglehold of lawyers and policy-makers intent on 'protecting' creativity through intellectual property legislation.¹¹

Intellectual property begins with a creative individual. The battle for our future is a battle of resources (information) in the new digital economy. The growing threat to individual rights and innovation cannot be understated. Ironically, at the same time that individuals began to gain recognition and prestige as the creative minds behind the new economy, public policy in Canada (as elsewhere) began to privilege corporate rights: "governments ignore human rights in favor of perceived trade advantages."¹²

Unfortunately, innovation has come to be narrowly defined as commercialization and as a result individual innovation is perceived as constituting a threat to established (e.g. analog) business models. Lessig, in describing industry resistance to emerging (digital) media, points out that "faced with a disruptive technology that threatens their way of life – their mode of doing business, their vision of the market – why would those leaders voluntarily step down from their place and enter a different market with uncertain results?" (146) The real danger, therefore, is that Canadian public policy, in attempting to promote innovation, has internalized this attitude and is moving towards a model which supports only those concepts which have demonstrable commercial applications with the requisite short-term (next quarter) timeline. In fact, this is more than a failure of imagination, it is bad business.

As technology provides the means for advancing individual rights to the next level, new media also present significant obstacles or challenges to human rights. These include threats to privacy (currently through RFID or Radio Frequency ID) tracking, ubiquitous surveillance cameras, workplace monitoring of computer access, biometrics as well as datamining. Specific examples include Carnivore, Promis, Sesient (Lexus/Nexus),

Examples of corporate 'rights' being privileged over individual rights are apparent all around us. In an article titled 'Getting Away with Murder' published by the Aurora Institute,¹³ Gil Yaron points out that "we have forgotten our historic relationship to the corporation and have allowed the economic imperative espoused by corporate interests to

11 In particular, patent law is increasingly seen as an impediment to innovation. Skala also points out that intellectual property (specifically copyright) was a privilege created for policy reasons rather than a natural right.

12 Julie Light, "Repression, Inc.: The Assault on Human Rights," Corporate Watch, 4 February 1999.

13 A Vancouver-based not-for-profit organization conducting innovative research and providing public education on the role and structure of public and private institutions in a democratic society.

transform our laws to serve the corporate agenda and the amassing of corporate institutional power.” (p. 2)¹⁴

Over the past 150 years, the corporation has gradually acquired more rights than citizens including immortality, the ability to acquire unlimited capital, to move freely across borders, to shield itself and its shareholders from liability, and to exercise many rights, powers and privileges once reserved solely for humans, such as the freedom of expression under the Charter of Rights and Freedoms. (Yaron, p. 2)

Originally, corporations were considered public institutions. Being granted a charter of incorporation was a privilege not a right and corporations had a finite existence of 20-30 years, were entitled to hold a limited amount of capital and were fully liable for their actions. This meant that when a corporation acted against the public interest or abused its charter, its charter could be revoked by the government. Although in most Canadian provinces corporate laws have been overhauled to remove the statutory right to revoke a corporate charter, an argument may still be made that charter revocation remains a constitutional right under common law. Of course, with government tied to corporations through corporate political financing and the desire to maintain a stable economic system, charter revocation has become an unlikely scenario.

If Naomi Klein’s anti-corporate bible ‘No Logo’ has mobilized activists of the New Left, it remains to be seen whether this inspiration will be more than temporary. Amnesty International has pointed out that the Universal Declaration of Human Rights requires "every individual and every organ of society" to play its part in securing universal observance of human rights, making it the moral if not legal obligation of corporations to contribute. However, it seems unlikely that corporations will accept responsibility for the promotion of individual, human rights when the promotion of those rights may have an adverse effect on their bottom line.

Regulation of content and regulation of infrastructure are two possible approaches for government involvement. The technology itself, and the global nature of the network may require a combination of the two approaches. In addition to understanding how regulation of the Internet is framed in Canada currently, our main concern is detailing how the spirit of individual digital rights must guide any future regulation.

In 1999 the Canadian Radio-television and Telecommunications Commission (CRTC) announced not only that they would not be involved in any regulation of Internet services/content, but that any regulation of new media services on the Internet would be both unwarranted and inappropriate, essentially putting the Canadian new media industry at a competitive disadvantage in the global marketplace. The basis of their decision was an in-depth review of both the Broadcasting Act and Telecommunications Act. The CRTC announced that that both alphanumeric text and “material transmitted over the Internet which is significantly ‘customizable’ or capable of being uniquely tailored by the

¹⁴ Available: <http://www.aurora.ca/info/revoke2.pdf>

individual user”¹⁵ could be excluded from any consideration of Internet as broadcast media. Furthermore, even material which did fall within the definition of broadcasting under the Broadcasting Act, was determined to be exempt for a number of reasons. Primarily, it was determined that regulation of new media services on the Internet would not further the objectives of the Broadcasting Act and business and market incentives (as well as Federal and Provincial government initiatives) were already in place to encourage and support the continued production and distribution of Canadian new media content. However, six years is a lifetime in the context of new media development; that both Internet content and infrastructure have evolved is not surprising. In announcing their hands-off policy with respect to Internet regulation, the CRTC also stated that “The new media complement, rather than substitute for traditional broadcasting. Before the new media could substitute for traditional media, key technological and other developments would have to take place” and “generally applicable Canadian laws, industry self regulation, content filtering software as well as increased media awareness are appropriate tools to deal with offensive and illegal content on the Internet.”

With respect to a hands-off approach to regulating the Internet as a telecommunications media, the CRTC pointed out in their 1999 announcement that they were already mandating access to the high-speed local facilities of telecommunications and cable companies at tariffed rates for retail level Internet Service Providers (ISP’s) and would continue to consider what specific regulatory approach they would take regarding high-speed access on cable. Similarly, they would be examining how best to assure access to the Internet at reasonable costs within the context of the provision of telephone service in high-cost serving areas.

It is important to remember that the CRTC was established to sustain and promote Canadian culture and achieve key social and economic objectives through the regulation and supervision of Canadian broadcasting and telecommunications. The purpose of the Broadcasting Act is to ensure that all Canadians have access to a wide variety of high quality Canadian programming and the purpose of the Telecommunications Act is to ensure that Canadians have access to reliable telephone and other telecommunications services at reasonable prices. The role of the CRTC is to balance the needs and desires of Canadians with those of the communications industry.

Given the Internet’s ability to provide easy access to content which could be considered to violate sections of the Criminal Code of Canada, some forms of regulation seem inevitable. Part of the problem, however, is that the Internet is not one entity but a collection of communications applications: email, netnews, telnet, archives, www (altogether what are increasingly referred to as ICT – Information Communications Technologies) all running over Internet Protocol (IP).. Whether the decision is made to have regulation ultimately dictated by the Broadcast Act or the Telecommunications Act (or by some combination of the two), through content regulation or infrastructure regulation, a policy *direction* must first be established. Determining why the government should be involved in regulating the Internet (both how this can be justified and towards

¹⁵ May 17, 1999 news Release. Available: <http://www.crtc.gc.ca/eng/NEWS/RELEASES/1999/R990517.htm>

what end) will facilitate understanding the process by which this regulation may be undertaken.

Once the 'why' is established, the government can determine who (what body) is going to be responsible for administering any necessary regulation of the Internet, as well as how this regulation is best accomplished – ie. through regulation of content or regulation of infrastructure.

Clearly things have changed since the CRTC Chairperson's pronouncement in 1999 that "our message is clear. We are not regulating any portion of the Internet." The CRTC has subsequently made brief forays into regulation of Internet-based services, specifically VOIP, and they have also expressed an interest in regulation of satellite radio and signal theft.

In the CRTC's Public Notice 1999-84 in which they backed away from Internet regulation, it was stated that it was unnecessary to regulate those aspects of Internet content which could conceivably be defined as broadcasting because "before the new media could substitute for traditional media, key technological and other developments would have to take place." Technology does not stand still. Neither does it wait for legislation. Over the past few years we have become well acquainted with the needs and interests of corporations with respect to new media, from Hollywood to small businesses venturing into e-commerce. However, we are long overdue for an examination of what exactly the needs and desires of Canadians are with respect to Internet-based services.

Discussions about control or regulation of content must be preceded by discussions about infrastructure regulation – because functionality of service depends on what you have access to. Infrastructure design determines what you have access to. Bandwidth is political.

Privatization of the Internet (infrastructure) was accomplished by the mid 1990's. Unfortunately, when a monopoly is privatized, you still have a monopoly, and unregulated monopolies abuse consumers. According to proponents of democratic regulation (particularly those who support the regulation of utilities) a privatized monopoly is a monopoly that requires regulation. Two important principles of democratic regulation which they advocate are transparency and participation¹⁶

The priorities of commercial interests with respect to Internet governance is obvious in the list of Policy Papers produced by the Global Information Infrastructure Commission (GIIC), "a confederation of chief executive officers of firms that develop, operate, rely upon, and finance information and communications technology infrastructure facilities."¹⁷ Established in 1995, the political heads of the world's leading national economies "challenged business leaders to unite in the promotion of public policies and information technology applications likely to spur needed investment in communications infrastructure facilities." A 1996 GIIC publication titled 'Standards, Interoperability and

¹⁶ From 'The Failure of Deregulation in the United States' by Jerrold Oppenheim and Theo MacGregory. Available: democracyandregulation.com

¹⁷ From www.giic.org

Interconnection’ acknowledged that policy developments in this area “do not simply refer to networks and applications, but rather to information and communications infrastructures developed with social values and public order in mind”.¹⁸

In the same document the language utilized demonstrates the transition from considering the end-user as a ‘consumer’ rather than a ‘subscriber’; the emphasis is theirs. “In the past, information communications standards were developed from the standpoint of carriers and manufacturers. Those standards focused on the lower layers to provide satisfactory connection service to “subscribers”...the convergence of computers, broadcasting, and communications will lead to the development of advanced applications. Therefore, official standardization organizations should listen to the views of users as “consumers”.”¹⁹

Regulatory bodies such as the FCC and CRTC routinely employ language which attempts to isolate individuals as end-users; absent is any acknowledgement of the participation of individuals, whether in the capacity of client or server, as peers.

This paper details a number policy recommendations which may be implemented wherever possible and carried forward to meetings regarding global infrastructure design. Supporting innovation through interactivity (the right of individuals to develop and distribute as well as to consume new media products), these recommendations meet the Canadian government’s identification of new media innovation as a priority. More importantly they promote and support specific individual digital rights. These rights include: peering, bandwidth/access, and provisioning

In Canada, in the early 1980’s, all computers connected to the IP network were considered hosts and peered equally. Networks of peers have been in use for many years, two examples being USENET (1979) and FidoNet – an amateur electronic mail network which, in its time, ranked alongside some of the better known commercial online services in terms of number of users (1984). However, peering isn’t just a matter of hardware. Today computer communication networks have software components which far outweigh their hardware components in terms of complexity. Peering utilizes a combination of hardware/software in order to transmit signals from point A to point B. Real world applications today often use multiple protocols and act as client, server, and peer simultaneously, or over time. Peer-to-peer architecture embodies one of the key technical concepts of the internet, described in the first internet RFC, dated 7 April 1969.

The Internet uses a transfer technology called packet switching which demands that each computer on the network play a part in how information is transferred. The Internet is decentralized – it does not use a central hub to direct network traffic. Within the Internet, packets pass from one server to the next by the quickest and most efficient route possible given the circumstances; if a server is unavailable, data are rerouted around the inaccessible site.

¹⁸ www.giic.org/papers/policy/pstandards.asp

¹⁹ www.giic.org/papers/policy/pstandards.asp

For ISPs to offer the service of connecting end-users to the public Internet, it is necessary for them to connect their network to the global network. Interconnection, often termed 'access', is the process of transferring traffic within a network: voice traffic, IP traffic, data traffic, video content, etc. The issue of interconnection within an IP framework is described by the terms 'peering' and 'transit'. Peering is usually a bilateral business and technical arrangement, where two providers agree to accept traffic from each other's customers. It does not include the obligation to carry traffic to third parties. Transit is also a bilateral business and technical arrangement; however in this case one provider agrees to carry traffic to third parties on behalf of another provider. Whereas peering offers a provider access only to a single provider's customers, transit usually provides access at a defined cost to the entire Internet. Technically speaking, peering is simply the agreement to interconnect and exchange routing information. Originally peering was both free and reciprocal (ie. symmetrical).

The financial advantages of peering are obvious. Peering decreases reliance on and therefore cost, of purchased Internet transit (as these are otherwise the single greatest operating expense, ISPs seek to minimize telecommunications costs). Engineering or technical considerations also promote peering; peering lowers inter-Autonomous System (AS) traffic latency because traffic exchanged between two peering ISPs is necessarily taking the lowest latency path.

Without interconnections, many of the benefits the Net has so far realized as an open system could be quashed. Users on one ISP's network would not be able to reach users on another ISP's network. Or, if the terms are commercially discriminatory, then the price of Internet access could artificially skyrocket and new market entrants be disadvantaged. From 'Peering and Fearing: ISP Interconnection and Regulatory issues' by Kenneth Neil Cukier. Available: <http://macross.dynodns.net/idr/Cukier.html>

Privatization of the Internet backbone was a process overseen by the US government and unfortunately, mistakes made during this process have subsequently been compounded. A lack of transparency in government decision making and the favouring of incumbent contractors during privatization made it impossible to achieve the fundamental goal of privatization: the creation and maintenance of competition. Privatization was treated "as an end all by itself and not as a means to achieve a desirable public purpose, the facilitation of competition in the marketplace." (Fool us Once, p. 8). Redesigning the technological infrastructure of the Internet to favour a few large backbone providers over smaller networks encouraged bandwidth trading in addition to significantly reducing the level of competition for backbone service.

Following privatization, large ISPs began to realize their value as peering partners for smaller ISPs, and began to charge for transit, the right to move traffic across their networks. In 1999, Telephony Online reported that "Some charge that the dominant backbone providers – UUNet, Sprint and Cable & Wireless – have used peering to retain what amounts to an oligopoly. Combined, those three providers control approximately

75% of backbone traffic.”²⁰ The modern Net began to emerge. Titans swap traffic free and charge others; those who can’t pay take the back roads of unreliable public exchanges.”²¹

The argument that peering should be left for market forces to resolve is unworkable for two reasons. First, the argument that settlement-based interconnections are efficient (technically workable, fairly compensates all providers and promotes interconnection) does not address the fact that this practice may lead to and in fact encourage monopolies. ISPs are intense competitors but are at the same time driven to cooperate and collaborate in order to provide the universal connectivity needed and demanded by their customers. Differences among networks in location, coverage, customer mix, customer size, loyalty of installed base, service offerings, network quality, cost and market structure complicate the mutual assessment of peering versus transit.

While recognizing the complex demands and motivations which have an impact on how ISPs cooperate, it is also obvious that there are many problems with how peering agreements are currently implemented. Terms of peering are not made public by Tier-1 ISPs; ISPs who peer (or interconnect in any way) with a Tier-1 ISP must first sign a non-disclosure agreement, interconnection and peering arrangements can be cancelled with little notice on the part of the larger network. Tier-1 providers and other large networks meet regularly and privately to discuss engineering issues. Lack of public disclosure leads to arbitrage (backbone ISPs that provide connectivity to smaller ISPs yet must also interconnect with larger ISPs act like foreign exchange arbiters: they seek to extract revenue in both directions). As well, large network service providers tend to emphasize the benefits of buying rather than bartering access.

Three of the six largest bankruptcies in American history -- WorldCom, Enron, and Global Crossing -- occurred between December 2001 and July 2002, shattering investor confidence in the world's premier financial market. Three common themes unite these market failures: the use of sophisticated financial instruments, the lack of securities regulation, and the role of arbitrage. In particular Enron was involved in the manipulation of markets and arbitrage – what became known as ‘megawatt laundering’ of the energy supply. Enron, it has been said “widened the definition of commodity to include electric power, bandwidth, credit risk, advertising space, and weather derivatives — among others.”²²

The end result of Internet backbone privatization has been that the greatest influence on the future technological development of the Internet (control of the Internet’s Code) has become concentrated within the hands of a few large backbone providers, not subject to any regulation or oversight.

The process of privatization was also a failure in terms of the protection of individual digital rights, which points to the second argument against letting market forces

²⁰ <http://telephonyonline.com/microsites/> - Aug. 23, 1999 article by Pat Blake titled ‘Can Public Peering Survive’

²¹ ‘Backbone Bullies’, Forbes, June 12, 2000

²² ‘How Enron Failed’ by Victor Canto.

determine the viability of peering practices. The government's handling of the Internet's privatization did not consider individual digital rights – specifically, the need for fair and equitable peering practices to support interaction and innovation.

The peer-to-peer concept has achieved wide awareness among the general public recently through a concerted public relations campaign carried out by media conglomerates with the aim of reducing or stopping the exchange of multimedia files. In fact, the use of peer-to-peer (P2P) applications for file sharing today demonstrates a conceptual revolt against the restrictive infrastructure which has been deployed, one in which firewalls and asymmetric network links attempt to block users from cooperating and exchanging files, data, information, knowledge. In every sense and at every level, the design and implementation of the network (including basic interconnection agreements – peering or transit) represents political and philosophical decisions and directions.

'Peering' between telecoms/ISPs, whether through public access points or via private negotiated arrangements, is presented by the media (with their questionable alliances as a result of concentration of ownership) as being 'business as usual' and a purely technical decision which has no impact or implications for individual users. Issues of interconnection are represented as being far less interesting and certainly less controversial than P2P (peer-to-peer) activities of College students, young children and even grandparents. While a few groups such as the Electronic Frontier Foundation point out the futility and absurdity of tying up the courts with petty lawsuits which are intended to 'make examples' of select offenders, the majority of people who are willing to take a stand on 'peering' limit their critique to P2P and are consequently engaged in a relatively minor battle when considered in the larger context of the policy wars over peering and Internet infrastructure.

Disentangling the interests of distributors from the interests of producers (re-defining copyright and intellectual property in the process), articulating the legal rights and obligations of cultural consumers (reaching a consensus regarding cultural products in the process), and defining the role and liability of third parties (the manufacturers of MP3 player, DVD recorders and, indeed, the ISPs providing the networks over which the sharing/stealing of content takes place) – these are all necessary efforts. However, culture is not static; it is dynamic and constantly evolving. In fact, it may be the case that the current tug-of-war over these cultural artifacts (audio and video files) will not be resolved before their significance fades in the bright light of culture's next big idea: interactivity. As content producers/distributors fuel the debate regarding downloading and peer-to-peer file-sharing of what they consider to be their cultural 'assets' or 'property,' deals are being struck regarding access and interconnection which, if unchallenged, will mean the end of the Internet as we have come to know it.

If the 'medium is the message'²³ then our participation in shaping the infrastructure of delivery and access to communications networks is essential. Interconnection is not merely a technical issue, but is a philosophical and a political issue as well. At stake is the possibility of universal access and the types of activities which the infrastructure will

²³ [Understanding Media](#), Marshall McLuhan

allow. Either the Internet becomes strictly a commercial marketplace or what some have envisioned as a community forum and cultural/creative commons²⁴. Either we ensure that the infrastructure is in place to permit open and democratic participation, or we pay later – with the price being a space highly regulated by the distributor/provider, with controls focused on the user.

Because of the importance of the free flow of information to democracy, it can be argued that communications networks should not be allowed to function on a discriminatory basis under any circumstances. High speed ‘Internet access services’, which are clearly telecommunications services delivered in markets that are far from effectively competitive, should be subject to obligations of nondiscrimination and interconnection.

How can the problem of exclusionary peering policies be solved? Peering policies should be public and transparent. Small ISPs should have recourse when their peering requests are rejected. Non-discriminatory interconnection policy regulation should be instituted. We need to find the right balance between the heavy handed regulation of incumbent telecommunications carriers and the hands-off policy adopted for the ISPs and other information processing market players. Regulators should be required to focus on being pro-competition rather than pro-business. The incumbent monopolists should be forced to open their markets in order for consumers to receive the benefits of competition.

At minimum, one approach to preventing the negative effects of market dominance would be encouraging ISPs to make public certain types of information about peering. Peering policies are a politically sensitive subject and are often not explicitly articulated. Peering Coordinators are charged with establishing and managing the interconnections between their network and others and their jobs are a combination of: network architecture, technical (routing), business (profits), legal (contracts). ISPs often have a ‘Peering Steering Committee’ to evaluate peering request. An increasing number of peering policies are being made available online, perhaps in recognition of the benefits of transparency; this should be mandatory.

Also desirable but less likely would be the establishment of a framework to ensure that networks meeting certain minimum criteria cannot be refused a peering arrangement by an upper tier ISP without proof that anti-competition does not play a role. Such a structure would be useful to ensure that commercial discrimination does not take place.

The second individual digital right to be considered is bandwidth/access. In a process analogous to the HDTV implementation timetable,²⁵ benchmarks should be mandated for connectivity in an all-IP infrastructure - whether this connectivity is provided through ADSL, DSL, etc. This may take the form of a schedule specifying 100Mbps available to individual users by 2007, 100Mbps available by 2009, 1.5Gbps available by 2015, etc. Regardless of method of delivery, however, connectivity and access must be prioritized in terms of policy.

²⁴ The idea of the Creative Commons is discussed by authors including Lessig and Vaidhyathan and reports such as ‘Saving the Information Commons’ by the New American Foundation.

²⁵ The FCC has mandated that all stations be capable of broadcasting HDTV by 2006.

Another access issue can be traced to the unprecedented growth of the Internet and a sharply increasing rate of address space consumption along with the similarly unconstrained growth of the interdomain routing table. IPv4 was the first version of the Internet Protocol to be widely deployed, and forms the basis for most of the current Internet. However, there is an impending shortage of IPv4 addresses (the addresses will run out approximately by 2008, according to calculations made by IETF in 1994) and IPv6 is the proposed solution. The challenge is for the transition to IPv6 to be complete before IPv4 routing and addressing becomes completely inadequate. The two transition requirements are: flexibility of deployment and the ability for IPv4 hosts to communicate with IPv6 hosts (IPv6 hosts should also be able to communicate with IPv4-only hosts globally). Interoperability between the two protocols must be maintained. Features designed into an IPv6 must be made backwards compatible with IPv4. As well, IPv6 should be deployed in a highly diffuse and incremental fashion, with few interdependencies. And finally, the transition should be transparent: easy for users, system administrators, network operators to understand and carry out. Deployment of the IPv6 protocol began in 1999.

It is to be hoped that the adoption of IPv6 would improve service all around the globe; for example, by providing current Internet users as well as future cell phones and mobile devices with their own unique and permanent addresses. Why is this desirable? A regulatory environment where end users have dedicated IP addresses would not only support individual digital rights (and the ability for individuals to have their own servers) but would also make individual users more accountable in terms of Digital Rights Management.

The administration of Internet addresses and domain names and the promotion of IPv6 as a means to address the impending shortage of IP addresses – seem to be largely technical issues. They must be understood, however, within the context of the global network which they are intended to facilitate. The Internet does not exist for its own sake; it is impossible to isolate technical issues from the content/data/information and the criteria and rules which govern its distribution – particularly when government and corporate interests are involved alongside the interests of individuals.

This recommendation should be fairly easy to implement. The transition to IPv6 is already underway; it need only be prioritized and Canada could easily take the lead on this by arguing for an accelerated adoption of IPv6 at upcoming World Summit on Information Society (WSIS) meetings.

The third individual digital right involves provisioning of services. This is essentially a right to self-determination. Once minimum bandwidth is guaranteed and peering policies are reconfigured to assure equitable access to all available resources, the issue of provisioning becomes paramount. Individuals should have the ability to order the provisioning of service. Currently voice, video and data are being bundled as the ‘triple play’ of telecommunications. What is missing from this marketing strategy is the flexibility for individuals to determine the configuration of their own service. Some users

may want asymmetrical service without a dedicated IP address while others require symmetrical service with a dedicated IP address so that they can host their own server and make available free or for-fee content. Bundling of services should be available for those who prefer to purchase it this way, but others should have the ability to select and pay for services which meet their own unique requirements.

Segmenting the Internet into various levels of performance reliability with possible partitioning of bandwidth and the creation of temporary dedicated links makes the Internet appear and operate more like a conventional circuit-switched, telecommunication network. "Instead of a 'best efforts', 'one size fits all' network topology, the Internet will become an amalgam of networks with different degrees of reliability, service quality, accessibility and cost."²⁶ The push to privilege certain types of traffic over others (the QOS Quality of Service initiative) demonstrates that this is one possible vision for the Internet. An alternate vision would be one in which users determine their own level of service.

At the core of the current political/social crisis of democratic liberalism is a crisis of individualism. Innovation requires individualism and the suppression of individual rights, particularly individual *digital* rights, is responsible for many of the negative economic effects which are beginning to emerge. Whether or not this crisis is caused by new technologies as Dewey would have argued, it is certainly brought to the forefront by this communications revolution. The intense debate surrounding various aspects of Internet governance are examples of how individual participation in culture is being undermined.

Early in 1995 at a meeting of G7 countries titled 'Conference of the Information Society' public and private sector participants reached a consensus that governments can and should play a significant role in the development of a global Information Highway. The possible need for a new international body to develop standards for interoperability and interconnectivity was also explored. This occurred as the privatization of the Internet was being concluded.

The CRTC's convergence report, published in May 1995 was titled 'Culture and Competition on Canada's Information Highway: Managing the Realities of Transition.' In this report five issues were identified regarding development of the Information Highway in the best interest of producers and consumers; one issue was 'interconnection.'

Just over a year later, Ottawa issued its official convergence policy. On one level this policy dealt with three issues: interconnection and interoperability of network facilities; competition; and Canadian content.

'The Challenge of the Information Highway', published by IHAC in September 1995, ventured to identify individual rights as being critical to the new frontier. 'Individuals

26 P. 2 'Without Public Peer: The Potential Regulatory and Universal Service Consequences of Internet Balkanization' by Rob Frieden, Virginia Journal of Law and Technology, Fall 1998. Available online: http://vjolt.student.virginia.edu/graphics/vol3/vol3_art8.html

must remain at the forefront of the information revolution, and their interests and rights, especially in the areas of security and privacy, must be protected.' p. xix

However, in 1999 and again in 2004, the CRTC reaffirmed that they would not regulate the Internet.

Engineers and activists concerned about preserving democratic values in cyberspace viewed governmental power as the primary threat while disregarding other real threats which may be best addressed through government intervention. There are two possible avenues for government regulation of the Internet: content and infrastructure. Content is an obvious target for both those who would censor the Internet and those who insist on absolute freedom of expression. How the infrastructure has been compromised by privatization of the backbone and subsequent lack of regulation is not as obvious and is a much less popular topic of debate.

Interactivity will be to the 21st century what film/video were to the 20th century. The protection of individual digital rights (in order to support innovation) will be the next century's test of public policy.

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