

The Impact of the Internet and e-Commerce on Sovereignty

I. INTRODUCTION

“The Internet is changing humanity quicker than any development since the capture of fire.”¹ As dramatic as this statement is, John Barlow, founder of the Electronic Frontier Foundation may not be far off the mark in his prediction for the future of the Internet. For the first time in the history of mankind, technology is at the threshold to allow virtually all individuals on earth to communicate directly and instantaneously with each other, and to share information of all kinds through transmission and reception of binary data. The impact of this may not be fully appreciated without a clear understanding of the emerging technological capabilities, as well as the political, economic, and strategic implications that this technology delivers. Heading the list of questions regarding the new information age is what the impact of unlimited open global information sharing will have on the sovereignty of nations.

As this article will present, technology will soon allow direct point-to-point communication from any location in the world to any other location in the world via GMPCS satellites, thus bypassing traditional land based telephone systems and the government controls of those systems. There are currently a number of world organizations and governments focusing on the issues that lie ahead. These will be outlined in order to help the reader obtain a clearer understanding of the capabilities, concerns, and promises for the future of the Internet and e-commerce.

II. BACKGROUND

Sir Donald Maitland in his keynote address for the World Telecommunication Development Conference at Valletta, Malta stated, “The importance of the information society raises questions about the international division of labor, about the structure of corporations, the future of work, the nature of human society, the individual’s sense of identity, systems of governance and the meaning of sovereignty in an independent, interconnected world.”²

Since its inception, the International Telecommunications Union (and its precursor organizations) has been at the forefront of coordinating and controlling electrical and electronic communication, starting in Europe in 1865. In a video presentation to the Third International Seminar on New Technologies and Telecommunications Services at Foz do Iguacu, Brazil in November, 1995 the Secretary-General of the International Telecommunications Union (ITU), Dr. Pekka Tarjanne stated, “At issue here are the very principles of national sovereignty and national regulation . . .”³ In a 1996 speech in Beijing, China, he said, “But the new global networks raise many more fundamental concerns about the regulation of international commerce – whether it involves trade in goods, services, currencies, information or ideas, -- and the impact of these changes on national sovereignty, political institutions, and way of life.”⁴ And in another early 1996 speech in Denmark, Dr. Tarjanne shared that, “For centuries the world has been ordered on the concept of autonomous nation states; but that, too, is changing. . . The fact that telecommunications is

now seen as a tradable commodity - rather than a state-provided service - has led to even greater erosion of sovereignty.”⁵

Stephen Kobrin frames the issue of sovereignty in an article in *Foreign Policy* magazine by stating,

The geographical rooting of political and economic authority is relatively recent. Territorial sovereignty, borders, and a clear distinction between domestic and international spheres are modern concepts associated with the rise of the nation-state. Territorial sovereignty implies a world divided into clearly demarcated and mutually exclusive geographic jurisdictions. It implies a world where economic and political controls arise from control over territory.⁶

In his keynote address at the Computer Policy and Law Conference held at Cornell University, David Post compares the American Revolution with the cyberspace revolution. In that context he stated, "We are again facing a fundamental challenge to notions of how laws are legitimately made, at the same time as the structure of the society within which law has been made and applied is changing dramatically. The net is forcing us to ask the most basic question of all in law: Who is the lawmaker?"⁷

III. TECHNOLOGY

To appreciate the revolutionary potential of the Internet, it is essential to develop an understanding of its unique technological characteristics. The Internet and its constituent parts, designated as cyberspace, is comprised of tens of thousands of server computers connected together through telephone lines that stretch around the world. Some of these server computers are designated Internet Service Providers (ISP) that act as an Internet connection point for millions of additional computers in homes and offices. What makes this network, or web, of millions of computers unusual is that no single computer is necessary. If one server becomes inoperable, data is automatically routed through another unit. There is no "master switch" that allows control of the Internet, no government that can stop it, no jurisdiction can control it.

As a total worldwide system, the Internet's vulnerability is in the lines that connect the individual computers. These telecommunication lines are controlled both by government and private international telephone companies, depending on where in the world the lines are located. Over the years, the primary function of the International Telecommunications Union (ITU) has been to oversee and ensure interconnection and interoperability of national systems on a technical and administrative basis.⁸ With today's technology, a country that desires to limit its citizens' access to the Internet can block data transfers over the telecommunication lines at the border, transborder data flow (TDF), or at individual telephone central offices. In essence, under current technology, a country can maintain its territorial sovereignty by "cutting" the lines of communication, if it so desires.

However, currently under implementation is a new technology that may be the catalyst for fundamental global socioeconomic, political, and financial shifts that cannot yet be

imagined. The Global Mobil Personal Communications Services (GMPCS) are comprised of (1) a constellation of non-geostationary orbit (NGSO) Ka band satellites that are constantly traversing the earth at either medium earth orbit (MEO) or relatively low earth orbit (LEO) altitudes and (2) low power earth terminals, similar to a cell phone, that communicate directly with the LEO. Currently deploying GMPCS systems are Iridium, ICO, Globalstar, and Odyssey. Each will offer services that include voice, FAX, and data. These early entrants only hint at the potential, not only for data access from virtually anywhere in the world, but also for supplying telephone service in developing countries where the cost of land based systems is prohibitive.

Market studies project potential GMPCS subscribers at 34.9 million by 2010.⁹ As NGSO systems move from the design stage to implementation, capabilities continue to improve, and costs decrease. The Ka band satellites utilize high data rates with improved compression algorithms that support mobile video on demand. As these new GMPCS systems continue to evolve, and terrestrial technology such as fiber optic, microwave, and copper wire improves, the ability to connect the world via the Internet moves technically closer to fruition. In a lecture at the UC Berkley Law School, Dr. Pekka Tarjanne said, "We are witnessing the end of the old regime of 'inter-national' telecommunications based on national sovereignty and correspondent relations. As we enter the global information society, the question is: what will replace it?"¹⁰

V. CAPABILITIES

Synonymous descriptors for the Internet are information or digital highway, which from an historic perspective overlays nicely with past methods of moving products of commerce between sellers and buyers around the world. Early civilization used causeways, then waterways, railways, highways, and eventually airways to respond to the timely needs of world markets; and now the evolution, some say revolution, is moving to the digital way. As *Information* becomes *the product*, just as agriculture and machines were in their age, its value relies on life cycle. Farmers were controlled by the four seasons and time to spoilage; industrial plants and equipment manufacturer's work with life cycles from weeks to years. However, in the digital age, life cycles may be as short as a few seconds.¹¹

Although binary bits and bytes are technically the means of sending information via the Internet, it is what that data represents that is significant. To expand on this, an image of anything visible can be converted to binary code data; a recording of any sound can be converted to binary code data; the physical movements of any machine can be programmed or sensed and converted to binary code data; a myriad of specialized sensors can output binary code data; and, programs that manipulate all these data sources use binary code.

For example: a designer in the United States can create a three-dimensional object on a computer and send the digital representation of that design to a computer controlled milling machine in China. The machine operator in China doesn't even know what the finished object will look like, until the machine completes its operations. Another example: as sensor transception¹² technology improves, the ability to recreate tactile feeling over the Internet

will become viable. This has potential application in the medical field for long distance diagnosis capabilities.

It is difficult to appreciate the magnitude of change that the Internet and data transfer technology will create in the world. It is safe to say that a significant portion of the world's population will be impacted by the expanded growth of the Internet and e-commerce over the next 20 years.

VI. e-COMMERCE

Perhaps a more appropriate metaphor than e-commerce is *i-commerce* for *instant-commerce*, for that is what cyberspace and the Internet represent. It gives a person or a company the ability to instantly access information and services, acquire merchandise, and transfer funds around the globe at the speed of light. It has the power to inundate and educate the masses with information not previously available to much of the world's population. By the origin of the Internet being U.S., the predominant e-language is English. As world populations gain access to Cyberspace via the Internet, they will become more knowledgeable about the United States, reinforcing America's role of world leadership, particularly in the field of business.

In *The WTO Basic Telecommunications Agreement* introduction, a review of successful agreements in information technology, basic telecommunications services and financial services are highlighted, with the statement, ". . . it has become clear to the leadership of the WTO, and that of other international organizations, that these sectors are all parts of a more comprehensive development, driven in large part by electronic information technologies, which binds together transportation and content, trade, culture and politics."¹³

With the advent of the Internet and e-commerce, the need for multilateral regulations is becoming clear, as stated by Renato Ruggiero, Director-General of the World Trade Organization in a speech at the Third Conference of Transatlantic Business Dialogue (TABD) in Rome, Italy, November 7 1997,

The problem is not globalization as some think; the problem is governance.

. . . the globalization process itself underscores the logic of global rules for global firms operating in a global marketplace. As firms increasingly internationalize their production and distribution systems, and as economies become increasingly integrated, it is in no one's economic interest to have a fragmented system with fragmented rules and even perhaps a fragmented dispute settlement system. This is even more true in the world of borderless technologies we are now entering - a world where economic activity in areas like telecommunications, financial services, and electronic commerce will more and more take place in a single, global economic space, one which is basically indifferent to distance, time and geography. In this borderless information economy, regional preferences become an increasingly inadequate - even anomalous - instrument for managing the integration process.¹⁴

When the term electronic commerce or e-commerce is used, what does it refer to? Initially, UNCITRAL began exploring electronic data interchange (EDI) and its role in international commerce in the mid 1980s. The American Bar Association (ABA) was also actively investigating and preparing a report on electronic messaging in 1988, and eventually formed a Committee on the Law of Commerce in Cyberspace (CLCC) which today has seven subcommittees, three task forces, and one work group listed on their Web site.¹⁵ Internationally, the OECD has identified the following organizations to play an important role in developing and implementing solutions to specific problems confronting electronic commerce: UNCITRAL for the revision of commercial law and digital signatures; the World Intellectual Property Organization (WIPO) for intellectual property rights; the World Wide Web Consortium (W³C) for Internet standards and technological protocols for self-regulatory mechanisms; the World Trade Organization (WTO) for telecommunications access agreements; and, the World Customs Organization (WCO) for simplifying customs clearance procedures.¹⁶

VII. LEGAL ISSUES

Legal issues abound in cyberspace, such as domain name governance, taxation, gambling, jurisdiction, electronic cash issuance, online crime, copyright, regulation of cryptography, pornography, and digital signature harmonization, as a start.¹⁷ For example, the U.S. Senate approved a bill in July threatening hefty fines and jail time for gambling "online". However Sue Schneider, chair of the Interactive Gaming Council, suggests that attempting to outlaw gambling online is, ". . . an Industrial age solution to an information age question."¹⁸

In discussing the potential legal conflicts between nations and cyberspace, David Post suggests that law-making sovereignty is defined by control over a physical territory, and that the very nature of cyberspace destroys the significance of physical location in three distinct ways. First, Cyberspace is no place in particular; second, events and transactions in cyberspace have no tie to a physical place; and third, Cyberspace supports a large number of simultaneous transactions between individuals that have no ability to determine where each other is physically located.¹⁹

However progress to clarify and resolve these challenges and disagreements appears to be more harmonious than past significant international transitions. This may be due to several unique characteristics. First, the Internet, cyberspace, and electronic commerce are relatively new phenomenon; therefore, countries do not have established laws and regulations that must be harmonized. Each governing body is starting anew. In this regard, Christopher Caine, Government Programs Vice President for IBM, indicates that governments want private industry to take the lead with the Internet.²⁰

Second, the technology, as discussed above, does not reside in a single building under the control and power of a single entity. It is spread among millions of independent computers and peripheral devices making it relatively difficult for oversight or control; therefore, any management of cyberspace must be developed cooperatively. Thomas Smedinghoff, Chair of the Electronic Commerce Division of the ABA Section of Science and Technology, stated

at the Aspen Summit in August 1998, "But I think much more so than at any other time or in any other area of the law are we seeing more of a community effort going on here. And I think, given that electronic commerce is by its very nature international, that's going to be where the primary focus is going to have to be."²¹

Third, although significant attention is being addressed toward the Internet and cyberspace, most world politicians and business leaders have not yet comprehended the direction this technology is headed, and more importantly, the impact that it will have.

In describing the coming global information infrastructure (GII), Joel Reidenberg states that,

Laws, regulations, and standards can, do, and will affect infrastructure development and the behavior of GII participants. Rules and rule making do exist. However, the identities of the rule makers and the instruments used to establish rules will not conform to classic patterns of regulation.²²

David Johnson and David Post in their paper *Law And Borders* offer one suggestion for the territorial complexities facing Cyberspace and governments -- *The Rise of Law in Cyberspace*. The suggestion is the application and balance of the doctrine of "comity" with "delegation" to Cyberspace.

Despite the seeming contradiction of a sovereign deferring to the authority of those who are not its own subjects, such a policy makes sense, especially in light of the underlying purposes of both doctrines. Comity and delegation represent the wise conservation of governmental resources and allocate decisions to those who most fully understand the special needs and characteristics of a particular "sphere" of being. Although Cyberspace represents a new sphere that cuts across national boundaries, the fundamental principle remains.²³

For those who can appreciate what is on the horizon, the questions currently being asked are of crucial importance. And the answers will shape the world of tomorrow.

VIII. SUMMARY

There appears to be two threats to the sovereignty of nations that arise from the Internet, Cyberspace, and e-commerce. First, through their desire to participate in the New World economy via the Internet and international telecommunications systems, nations must agree to and adopt international laws and regulations that in essence usurp their individual control and sovereignty. In this case, they have decided and agreed to negotiate away some degree of their sovereignty. Second, governments are concerned about the loss of their "informational sovereignty", as the technology of worldwide interconnection becomes prolific, the ability to monitor, control, or stop any individual communication becomes exceedingly difficult.²⁴ There appears little doubt that sovereignty, as we know it today, will be diminished, and with it the centralized control and power of governments.

This article opened with John Barlow's astonishing statement about the significance of the Internet and Cyberspace, comparing its impact to that of harnessing fire by early man. It appears that Donald J. Johnston, Secretary-General of the Organization for Economic Co-operation and Development (OECD) goes even further in his preface to the OECD commissioned Sacher Report - *Electronic Commerce -- Opportunities and Challenges for Government*,

Our generation stands on the very cusp of the greatest technological revolution that mankind has ever faced. Some compare this age of electronic communication with the arrival of the Gutenberg press, or with the industrial revolution. Yet this revolution when it has run its course may have a greater impact on the planet than anything that has preceded. The applications of electronic transmissions are just beginning to be felt... and the breadth and depth of what lies ahead is only beginning to be fathomed. How and where we are educated, where and how we work and live, our health care systems, our shops, our commerce, our reading, our leisure... no part of human enterprise will be spared. Even our notions of sovereignty and governance could be profoundly affected.²⁵

It is difficult to add greater impact to this issue than Johnston's statement does. The implications of instantaneous, mass communications, both wired and wireless, through a potentially border-less medium such as the Internet will have such profound implications in the future that even the most eclectic futurist may fall short in their prognostications of the ultimate impact of this technology.

¹ Comments made by John Barlow, founder and vice president of the Electronic Frontier Foundation, as a panelist on the Politics, Government, and Digital Technology forum, Aspen Summit August 26, 1998 sponsored by the Progress and Freedom Foundation <<http://www.pff.org>>

² Speech by Sir Donald Maitland, author of the "Missing Link" published in 1985 as a report of the Independent Commission for World-Wide Telecommunications Development. Excerpts from his Valletta, Malta keynote address <<http://www.itu.int/newsroom/press/releases/1998/98-11.html>>

³ Video presentation by Dr. Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "Third International Seminar on New Technologies and Telecommunications Services", SEMINT 95, Foz do Iguaçu, Paranà, Brazil, 6-9 November 1995, speech <<http://www.itu.int/speeches/1995/sp17/speech17.htm>>

⁴ Speech by Dr. Pekka Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "Telecommunications in the Era of Global Electronic Commerce: The Search for New Foundations", Beijing International Convention Center, People's Republic of China, 20 March 1996, speech <http://www.itu.int/speeches/1996/tarjanne/beijing_20_03_96.htm>

⁵ Speech by Dr. Pekka Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "The Changing Relationship Between National and International Regulations", Center for Tele-Information (CTI), Course for Telecom Regulators, Helsingør, Denmark, 28 January 1996, speech <http://www.itu.int/speeches/1996/tarjanne/helsingor_28_01_96.htm>

⁶ Stephen Korbin, "Electronic Cash and the End of National Markets." *Foreign Policy*, Summer 1997 Number 107, 74-5 This paper develops themes raised at a discussion of electronic money at the 1997 annual meeting of the World Economic Forum in Davos, Switzerland.

⁷ Keynote address by David Post titled *The Cyberspace Revolution* given at the Computer Policy & Law Conference, Cornell University, July 9, 1997 <<http://www.cli.org/DPost/cornell.html>>

⁸ Lecture by Dr. Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "The Limits of National Sovereignty: Issues for the Governance of International Telecommunications", University of California Berkley Law School, 28 September 1995 <<http://itu.int/speeches/1995/sp9/speech9.htm>>

⁹ Market study conducted by Pyramid Research and reported in *Policy Challenges and Opportunities for Global Mobile Personal Communications by Satellite: The Globalstar Viewpoint* by Douglas Dwyer, President, Globalstar <<http://www.itu.int/pforum/paper3-e.htm>>

¹⁰ Lecture by Dr. Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "The Limits of National Sovereignty: Issues for the Governance of International Telecommunications", University of California Berkley Law School, 28 September 1995 <<http://itu.int/speeches/1995/sp9/speech9.htm>>

¹¹ Concept presented by Michael Maibach, Government Affairs Vice President, Intel during panel discussion at the Politics, Government, and Digital Technology forum, Aspen Summit August 26, 1998 sponsored by the Progress and Freedom Foundation <<http://www.pff.org>>

¹² Transception is the ability to receive an exact representation of what was sent, without distortion or modification. In the case of touch, the recipient tacitly "feels" the object that is being remotely sensed as if being physically at the remote site - Author.

¹³ Richard Taylor, J.D., Ed.D. and Jussawalla, Ph.D., "The WTO Basic Telecommunications Agreement: Evolving Multilateral Regulatory Paradigms and the Developing World." International Telecommunications Society conference - ITS98, June 1998 <<http://www.its98.org/conference/library/showpaper.asp?id=557>>

¹⁴ Renato Ruggiero, "Regional Initiatives, Global Impact, and the Multilateral System", reprinted in *I-Ways*, Fourth Quarter 1997, pp. 16-19.

¹⁵ American Bar Association Section of Business Law, Cyberspace Law Committee <<http://abanet.org/buslaw/cyber/home.html>>

¹⁶ "Dismantling the Barriers to Global Electronic Commerce" DSTI/ICCP(98)13/Final report from OECD, distributed 6 July 1998.

¹⁷ Richard Field, Chair, Electronic Commerce Payment Committee, American Bar Association, Section of Science and Technology, <field@pipeline.com> Personal e-mail exchange with author (24 Sept 1998)

¹⁸ David H. Freedman, "Living Room Roulette," *Forbes ASAP*, October 5, 1998, p. 42

¹⁹ David G. Post, "Governing Cyberspace", Fall 1997, <<http://www.cli.org/Dpost/ascl.htm>> (22 Sept. 1998)

²⁰ Comments made by Christopher Caine, Government Programs Vice President, IBM Corporation, as a panelist on the Politics, Government, and Digital Technology forum, Aspen Summit August 26, 1998 sponsored by the Progress and Freedom Foundation <<http://www.pff.org>>

²¹ Comments made by Thomas J. Smedinghoff, Chair, Electronic Commerce Division, American Bar Association, Section of Science and Technology, as a panelist on the Politics, Government, and Digital Technology forum, Aspen Summit August 26, 1998 sponsored by the Progress and Freedom Foundation <<http://www.pff.org>> and

ABA Electronic Commerce Division Home Page <<http://www.abanet.org/scitech/ec/home.html>>

²² Brian Kahin and Charles Nesson, ed., Borders in Cyberspace (Cambridge: MIT Press., 1997), Governing Networks and Rule-Making in Cyberspace, by Joel Reidenberg pp. 84-105.

²³ David R. Johnson and David Post, "Law And Borders -- The Rise of Law in Cyberspace", May 1996, <http://www.cli.org/X0025_LBFIN.html>

²⁴ "It is currently considered impossible to distinguish between bitstreams carrying socially acceptable messages and those carrying illegal or undesirable messages. The notion of 'bitstream policemen', even if possible, does not seem desirable." Quote from lecture by Dr. Pekka Tarjanne, Secretary-General, International Telecommunications Union (ITU), "The Limits of National Sovereignty: Issues for the Governance of International Telecommunications", University of California Berkley Law School, 28 September 1995 <<http://itu.int/speeches/1995/sp9/speech9.htm>>

²⁵ Sacher Report commissioned by the OECD, "Electronic Commerce - Opportunities and Challenges for Government", 12 June 1997 <<http://www.oecd.org/dsti/sti/it/ec/act/sacher.htm>>

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