

DEVELOPING GLOBAL IPTV SERVICES: Challenges for International Public Policy

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INTRODUCTION

In the mid-1990s, the international telecommunications world experienced a fundamental transformation. With the introduction of the “Global Information Infrastructure” (GII) in 1994, Vice-President Gore fired a warning shot that was followed up with a series of reforms designed with the globalization of electronic commerce and services in mind. By 1995, a powerful redefinition was settling over the industry. “In successfully shifting the locus of international regulation away from the International Telecommunications Union (ITU), a European and developing-country power base, to the World Trade Organization (WTO), where its power reflects its huge, high-income market, the United States has also fundamentally shifted the conceptualization of telecommunications away from the postwar public utility, security related, monopoly model, to that of a customer driven, trade-related, service industry.”¹ The WTO met quickly in Singapore in 1996 and quickly resolved to reduce tariffs on the flow of information technologies. The next year it met in Geneva and established rules for the continued privatization of national telecommunications operations. The telco environment moved from highly regulated bureaucratic telecoms united under the umbrella of the ITU to less regulated privatized telcos operating, however, within an international trade regime. They have shed their government PTT (Post, Telegraph, and Telephone) bureaucracies only to find themselves embroiled in a larger net cast by the international treaties of dominant countries. However, these multilateral arrangements could break down another set of bureaucratic organizations, the broadcasters, and with it usher in a new age of television, characterized by a multiplicity of interactive services and new business models based more on e-commerce rather than mass advertising.

It is within this context that the idea of Internet Protocol Television or IPTV has emerged and is being implemented by telcos around the world. Making the transition to Internet Protocol (IP) has been a high priority for the former PTTs looking to offer a “triple play” of voice, Internet, and now visual services. Broadcasting over IP and video services on demand are currently being developed to reach consumer and other markets as a telco strategy to diversify from their traditional telephony and data services. The declining world prices for LCD and plasma TVs, new digital audio-visual compression standards such as H.264 (MPEG-4 Part 10) and the development of High Definition (HDTV) standards have paved the technical path for this strategy. Major equipment and software suppliers such as Alcatel, Cisco and Microsoft are a few of suppliers competing to provide hardware and software solutions for the telcos to distribute audiovisual content through fiber-to-the-home (FTTH) telecommunications via command-and-control middleware to set-top boxes controlled by paying customers.

While telcos have universally embraced the IP solution for voice, data, and now TV, the challenges of providing global IPTV services are numerous.

It is not clear who the big winners IPTV are going to be and what it means to the individual digital media consumer. What technological standards are going to emerge to help deliver, protect and monetize digital media properties while providing dynamic pricing solutions for different geographical markets? What institutional, legal, and market frameworks are going to shape IPTV services around the globe? In particular, what is the role of public policy forums and global institutions in forming a new global system of unprecedented personalized IP-based television services?

These latter problems are complex and difficult to comprehend but not without relevant precedent. Multilateral and bilateral agreements have been forged in international bodies and between sovereign nations to help facilitate international communications and e-commerce while protecting individual rights of property holders. Telcos have long used international bodies, primarily the ITU, to work out technical and revenue sharing solutions. International agreements that relate to copyright law for IPTV have been formed by organizations such as the World Intellectual Property Organization (WIPO), the World Trade Organization (WTO) and related agreements such as the General Agreement on Trade in Services (GATS) and the Trade-Related Intellectual Property system (TRIPS). Bi-lateral treaties also cover a broad scope of subjects that impeach on the deployment of IPTV.

This paper begins to examine what international institutions will have a bearing on the development of global IPTV. In particular, what multilateral treaties facilitate and liberalize IPTV related trade? Special attention is paid to the World Trade Organization and the related General Agreement on Trade in Services (GATS) that was included in the final Uruguay Round of the GATT negotiations. The WTO negotiations were largely responsible for the globalization of Internet in the 1990s as it provided for the rapid dispersal of IP networking equipment and forced PTTs to open up to foreign investment. On the other hand, what multilateral treaties might hinder IPTV-related services? The WTO's Trade-Related Aspects of Intellectual Property Rights (TRIPS) for example helps commodify and protect intellectual products but also restricts trade and products from those who can rarely afford them. The World Intellectual Property Organization (WIPO) has been the forum for a very controversial "Broadcasting Treaty" designed to bestow additional rights over content to broadcasters and not just copyright holders. The challenges of global IPTV are many because it crosses not only national borders, but institutional borders as well.

THE WTO AND THE GLOBALIZATION OF IP

Vice-President Gore had introduced the concept of the GII at the annual ITU meeting in Buenos Aires during March of 1994. The target was the national PTT monopolies, the ITU's main clientele. "He described a new communications revolution driven by the export of three American ideas: competition instead of monopoly, the rule of law, and the connection of networks to existing networks at a fair price."² Gore's approach was to

use the government to ensure competition and economic development. "He outlined the basic principles of a policy revolution: the Administration would repudiate the embrace of monopoly by government and instead use the power of law to open all markets to innovation, competition, new investment, new entrepreneurs."³ The GII was not a practical, technical solution but at the time the Internet had not emerged as the obvious telecommunications medium. Wireless, cable television, direct to home satellite systems, were all in competition to emerge as the dominant "information superhighway". The GII was a conceptual framework to further challenge the PTTs and pave the way for data communications and all the related services that had been promised by ISDN (Integrated Services Digital Network).

Gore followed up the next month in Marrakesh, Morocco, at the closing meeting of the Uruguay Round of the GATT (General Agreement on Tariffs and Trade) negotiations which called for the creation of the World Trade Organization. It would be the WTO that would help facilitate the modernization of telecom networks around the world and break down the barriers to global IP. During that summer President Clinton, following Democratic tradition reaching back to the 1934 *Reciprocal Trade Agreements Act* that authorized the President to negotiate trade agreements with other countries, urged the development of an international information infrastructure at the G-7 meeting in Naples, Italy. The G-7 had emerged since the breakdown of Bretton Woods in the 1970s as a powerful vehicle for coordinating international policy and pressuring multilateral organizations. The next year, after the WTO was formed, the G-7 nations met in Brussels, Belgium for a Ministerial Conference on the Information Society. Britain, Canada, France, Germany, Italy, Japan, and the United States agreed in principle to develop the Global Information Infrastructure (GII) and funded a number of projects to test international broadband networking as well as special projects on emergency management and telemedicine. Despite rising opposition, Congressional Republicans supported the Clinton-Gore initiative and helped to ratify the international trade agreement.

The World Trade Organization was finally formed on January 1st 1995. The WTO was conceived as an organization designed to negotiate reductions on international tariffs and other trade barriers. Formerly the General Agreement on Tariffs and Trade (GATT), the WTO was created for the liberalization of international trade and economic cooperation across national boundaries. Due to the complexity of international economic interdependence, the contracting parties of GATT launched the eighth major trade negotiation round at a ministerial meeting in Punta del Este, Uruguay, in September 1986. More than one hundred nations participated in negotiations regarding international economics. Over the next three years, the World Trade Organization (WTO) tackled crucial issues that paved the way for the Internet and global e-commerce. Clinton's re-election and the signing of the *Telecommunications Act of 1996* in February 1997 gave the administration a powerful negotiating position and they stressed and pushed Gore's telecommunications plan.

In late 1996, the WTO met in Singapore and agreed to reduce tariffs on information technology trade, including personal computers. The *Information Technology*

Agreement (ITA) was concluded at the December 1996 Ministerial Meeting in Singapore and took effect July 1, 1997. The ITA was a benchmark agreement that significantly reduced tariffs on a wide range of information technology products. It reduced customs duties on computers and telecommunications and planned to eliminate them by 2000. This affected a whole range of products from computers, keyboards, printers, modems, switching equipment, semiconductors, software and scientific equipment. It specifically allowed American companies to sell their IT wares more competitively. Cisco was particularly aggressive in advocating further liberalization of trade in information technology products through its membership in the American Electronics Association and other industry coalitions. Cisco's CEO John Chambers was one of several high-tech leaders that served on President Clinton's Advisory Committee on Trade Policy Negotiations (ACTPN) and helped in developing a plan for addressing Internet commerce issues at the WTO. The ITA significantly reduced tariffs on over 90% of information technology products traded globally. The agreement meant savings for U.S. exporters of some \$5 billion each year.

The WTO met early the next year in Geneva, Switzerland and addressed a new round of trade negotiations on information technologies and telecommunications services. The February meeting sought a new *Information Technology Agreement* (ITA II) that was intended to further liberalize markets and benefit information technology manufacturers and consumers. In the end, trade negotiators failed to reach an agreement on the ITA II because of continuing disputes regarding questions about what products would be covered. However, an agreement was reached that signaled good news for the internationalization of Internet technologies.

GATS AGREEMENT ON BASIC TELECOMMUNICATION SERVICES

International trade negotiations had historically concentrated on physical goods while services were never even seriously considered until the November 1982 GATT ministerial meeting. Subsequent calls by several OECD countries for a new multilateral trade round with services as one of the top agenda items emerged in the mid-1980s.⁴ The inclusion of services in the 1987 Uruguay Round of trade negotiations led to the General Agreement on Trade in Services (GATS) as part of the mandate of the WTO. The GATS extended the WTO into unprecedented areas never previously recognized as coming under the scrutiny of trade policy. In the communications services area these included audiovisual services such as radio and television, educational services, entertainment services such as theatre and circus productions, news agencies, and of course telecommunications services such as email, packet-switching transmission services, and voice telephone services. Former WTO Director-General Renato Ruggiero remarked on the inclusion of services into the realm of international trade negotiations, "I suspect that neither governments nor industries have yet appreciated the full scope of these guarantees or the full value of existing commitments."⁵

Sixty-nine nations party to the WTO, including the U.S., reached an agreement to open up their telecommunications markets as part of the GATS on February 15, 1997. The *Agreement on Basic Telecommunications Services* codified an accord to "negotiate on

all telecommunications services," particularly new rules for telecommunications deregulation. This included data communications, facsimile services, private leased lines, PCS, cellular telephone, as well as both fixed and mobile satellite services. These countries agreed to privatize and open their own telecommunications infrastructures to foreign penetration and competition by other telcos through either resale or their own facilities. Active in these negotiations was the International Telecommunications Union as well as the United States Trade Representative (USTR) for the Clinton-Gore administration.

The WTO GATS agreement allowed U.S. companies compete for the estimated \$600 billion global market in local, long-distance and international services. Acting US trade commissioner Charlene Barshefsky claimed that the agreement would lead to approximately 1 million new jobs in the US over the following 10 years. "From submarine cables to satellites, from wideband networks to cellular phones, from business intranets to fixed wireless for rural and under-served regions, the market access opportunities cover the entire spectrum of innovative communications technologies pioneered by American industry and workers," Barshefsky said at a press conference. FCC Commissioner Reed Hundt, who worked closely with Al Gore on developing the overall communications policy, predicted the treaty would reduce the price of international calls by 80% over the following ten years.⁶

As the WTO agreement on basic telecommunication services went into effect in February 1998, the number of countries committing to the agreement on basic telecommunications services had reached 72 with 59 agreeing to more liberalization; including competition, foreign investment, interconnection guarantees, and an independent FCC-type regulator. Most realized the benefits of the agreement as lower international prices for phone calls. By 2001, the number of participating countries reached 75. The agreements came at a crucial technological time. The World Wide Web (WWW) was a working technology but it would not have lived up to its namesake if the WTO had not negotiated the liberalization of telecommunications services around the world and reduced tariffs for crucial networking and computer equipment.

GATS AND THE AUDIOVISUAL SERVICE SECTOR

Missing from the agreement however was an integral part of the communications services sectoral classification list - audiovisual services. This sector has been highly problematic as it is subject to regulatory scrutiny by governments around the world and its industry representatives are quite powerful. During the Uruguay Round negotiations, industry delegates in a number of WTO member countries argued that the broadcasting and film sectors should be excluded from the multilateral agreement so as to protect these industries and their cultural significance from being overwhelmed by foreign audiovisual products.

Consequently, countries have been reluctant to make commitments and/or have actively tried to shield this area. A large number of "most-favored-nation" (MFN) exemptions have been taken in regard to this sector. MFN generally provides that any

agreements entered into are available to all participants but the *Agreement on Basic Telecommunications Services* provided for a country to apply for an exception. The US for example filed MFN exemptions for one-way satellite transmissions for Direct Broadcast Satellite (DBS) and Direct to Home (DTH) services. It also registered concerns about digital audio services as CD recordings were becoming problematic and a patent had been recently issued in 1996 for MP3s.

The European Union has been particularly resistant to making any commitments in the audiovisual sector. It responded to the Uruguay Round with the 1989 *Television without Frontiers* (TWF) Directive that was again revised in 1997 after the GATS agreement. The Directive meant to ensure the free movement of broadcasting services but it also promoted the distribution and production of European audiovisual programming within the European internal market. A major concern was to ensure that European programming maintain a majority position in television schedules. Additionally, it set out to safeguard certain public interest objectives, such as consumer protection, cultural diversity, and the protection of minors. Advertising parameters were also important with specifications on what percentage of transmission time could run ads, the procedures for interrupting ongoing programs, product placement and compliance with restrictions on ads for alcoholic beverages, tobacco, and health products. More recently they are reviewing the provisions of the Directive for their applicability to certain Internet-based services, mobile telephony, and interactive television.

Therefore, the EU has been particularly strident about its audiovisual policy arguing primarily in terms of cultural significance but also to maintain a high level of autonomy. They want to determine and shape their own policies in the audio-visual sector. They pushed for audio-visual exemptions to the Most-Favored-Nation (MFN) treatment and did not submit any GATS requests for the audio-visual service sector to its WTO trading partners in 2005. Currently, more than 120 countries have failed to make offers or commitments on audio-visual services making the rollout of global IPTV a contentious issue.

INTELLECTUAL PROPERTY TREATIES

Another set of negotiations that were also discussed and approved during the Uruguay Round and came into effective on January 1 of 1995. The TRIPS Agreement (Trade-Related Aspects of Intellectual Property Rights) was set up to develop protections, standards, and enforcement measures for such concerns as patents, industrial designs, trademarks, as well as copyrights. Essentially, the TRIPs Agreement requires members to accept almost all of the conditions of the Berne Convention which the US signed on to in March of 1989. Consequently, these conditions translated into insurances for performers looking to prevent the unauthorized taping, reproducing, and broadcasting of live performances. It also meant protections for the producers of audio recordings, how computer databanks would be protected, and even classified computer programs as literary works. The problem will likely be enforcement as digital audiovisual content can be record, reproduced, and redistributed with negligible costs.

The World Intellectual Property Organization (WIPO) also has an influence on the rollout of IPTV services with its claim to international jurisdiction over copyright, patent, and trademark protection. WIPO became a Specialized UN agency in 1974 and is one of the wealthiest of the UN organizations as some 90% of its income comes from the collection of fees by its International Bureau (IB). This has resulted in criticism by the Electronic Frontier Foundation (EFF) and IP Justice that it favors the broadcast industry and other content creators.

WIPO inherited two historic frameworks for the protection of intellectual property: The Paris Convention of 1883 had concentrated on inventions and industry while the Berne Convention of 1886 gave artists increased control over their own works as it focused on books, plays, operas, and paintings. These two organizations merged in 1893 and became BIRPI (United International Bureaux for the Protection of Intellectual Property) and its new office was based in Berne, Switzerland until it moved to Geneva in 1960 to be closer to other international organizations.

The development of electronic audio and televisual technologies has not gone unnoticed by WIPO. The Rome Convention signed in 1961 gave European broadcasters the right to control rebroadcasts, recordings, and public performance of their electronic transmissions for 20 years although the US never signed. The treaty included several exceptions which allowed for the use of the transmissions without asking permission of the broadcaster. These included news broadcasts as well as in education and scientific research. All other uses of the broadcast material required the permission of the broadcaster as well as the copyright holder. The treaty resurfaced in 1996 when it became the foundation, along with the *Berne Convention for the Protection of Literary and Artistic Works as revised in Paris on July 24, 1971*, for the *WIPO Copyright Treaty* and the *WIPO Performances and Phonograms Treaty (WPPT)*. The US implemented the treaty as the *Digital Millennium Copyright Act (DMCA)* in October 1998 which amended the *Copyright Act of 1976*. The DMCA criminalized technologies that were intended to circumvent copyright protections and provides protection for ISPs carrying illegal content providing they remove it upon request.

In September of 2006 the WIPO Standing Committee on Copyrights and Related Rights (SCCR) held a meeting in Geneva to address protection of the broadcasting industry. The SCCR had been working to harmonize broadcasters' rights for a number of years and in 2007 is likely to reveal its final outcome. The so-called "Broadcasting Treaty" will be examined at the WIPO Diplomatic Conference in July 2007 and may bestow unprecedented new global rights for broadcasting companies. The treaty would provide media broadcasters with the rights over the content of their transmissions for 50 years, including the right to protect their broadcasts from reproduction and retransmission, including those by DVR and TIVO technologies as well as public viewing facilities at a hotel or a subway station. The SCCR also wants to include a "by any means" provision that could apply to retransmissions over the Internet and even home-based wireless networks.

The proponents of these new rights are primarily large cable and broadcasting companies, including Fox News, Rupert Murdoch's News Corp subsidiary. Broadcasters argue that the new rights are required to protect the signals of transmission but critics argue that extending their rights into the arena of copyright and intellectual property is overkill and could do significant economic harm. The EFF argues that the rights-based approach taken by the SCCR should be replaced by a strictly signals-based approach that would concentrate on issues of theft, disruption or intentional misuse. In fact, the EFF argues that a fixed signal is not possible. Consequently, the EFF calls the treaty, "...a protection racket for middlemen in the TV and Internet worlds."⁷

As part of the UN system, WIPO operates with the one nation/one vote decision-making system of governance. During the 1980s tensions increased between the North and South countries as the South gained power throughout the UN system because of its increase in voting membership. This power struggle led to the US withdrawing from UNESCO and refusing to pay its UN obligations. Issues dealing with pharmaceutical patents in particular led to pressure to "forum shift" intellectual property and standard-setting issues out of WIPO and on to GATT and TRIPS. Recently, Argentina and Brazil submitted a plan to deal with a number of problems emerging with the global digital revolution. The "Proposal for the Establishment of a Development Agenda for WIPO" was offered to address problems such as digital rights management (DRM), fair compensation for authors and creators of digital content, concentration of ownership, anticompetitive economic practices, and the privatization of public domain content by commercial interests. In October 2004, the WIPO agreed to adopt the proposal.

IT'S THE E-COMMERCE, STUPID

Part of the difficulty in assessing the rollout of IPTV comes from discerning what technological directions it will follow, what services will be available through it, and what business models will emerge successfully. The digital, high-bandwidth, software-driven aspect of IPTV suggests that its functionality will be dynamic and robust. It follows that the type of services available will be extensive. For example, online games are likely to be a significant opportunity for telcos.⁸ Also, the traditional TV model, where broadcasters sell an audience to a group of sponsors, will be challenged by emerging models of e-commerce, viewer customization, and product placement. The incorporation of new business models into the home television environment will present significant questions for international trade policy. The variability of IPTV leaves the question of where it will be addressed in trade negotiations still open to discussion and negotiation but the issue of e-commerce is instructive because it deals with services, products, and informational and entertainment content that needs protection.

The US generally has a comparative advantage in Internet e-commerce in part because of its policy stance. It recognized from early on, when it amended the charter of the National Science Foundation to allow commercial traffic, that the Internet had vast economic potential. Consequently, a strategic US policy agenda on e-commerce emerged in the mid-1990s. On July 1, 1997, the Clinton administration held a ceremony in the East Room of the White House to announce their new initiative, *A Framework for*

Global E-Commerce. Essentially a hands-off approach to net business to be guided by the following 5 principles:

- The private sector should lead the development of the Internet and electronic commerce.
- Government should avoid undue restrictions on electronic commerce.
- Where government is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce.
- Governments should recognize the unique qualities of the Internet.
- Electronic commerce over the Internet should be facilitated on a global basis.

Clinton also asked Treasury Secretary, Robert Rubin to prevent "discriminatory taxes on electronic commerce" and the U.S. Trade Representative, Charlene Barshefsky, to petition the World Trade Organization to make the Internet a free-trade zone within the year. On February 19, 1998, the US submitted a proposal to the WTO General Council requesting that bit-based electronic transmissions continued to be spared arduous tariffs.⁹

The WTO adopted the *Declaration on Global Electronic Commerce* on May 20, 1998. Members agreed to "continue their current practice of not imposing customs duties on electronic transmissions". They also set out to study the trade-related aspects of global Internet commerce including the needs of developing countries, and related work in other international forums.¹⁰ Later that year, the OECD held a ministerial meeting on electronic commerce in Canada where the WTO General Council adopted the *Work Program on Electronic Commerce*. The September meeting mandated the WTO's Council for Trade in Services to examine and report on the treatment of electronic commerce in the *GATS* legal framework.

The WTO already protected e-commerce from taxation until 2001 by the time of "The Battle for Seattle" ministerial meeting in the state of Washington. But concerns were growing as e-commerce was taking off during the "dot-com craze" of the late 1990s. Particularly, the EU and other trade concerns worried about the unfettered ability of software products to be downloaded. France also attacked Yahoo! because its auction site trafficked Nazi memorabilia and not only got it to remove the items but established a precedent for a nation-state to police a website in another country. The WTO produced a definition of e-commerce that suggests some of the difficulties in developing meaningful trade policy. E-commerce is defined as "the production, advertising, sale and distribution of products via telecommunications networks". This expansive characterization has made it difficult to classify e-commerce as falling under the framework of the GATT, GATS or TRIPs agreements. Each has different parameters that will influence the rollout e-commerce technologies such as the Internet and IPTV. Nevertheless, the long awaited convergence of digital technologies requires an overarching framework that may be applicable to IPTV.

CONCLUSION

IPTV may fall on the scrapheap of history, like ISDN, but it's apparent both the telco and the television industry will continue to go through substantive changes. Two apparent changes are its increasing globalization and the offering of a multiplicity of services. When combined they bring the new television realm under the scrutiny of multilateral trade agreements. As IPTV business models draw on e-commerce models it raises a number of questions about whether it should be viewed under the GATT which covers the cross-border movement of goods and duties imposed or the GATS which governs the cross-border of services. Given that IPTV will largely deal with the cross-border flow of copyright protected entertainment and education content it will also attract the attention of WIPO and the enforcement measures of TRIPs. It may be that the deliberations over e-commerce may produce the best international governance model for IPTV.

¹ Quote on the WTO from Jill Hills, "U.S. Rules. OK?", in Robert W. McChesney and John Bellamy Foster (1998) *Capitalism and the Information Age: The Political Economy of Global Communication Revolution*. p. 101.

² Hundt, Reed. (2000) *You Say You Want a Revolution? A Story of Information Age Politics*. p. 45.

³ *ibid*, p. 25.

⁴ Early debate on services inclusion from Jonathan D. Aronson, "Trade Negotiations, Telecom Services, and Interdependence," in Jussawalla, M. et al. (eds.) *Information Technology and Global Interdependence*. New York: Greenwood Press. 1989. This book consisted largely of contributions to three conferences entitled TIDE (Telecommunications, Information and Interdependent Economies) organized by the Japanese Foreign Affairs Ministry and the East-West Center in Honolulu, Hawaii.

⁵ Director-General Renato Ruggiero's quote from Christoph Strawe's "GATS - Service to Whom?" <http://www.threefolding.net/GATS.htm>. Accessed January 2, 2007.

⁶ Washington Post, "Telecom Pact Opens Up World Phone Markets" February 16, 1997.

⁷ Critique of the WIPO's Broadcast Treaty draws significantly from the EFF website entitled "WIPO Broadcasting Treaty" at http://www.eff.org/IP/WIPO/broadcasting_treaty/ accessed on Dec 24, 2006.

⁸ Previously I argued that the importance of online gaming for telcos in Anthony J. Pennings (2006) "The Telco's Brave New World: IPTV and Online Gaming. *Pacific Telecommunications Conference Proceedings*.

⁹ WTO information on e-commerce from Patrick Grady and Kathleen MacMillan's (1999) *Seattle and Beyond: The WTO Millennium Round*. Ottawa, Ontario: Global Economics Ltd.

¹⁰ The Geneva Ministerial Declaration on Global Electronic Commerce. Second Session Geneva, 18 and 20 May 1998 at http://www.wto.org/english/tratop_e/ecom_e/mindec1_e.htm Accessed on December 23.