

The Struggle Over Internet Governance: Searching For Common Ground

Draft Position Papers for Discussion Forum

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These position papers are intended to support and facilitate discussion at the OII Forum Discussion The Struggle Over Internet Governance: Searching For Common Ground to be held on 6 May, 2005. They may be one of the sources of a possible OII Discussion Paper based on the Workshop, to be posted on www.oii.ox.ac.uk

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Slouching Towards Geneva: Ten Unappreciated Axioms of Internet Governance

Kenneth Neil Cukier

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Things fall apart; the centre cannot hold;
Mere anarchy is loosed upon the world, [...]
And what rough beast, its hour come round at last,
Slouches towards Bethlehem to be born?

William Butler Yeats

The meaning of 'Internet governance' has changed over time, and been so misused by people to promote their self-interests that the phrase is almost meaningless. In regards to the management of the domain name system, most individuals and institutions vying to play a role have only got involved relatively recently, and are unaware of the long history, a knowledge of which can help avert repeating mistakes. In this context, and as a melancholic observer of global Internet policy matters for over a decade, I offer ten basic points to enrich the understanding and discussion.

1. Internet governance is a means, not an end.

We can be in favor of Internet governance but agnostic as to what institution performs it, provided that our interests are achieved. The institutional design, however, determines the outcome we get. The difficulty comes when we must prioritize differing objectives that stakeholders consider paramount. The history of Internet governance is one of ever-increasing numbers of new parties acknowledging themselves as stakeholders and wishing to gain greater say in the then-established order. However, what is needed is not to continually revise the institutional framework, but to create a framework that can admit new stakeholders.

2. The goal, alongside stability, is to maintain openness and interconnectivity of the Net.

The chief attribute of the Internet is that it defies definition—it is a living medium that undergoes constant change, and does so in ways that are inherently unpredictable. This, the Internet's most prized feature and source of innovation, is due to the open design of its protocol, standards, interconnection and architecture that leads to low cost access and autonomy of users at the edge. Decentralization makes regulation harder, but brings tremendous economic and social gains. The growth of the Internet—people connected, networks deployed, content posted and businesses created—would have been impossible were it not self-organized by individuals and firms.

3. The open network is akin to an open society: a matter of human freedom.

The Internet's decentralized approach leads to technical freedom to develop new uses for the medium, such as the Web or instant messaging, or new business models. Moreover, it also leads to freedom in the social, political and economic sphere: the Internet empowers individuals and groups at a scale previously impossible, be it for free speech or free trade, particularly in places that lack those traditions in the real world. The decentralization threatens established political and commercial interests. It is the antithesis of centralization, be it technical (like the telecom network), economic (state-planned economies), or political (dictatorial governments), even if these forces are also able to harness the network to hinder freedom and innovation.

4. The Internet is antithetical to the state-system; it defers to global, multi-stakeholderism.

The original design and ethos took little account of national laws and borders, and strove for a broader spirit of global connectivity. The Internet, in the celebrated engineering maxim, 'rejected kings, presidents and voting' in favor of 'rough consensus and running code.' Jon Postel's policy for country-code domain managers who came from the private sector (RFC 1591), set out a two-pronged test of accountability: to the '(local) community' and 'the global Internet community,' thus deferring to an ideal of transnational human solidarity. This spirit of interconnectedness and limits on sovereignty—as well as private-sector and governmental approach—fits in line with broader trends in international affairs over global issues, be it climate control, human rights, etc.

5. The Internet governance conundrum is that what flourished as a private infrastructure has emerged as a public infrastructure, yet lacks public input that governments provide.

The problem is how to apply broader public-interest values into the network without traditional governmental regulation that risks jeopardizing the technical innovation and political freedom which the Internet enables. Most power over the DNS is illusory, yet it is the only place where centralized control could be imposed on the entire system—at the core rather than at the edge, where control is imperfect. Ultimately, the debate is over whether the Internet should be treated as a public or private infrastructure, and the degree of control by industry, government, or 'civil society' over the Internet's evolution. Giving one interest predominant power over the DNS is like handing the Church the control of the printing press.

6. The perennial logjam comes from trying to solve intractable differences by creating an organization, rather than first creating it, and then addressing (not resolving) conflicts.

The battle over the institutional design becomes a proxy for a much narrower interest one wants. In 1996 with the IAHC, this was for new TLDs by Internet entrepreneurs; in 1998 with ICANN it was for privately operated TLDs by NSI (now VeriSign); in 2005 with WSIS it is for more power by governments. As in previous cases, any arrangement that leaves other parties unsatisfied is bound not to endure long. Every party employs the term 'multi-stakeholder' to mean that they will enjoy predominant power but leave a few, merely symbolic crumbs for others.

7. The idea of a self-selected committee designing an institution for Internet governance is a continually seductive but dangerous fiction.

It always occurs because one group perceives a power-vacuum in the arrangement of Internet governance—that they, of course, are most appropriate to fill. Prior to the commercialization of the Internet, the governance was by the original techies (DARPA researchers) keeping the new engineers (NSF academics) out. In 1992, it was IETF/ISOC, to include industry. In 1996, it was IAHC, to include governments (via ITU and WIPO). After 1998 it was ICANN, to include industry and other governments. In December 2003 at WSIS, an ICC representative Talal Abu-Ghazaleh said he would hand-pick a group to once-and-for-all establish an Internet governance system. In 2005, the WGIG vies to settle the matter. What these acronyms stand for is unimportant—each entity failed because it entrenched the most powerful interests at the moment, and was inflexible to new, self-identified stakeholders.

8. Oft-cited Internet governance principles are inadequate, stressing process over design.

Openness, accountability, transparency, diversity and representation are ideals and aspirations, not institutional structures for policy-making. What is needed is more concentration on designing an organization that is capable of changing for new circumstances. It should have the seeds of its own diminishment or dissolution within it. It must have a separation of powers, and checks and balances—the one thing that every attempt at Internet governance, oddly, has lacked. The structure will ideally have three main features: 1. minority views must be taken into account; 2. majority acts effect operational questions at the margins, not fundamental premises upon which the Internet and its governance model is based; 3. the only viable alternative remains cooperation, not secession. The process of Internet governance fails because so far the notion of collaborative policy-making is completely missing—there are no ideological camps, no political parties or coalitions in which groups are forced to sublimate their ideal self-interest for a suitably acceptable compromise, in order to attain the benefits of the workable system as a whole.

9. The governance of the DNS will not completely encompass future Internet addressing and navigation, which is a good thing, not a shortcoming.

The system of domain names, IP numbers, root servers and protocol identifiers is not static but a technology capable of evolving into a better form. As such, the current system should not be treated as sacrosanct, but amenable to innovation. The paradox of Internet governance is that any institutional arrangement will by nature be a collusion of political power and financial interests that acts to freeze into place the current technical design, and make new and better approaches almost impossible to emerge—much as the system of national telecom operators dominated communications for a century until the Internet emerged as the unlikely force that upended it. We can already see that future Internet navigation will not simply be addresses linked to computers, but to billions of devices, file-documents, real-time video and audio streams, objects though RFID tags, and even constantly changing instantiations of information—all which will make today's DNS and its governance seem anachronistic. Allowing for alternative addressing and navigation across the network, alongside a sanctioned 'legacy' DNS, will be a balanced way to achieve diversity, experimentation and progress, while also ensuring stability and reliability.

10. There is no solution to the problems of Internet governance—but the attempt to devise a solution upon which others are bound itself causes problems.

The issue of Internet governance is like governance in other spheres: a timeless conversation in which there are no answers acceptable for all. The best one can hope for is a system whereby differing interests can be held in balance so that interconnectivity is preserved. The attempt to find a 'solution' misdirects efforts that could be used for devising practical answers to specific problems on a reasonable scale, which is the most effective form of governance in the real world. Reforming the institutional structure is necessary, but risks making things worse for everyone.

* * *

The Internet governance debate truly began a decade ago, in 1995 when Jon Postel prepared a draft plan for over 100 new domains, and the US government organized a conference entitled 'Internet Name and Number Management and Beyond: Issues in the Coordination, Privatization, and Internationalization of the Internet.' This underscores the degree to which today's controversies have a longer lineage than many participants in the current iteration of the debate know or acknowledge. It also sheds light on the goodwill of the US government to find a successor organization—international in scope—to preserve the openness and interconnectivity of the network it created and gave to the world. Hopefully, this reminds us to approach the matter with humility; the chief errors of those before us occurred when one group presumed to definitively answer the issues in favor of their interests at the detriment of others.

This suggests two lessons, forever unheeded: First, no one solution is viable since stakeholders see problems differently and hold diverse values, thus multiple institutions are needed to address the myriad issues (an approach that is in the spirit of the decentralized network). Second, though each stakeholder naturally seeks to uphold their interests, the reality is that we are interdependent. Any Internet governance arrangement that does not take this into account will fail.

A New Framework for Taking Forward the Internet Governance Debate

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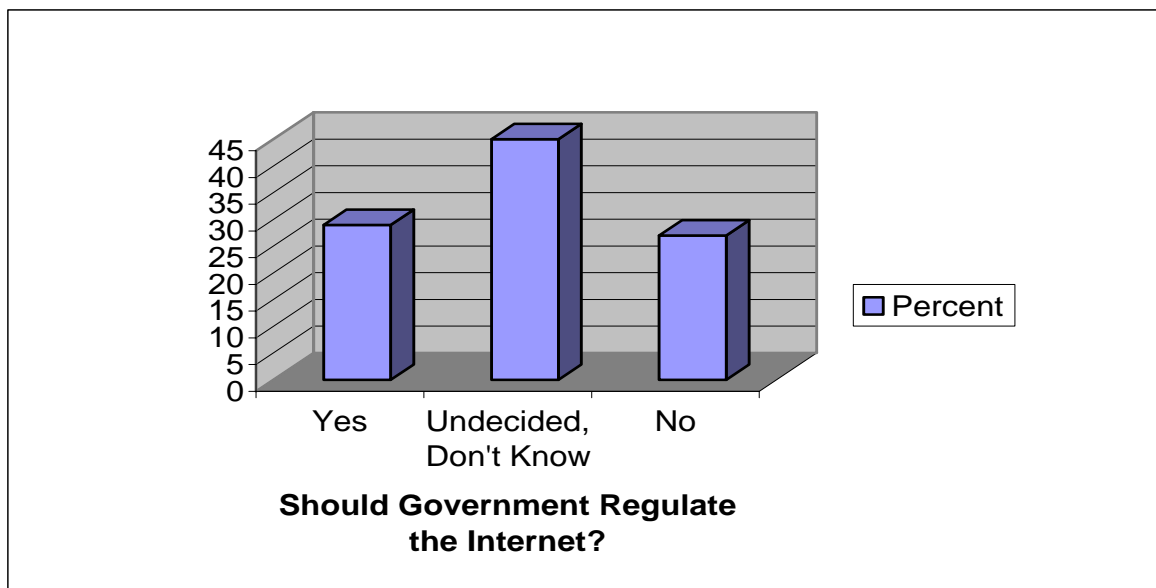
An increasingly well informed debate over Internet governance has developed recently, building on earlier research and policy discussion centred on videotext and related information and communication technologies (ICTs).¹ Yet, discussion on Internet governance often seems to stumble over basic points of entry that prevent many people from moving to more detailed discussion of concrete policy issues. Here, I highlight two such basic points: the concept of 'governance' in relation to the Internet and the notion that someone or some body does or can govern it. I also point toward approaches to reframing discussion of these issues in ways that could direct more attention to effective policy levers.

1. The Very Idea of Governing the Internet

The idea of Internet governance is so controversial that substantive treatments of specific policy issues often don't get beyond an argument about the validity of the concept. For example, the Internet community, policy-makers and the public at large are divided about the question of whether or not governments should be involved in regulating the Internet at all. This is illustrated in the finding of the 2005 Oxford Internet Survey (OxIS) that Internet users in Britain are not predominantly pro- or anti-government regulation of the Internet—they are divided. We asked users: 'Some people think the Internet should be regulated, others think government should not regulate the Internet. What do you think?' Most (45%) said they did not know, or were undecided. Less than one-third (29%) thought that governments should regulate, but a nearly equal number of users (27%) thought governments should not (see Figure 1).

¹ An important early work in this vein is Ithiel de Sola Pool's *Technologies of Freedom* (Harvard University Press, Belknap Press: Cambridge, Massachusetts, 1990).

Figure 1. British opinion on Internet regulation



Source: OxIS 2005. Number of respondents = 2185.

To some, the word 'governance' conjures up the unwelcome notion of governments moving into a thriving arena that has been fostered by seemingly ungoverned entrepreneurial and technical ingenuity. This raises the spectre of killing the vitality of the Internet through governmental, administrative, political, industrial and legal barriers to technical innovation.

On the other hand, some proponents of Internet governance contend that more national international public oversight and regulation of the Internet is essential because of its growing significance, both in opening up new combinations of ICT-enabled services, such as in providing voice and related Internet Protocol (IP)-based capabilities, and in dealing with spam, viruses and a growing range of online problems experienced by users. Even some prominent former opponents of Internet 'governance' suggest a term such as 'coordination' as an acceptable alternative to solving problems faced by the network's users and providers.

A way forward could be to recognize that, in some form, government policy decisions about Internet governance are inescapable. For example, a decision by government not to regulate the Internet, not to tax Internet commerce, or to seek to coordinate activities of various stakeholders are decisions that affect Internet governance and regulation. I believe this is more than merely an academic point, as it might be helpful to policy debate to emphasize that Internet governance does not imply a specific policy regime. The US First Amendment is government policy, and government is deeply involved in protecting freedom of expression in the US context.

It was in this spirit that the Oxford Internet Institute created a professorship in 'Internet governance and regulation', reflecting our belief that there will be a growing and continuing need to understand policy options and preferences in coordinating, shaping, governing and regulating the Internet. This

title leaves all options open, while recognizing the inescapable conclusion that the Internet will be shaped by government policies and regulations in many arenas, even if that decision is to keep government out of certain kinds of activities, such as in protecting the privacy of citizens from electronic surveillance.

2. The Idea that Someone Governs the Internet

My second point relates to the question of who or what ‘governs’ (or can govern) the Internet *per se*. I believe a more productive view would be to understand the governance of the Internet not as something in the control of any one set of actors but as the outcome of an ecology of games, as illustrated in Table 1.²

I use the term ‘game’ to indicate an arena of competition and cooperation structured by a set of rules and assumptions about how to act to achieve a particular set of objectives. An ‘ecology of games’ refers to a larger system of action composed of two or more separate but interdependent games. Defined in this way, the idea of an ecology of games helps to turn attention towards the dynamic interplay of technical, social and policy choices shaping the development of a technology, like the Internet, or a structure of governance, such as Internet governance. Aspects of an ecology of games—games, rules, strategies and players—offer a ‘grammar’ for describing the system of action shaping change.

Table 1. Selected Games and Players Shaping Governance of the Internet

Game	Main players	Goals and objectives
Names and numbers	(J. Postel, deceased), ICANN, Registries, ISPs, Users	Obtain, sell and allocate domain names, addresses, etc. to identify sites, servers, users
Standards	Standard setting bodies, W3C, IETF	Efforts to establish and propagate standards for the Internet
National sovereignty	ICANN, ITU, UN, national governments	National actors participate in Internet governing bodies to seek to gain or retain national control over policy, such as through filtering
Security	Military and defence agencies, ISPs, business and industry, users, hackers, virus writers, etc.	Players build infrastructures to support military and defence command and control, and guard against national security threats

² Thierry Vedel and I are developing a fuller treatment of this argument. Earlier work on the ecology of games can be found in Dutton, W. H. (2005) ‘Social Movements Shaping the Internet: The Outcome of an Ecology of Games’, paper presented at ‘Extending the Contributions of Professor Rob Kling to the Analysis of Computerization Movements’, the Berkman Center, UC Irvine, March 11-12, 2005; Dutton, W. H. (1992) ‘The Ecology of Games Shaping Telecommunications Policy’, *Communications Theory* 2:303-328; and Dutton, W. H. (2004) *Social Transformation in the Information Society* (Paris: UNESCO Publications for the WSIS).

Digital divide	Governments, non-government organizations (NGOs), local activists, investors	Players seek to close social as well as economic divides in developing countries by the development and use of ICT infrastructures and funding.
Copyright, digital rights	Content providers versus consumers and ICT industries; regulators, WIPO	Telecommunications firms, media industries and users compete over interpretations of rights in access to information and services
Political speech, expression	Media rights advocates, activists, speakers, news media, governments, censors	Individuals and organizations to facilitate or constrain flows of information and political views
Secrecy v. open government	Governments, citizens, civil society, industry	Actors seek access to information collected and held by governments, such as through freedom of information provisions
Privacy and data protection	Governments, citizens	Prevent disclosure of personal information without consent
Consumer, child protection	Consumers, consumer groups, suppliers, regulators, spammers, telemarketers	Legislators and regulators respond to competing views of the consumer's interests in ICT provision
Cyber crime prevention	Police agencies, fraudsters, paedophiles, hackers, etc.	Preventing, or enabling use of the Internet for illegal purposes
E-games	Pro/anti e-enablement players in government, business, education, etc.	Organizations put their vitality at stake through over/under investment in online infrastructures and applications
Copyright, digital rights	Content providers versus consumers and ICT industries; regulators, WIPO	Telecom firms, media industries and users compete over interpretations of rights in access to information and services

From the perspective of an ecology of games, no one governs the Internet in the rational-comprehensive sense. In fact, very few people would be seen to seek to govern the Internet as such. Instead, they seek more focused goals, for instance developing a market for registering names and numbers, keeping a bank's computer system secure from hackers, avoiding spam e-mails and so on. Governance of the Internet can then be understood as the outcome of a variety of choices, made by many different players involved in many separate—but interdependent—policy games or areas of activity, as indicated above in Table 1.

Refocusing debate on the more specific policy games shaping governance of the Internet could move the focus away from controversies over government regulation of the Internet *per se*, and away from attempts to create a rational-comprehensive structure or process for governing the Internet. Both starting points are likely to block international progress in this important area.

It is by decomposing or unpacking this complex ecology of games that policy-makers and activists can focus on the objectives, rules and strategies of specific games that drive particular players, while also recognizing that each game is being played within a much larger system of action in which the play and outcomes of any one game can reshape the play, and thereby the outcomes, of other separate interdependent games.

Internet Governance: Perspectives from Mexico

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The debate in Mexico over the issue of Internet Governance is incipient and, due to its nature, very specialized. The original context of discussion began in the last years as part of the wider debate on the social and economic impact of the new Information and Communication Technologies (ICT). Similar to other countries, in Mexico the first phase of the World Information Society Summit triggered a series of social and political discussions on the possibility of using ICT as tools to reach the Millennium Goals.

Country profile

Mexico is an emergent economy where the concerns of Developed Countries in diverse issues of the Information Society are mixed with the preoccupations of Less Developed Countries. Mexico has a population of over 100 millions inhabitants. Around 10 million more, born in Mexico, live in the United States. Although Mexico belongs to North America, culturally speaking it is a Latin-American country. A 10% of the population is of indigenous origin. Beside Spanish, 55 other vernacular languages are spoken. At present, Mexico is the tenth largest economy of the World, with a GDP equivalent to 650 billion US dollars in 2004. The telecommunication sector represents around 3% of the GDP. It is the country that has the most extensive network of Free Trade Agreements of the world including NAFTA, the European Union and Japan. It has belonged to the OECD group of countries since 1994.

The telecommunication sector was privatized at the beginning of the 1990s and five years later the Federal Commission on Telecommunications (COFETEL), the regulatory entity, was created to regulate and promote efficient development of the telecommunication sector. Most telecommunications services require a concession, license or permit from the Ministry of Transport and Communications, which still exercises a strong and strategic role at the Federal level in the sector.

As to the Internet, in 2004 there were around 5.5 million users of the Internet with a computer in their household and another 5.8 million users without computers at home.³ According to recent data

³ National Institute for Statistics, Geography and Informatics (INEGI). National Poll on the availability and uses of information technology in households (2004). www.inegi.gob.mx

from the OECD, Internet subscribers to fixed networks in 2003 amounted to 2.8 million, the lowest of the OECD countries, with an annual growth of 40%.⁴

The organization in charge of territorial country code Domain .mx, NIC México, founded in 1989 within the Technological Institute of Monterrey, has registered 122 862 names up to March 2005. The average annual growth in Internet hosts by domain between 1998 and 2004 was 78%, the highest among the OECD countries.⁵

From 2001 the National System e-Mexico began its development. It is a national strategy that aims to furnish the population with technological infrastructure, as well as contents and digital services in order to meet the needs in education, health, trade exchanges and government procedures. E-Mexico has a network of around 7000 digital community centres distributed in all the municipalities of the country, located in public sites like schools, libraries, health centres, post offices and government agencies. The objectives of e-Mexico are eminently of a social character: to promote connectivity, to train families in the use of the new ICT and provide useful information to the people in order to raise their quality of life, specially those that live in remote areas where access is difficult.⁶

An additional point worth mentioning in this context has been the growth in Mexico in the use of other ICT, like mobile phones. In 1999 there were 7.7 million users; as to 2004, the number was 38.4 million,⁷ which is now almost double the fixed infrastructure.

The debate on ICT

In the last five years, the debate in Mexico about Internet governance has been circumscribed to a larger debate about the democratic control of the information and communication space and the uses of ICT. The task now is to limit and clarify the discussions on internet governance in their specific domain. Up to now, the main issues discussed by the different stakeholders have been universal access to the ICT, digital inclusion, content development, education, cultural diversity and freedom of expression and privacy in Internet. In these debates there are a myriad of positions as regards to governance: from those who stressed the pertinence of elaborating a regulatory framework to preside over the social insertion of the digital technologies, to those that reminded that the Internet, notwithstanding its growing commercial and publicity aspects, is a communication network that is not controlled, and from which the different social movements have greatly benefited.

In this context, the debate on Internet governance takes a small part of discussions. The attention given by authorities and NGO to the development of Internet has been scarce and alongside the ongoing e-Mexico system there is a critical approach as to the lack of a national strategy that takes into consideration the participation of all stakeholders.

⁴ OECD Communications Outlook 2005, chapter V (unpublished).

⁵ Network Information Center of México (2004) www.nic.mx and OECD Communications Outlook (2005).

⁶ www.emexico.gob.mx

⁷ Federal Commission on Telecommunications (COFETEL). www.cft.gob.mx

We may summarize the issues of the debate as they relate to Internet Governance as follows: The debate in Mexico on the TIC tends to defend the principles of freedom of expression, cultural diversity and technological neutrality. There is a strong emphasis as to the need to develop infrastructures and content to reduce the digital divide, and there is a consensus as to the role of the State (public service) in the domain of TIC and the challenges that they pose.

Internet Governance

This issue has not yet been fully debated. We may say that there are more questions than answers with respect to the existing governance structures of the Internet; the present position maintained by Mexico is that the current mechanisms for the assignment and administration of addressing resources to the Internet, such as domain names and IP numbers should be transparent, accountable and multilateral, including the participation and representation of governments, the private sector, civil society and international organizations in such structures. Mexico acknowledges that these principles can be improved and observed in better ways.

Although there are some divisions, the prevalent view is a gradual position taking as a point of departure the fact that the actual structures for the administration and functioning of the Internet fulfil their task in a reasonable manner. Nevertheless, looking at the future, the existing governance structures have to be improved and be more inclusive, through a better coordination, in order to meet all the intrinsic preoccupations of the users of Internet, such as security, privacy and spam, among others. Some think that better to concentrate in the governance process itself, it will be better to develop a normative approach. These normative frameworks should incorporate the main preoccupations of LDC countries such as equitable access, content development and cultural diversity. All these have to be promoted, observing the principle of freedom in the use of Internet and the need not to check technological innovations of the network.

In this respect, there is not a strong position in favour of setting up a global organization for policy formulation, standards and administration of the Internet in an intergovernmental body like the ITU. The idea then is to introduce norms and regulations of a 'minimal' starting point related to each aspect of the functioning of Internet from technical issues to legal matters. In this respect, it will be feasible to improve coordination between the existing institutions, such as ICAN, IETF, ISOC, etc. with entities capable of making decisions regarding what issues can be effectively addressed within the different bodies. These mechanisms should be of a multi-sector composition with the participation of all stakeholders.

Pablo Hinojosa

Please see http://194.78.218.67/web/home/GAC_CHAIRMAN_WGIG_REPORT.doc for the ICANN Governmental Advisory Committee (GAC) Chairman's Report for the Information of the United Nations' Working Group on Internet Governance (WGIG). Geneva, February 2005.

Intellectual property in the information society: the role of WIPO

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Intellectual property (IP) refers to creations of the mind: inventions, literary and artistic works, and symbols, names, images, and designs used in commerce. IP is divided into two categories: industrial property, which includes inventions (patents), trademarks, industrial designs, and geographic indications of source; and copyright, which includes literary and artistic works such as novels, poems and plays, films, musical works, artistic works such as drawings, paintings, photographs and sculptures, and architectural designs. Rights related to copyright include those of performing artists in their performances, producers of phonograms in their recordings, and those of broadcasters in their radio and television programs.

The underlying premise of the IP system is to provide recognition and rewards associated with ownership of inventions and creative works, so as to stimulate further inventive and creative activity for social, cultural and economic growth.

The Internet poses challenges to policy-making across a spectrum of governance issues, including in the field of IP rights (IPRs); challenges include the need to act faster, to develop flexible and balanced responses, and to coordinate action on an international and multi-sectoral basis. IP rights also affect how the Internet functions, and how it has been and will be deployed as a tool for information exchange in the digital era. The international IP system has evolved over centuries and involves careful balancing to best serve the interests of creators and the community—as a result, IP presents a delicate governance issue requiring special expertise.

WIPO and its mission

WIPO is a specialized agency of the United Nations—and an international intergovernmental organization with 182 Member States⁹. It has traditionally been open to civil society: some 193 non-

⁸ The views expressed in this document are those of the author and not necessarily those of the Member States or the Secretariat of WIPO.

⁹ Full information about WIPO and its activities is available at its web site at www.wipo.int

governmental organizations enjoy permanent observer status and many more are admitted to WIPO meetings on an ad-hoc basis.¹⁰

In order to ensure the participation of all Member States in policy-making processes, WIPO funds the participation of developing country representatives at all major meetings, and organizes awareness-raising activities throughout the world to enable full and informed participation in developing IP policies.

The WIPO Convention provides that the Organization's mission is: 'to promote the protection of IP throughout the world through cooperation among states'¹¹ in order to encourage creativity and innovation. WIPO's challenge is to remain effective in encouraging creativity and innovation, to respond to the legitimate and changing needs and expectations of users, and to retain flexibility to accommodate both rapid technological developments and diverse national policy objectives in IP policy development.

WIPO's main fields of activity are:

(1) *normsetting*. This takes place through traditional treaty making processes (WIPO administers 23 international treaties), but also new forms of international multi-stakeholder consultation, such as the two WIPO Internet Domain Name Processes, which were held online and through physical meetings that were reported online;

(2) *providing international IP services to the private sector*. WIPO facilitates the worldwide protection of IP through its registration services for patents, trademarks and designs, and through the dispute resolution services offered by the WIPO Arbitration and Mediation Center; and

(3) *enhancing access to the IP system*. WIPO assists its developing country members as well as small and medium sized enterprises to use IP as a tool for economic development.

IP protection on the Internet

In the information society it is widely acknowledged that knowledge and information are equally as important economically as tangible assets like capital, land, or labor. As a result, the means to protect such intangible assets are a key determinant for economic success. This is demonstrated by increases in demand for IPR protection reported in recent years by almost all IP Offices in the world.

Much of the content transferred over the Internet is protected by IPRs, and IP is also integral to protecting the infrastructure of the Internet itself: the software, business methods and databases that allow digital technologies to function, and the businesses and communications they support.

¹⁰ For information about admission criteria for permanent observer status at WIPO, see <http://www.wipo.int/about-wipo/en/members/admission/index.html>. In addition, ad hoc observer status may be requested for a particular meeting by direct application to the director of the substantive division concerned.

¹¹ Article 3.

Challenges to protection of IP raised by the Internet are heightened by the basic characteristics of IP, on the one hand, and the global nature of the Internet, on the other. IP works, such as film and literature, software and music are ideally suited to digitization. IP works travel rapidly and easily in digital form and are therefore subject to growing, global commercialization. While this presents significant opportunities for IP creators, it also means that protected subject matter can be easily distributed through global digital networks, with or without authorization from the rights holder, with the simple click of a mouse. IP is therefore very vulnerable to piracy as broadband capacity increases: it has been estimated that 400-600,000 films are illegally downloaded every day¹² and, in January 2005, more than 870 million copyright infringing music files could be downloaded from the Internet.¹³

These factors have heightened the need for balanced and effective protection of IP at the global level. The situation is complicated by the fact that IPRs are protected on a national or (as in the case of the European Union) a regional basis whereas, in an era of global networks such as the Internet, there is a critical need for international approaches.

WIPO's role in responding to the challenges of the Internet

WIPO has increasingly sought ways to respond both to the challenges and opportunities created by the Internet. These include the need to increase trust and security necessary to inspire confidence in the Internet as a tool for the information society, and to provide a transparent and non-discriminatory legal, regulatory and policy environment that is critical to growth in use of IP assets in the information society. Some of WIPO's responses to these needs are illustrated by the following activities.

(a) Copyright

The international IPR treaty framework provides the basic rules to maintain a balance between incentives for innovation and creativity, on the one hand, and knowledge sharing, on the other. In the field of copyright, the challenge of the Internet involves determining how to allow creators to control the dissemination, integrity and use of their works on digital networks, while facilitating legitimate access to and use of copyright content by users worldwide. WIPO has addressed these issues by adapting copyright law to the digital environment through adoption of the WIPO Copyright Treaty (WCT) and the WIPO Performances and Phonograms Treaty (WPPT)—the WIPO 'Internet Treaties'—which came into force in 2002. These treaties provide legal certainty and flexibility, and promote an online environment in which creative works can be made available legitimately and safely on the Internet.¹⁴

The international copyright treaties, including the Berne Convention as well as the WCT and WPPT, facilitate careful balancing and re-balancing, in the light of rapid technological advances and shifting market conditions, of the scope of economic rights in relation to limitations on those rights established in the public interest. Such limitations include fair use and other privileges that enable users to access and use content under certain conditions, without authorization by the copyright

¹² Source: Motion Picture Association, see <http://www.mpa.org>

¹³ Source: International Federation of the Phonographic Industry (IFPI), see <http://www.ifpi.org>

¹⁴ Further information about the activities of WIPO in the area of copyright is available at <http://www.wipo.int/copyright/en/>

owner.¹⁵ Within the framework of its Standing Committee on Copyright and Related Rights (SCCR), WIPO has begun to examine the scope of limitations and exceptions to copyright in the digital environment, including how limitations can co-exist with use of digital rights management (DRM) technologies that create conditions on access to and use of content.¹⁶

Contrary to some perceptions, copyright is not per se an obstacle to knowledge sharing in the digital age, but rather provides the legal certainty and flexibility necessary for the development of new, innovative business models by publishers, software developers and other creators of educational and cultural content in digital form. For example, computer software is protected by copyright law, which provides a critical underpinning for the development and licensing of both proprietary and open source software. While copyright protects the exclusive right of producers of proprietary software to prohibit unauthorized reproduction of their source code, at the same time, producers of open source software rely upon one of some 53 open source licenses, including the GNU General Public License (GPL) which requires open source developers to allow free modification and redistribution of their code; users who contravene the GPL in this respect are deemed infringers of copyright in the original software. While the philosophies underlying proprietary and open source software development differ, existing copyright law is sufficiently flexible to support them both.

The challenge of the Internet requires that IPR owners have means to protect themselves against infringements of their rights, including commercial piracy. For example, 'peer-to-peer' (P2P) file-sharing systems enable the large-scale unauthorized swapping of music and video files among online users. The ability of IPR owners to enforce their rights is a condition precedent for future availability of broad-based and demand-driven knowledge assets, since widespread infringement and piracy slice into revenue that would otherwise contribute to generating new content, and dissuade owners from exploring new online business models.¹⁷

At the same time, the use of DRM technologies that, inter alia, enable rights owners to monitor online usage of copyright content must be applied in ways that do not unreasonably intrude on individual privacy rights or freedom of expression, nor prevent access to content under applicable limitations and exceptions to rights. To further raise awareness of these issues, WIPO published 'Current Developments in the Field of Digital Rights Management',¹⁸ a study which shows that there is little harmonization of the legal, technical or policy approaches being taken with respect to development and deployment of DRM technologies across national jurisdictions. The study concludes, inter alia, that lack of a common approach to DRM standards may inhibit the interoperability between digital devices and copyright-protected digital content that is essential to making such content legally available on the Internet.

¹⁵ For example, in November 2003, a WIPO Information Meeting on Digital Content for the Visually Impaired examined the special needs of visually impaired persons, evaluating whether access to digital content is best provided under copyright licensing mechanisms managed by rights holders or, rather, through new or expanded exceptions to rights provided under national laws. See http://www.wipo.int/documents/en/meetings/2003/digvi_im/digvi_im_03_1rev1.htm

¹⁶ See the WIPO Study on Limitations and Exceptions of Copyright and Related Rights in the Digital Environment, prepared by Prof. Sam Ricketson (SCCR/9/7 (2003)) at http://www.wipo.int/documents/en/meetings/2003/sccr/pdf/sccr_9_7.pdf

¹⁷ For further information about copyright and Internet intermediaries, including P2P services, see the papers presented at the WIPO Seminar on Copyright and Internet Intermediaries, April 18, 2005, available at http://www.wipo.int/meetings/2005/wipo_iis/en/

¹⁸ For further information, see the WIPO Study, prepared by Jeffery P. Cunard, Keith Hill and Chris Barlas (SCCR/10/2 Rev (2004)) at http://www.wipo.int/documents/en/meetings/2003/sccr/doc/sccr_10_2_rev.doc

(b) *Traditional Knowledge*

In the area of traditional knowledge (TK), WIPO's Intergovernmental Committee on IP and Genetic Resources, Traditional Knowledge and Folklore is working actively to develop the enabling environment necessary for protection against misappropriation of TK belonging to indigenous groups and local communities.¹⁹ This important work has two objectives: defensive protection of TK (measures that ensure that third parties do not obtain IP rights over pre-existing TK), and positive protection of TK (the use of existing IPR mechanisms to protect and promote TK). WIPO is also exploring possibilities for assisting cultural heritage institutions (museums and archives) in establishing and maintaining an online presence, including evaluation of sustainable e-commerce business models.

(c) *Domain names*

Confidence, trust and security of users in both communication networks and the information they carry are critical to successful exploitation of IPRs in the digital era. In the trademark field, confidence in the Internet is undermined by 'cybersquatting', the bad-faith registration of trademarks as domain names by third parties who do not have rights in those names. At the request of its Member States, WIPO conducted, in 1998, the first WIPO Internet Domain Name Process, an open and transparent international process of consultations, both online and via physical meetings, concerning possible practices and procedures for preventing and resolving domain name disputes.

The resulting Report of the First WIPO Internet Domain Name Process²⁰ included a series of recommendations dealing with domain name and trademark issues. One of the principal recommendations was the institution of international procedures allowing trademark owners to resolve domain name disputes without taking recourse to national courts of justice. Based on the recommendations made by WIPO, ICANN (the Internet Corporation for Assigned Names and Numbers) adopted the Uniform Domain Name Dispute Resolution Policy (UDRP). The UDRP took effect on December 1, 1999, and provides holders of trademark rights with a mechanism for the efficient resolution of disputes arising out of bad faith registration and use by third parties of domain names corresponding to those trademark rights.²¹

The WIPO Arbitration and Mediation Center was appointed by ICANN as the first provider of dispute resolution services and established the essential infrastructure. The UDRP has proven to be an efficient international tool for combating cybersquatting: by March 2005, the WIPO Center had administered some 7,250 cases under the UDRP alone. These cases were administered in 11 languages and involved parties from 122 countries.

The Second WIPO Internet Domain Name Process considered the relationship between the domain name system and several other identifiers, namely, International Nonproprietary Names for pharmaceutical substances (INNs), the names and acronyms of international intergovernmental organizations (IGOs), personal names, geographical identifiers and trade names (to the extent not

¹⁹ See <http://www.wipo.int/tk/en/igc/index.html>

²⁰ Available as WIPO Publication No. 439 and at <http://arbitrator.wipo.int/processes/process1/report/index.html>

²¹ The Center's web site contains extensive practical information on the domain name dispute resolution procedures administered by the Center, including UDRP proceedings: <http://arbitrator.wipo.int/domains/index.html>

also protected as trademarks). A report was published in 2001 and discussed by WIPO's Member States²² who, in 2003, recommended to ICANN that names and acronyms of IGOs and country names be protected as such against abusive registration as domain names. These recommendations are currently being considered by ICANN.

(d) *Streamlining delivery of IP services*

The IP system contributes to ensuring that individuals, organizations and communities benefit from access to knowledge and information. For example, international publication of patent applications filed under the WIPO Patent Cooperation Treaty (PCT, 1970) provides a rich source of publicly available scientific and technical information that can be accessed and used to further technological development. A number of WIPO activities have resulted in streamlined operation of the PCT including, in 2003, the implementation of an automated system of document scanning and reproduction that enables the Secretariat to communicate with Offices in electronic form, cost-effectively and with greater specificity. On February 11, 2004, WIPO announced the introduction of electronic filing of PCT applications with the International Bureau of WIPO.²³

For the future, the PCT has a number of 'digital' goals for the international patent system, including:

- creation of a PCT 'Electronic dossier' so that each PCT application file can be viewed in its entirety in electronic form;
- exchange of electronic priority documents and creation of electronic priority document digital libraries;
- fully electronic publication of PCT applications;
- move towards paperless examination of PCT applications;
- extending the PCT 'Communication on Request' system, as explained above;
- further advancing electronic document exchange between PCT partner offices;
- further support and develop PCT e-filing; and
- implementing and support reform of the International Patent Classification (IPC).

²² The Recognition of Rights and the Use of Names in the Internet Domain Name System – Report of the Second WIPO Internet Domain Name Process, WIPO Publication No. 843, also available at <http://wipo2.wipo.int/process2/report/index.html>

²³ The International Bureau (IB) thus became the 6th PCT receiving Office to provide for the electronic filing of PCT applications—others already so providing are the European Patent Office, French INPI, the Spanish Patent and Trademark Office, the Finnish Patent Office, and the Korean Industrial Property Organization. See Press Release at http://www.wipo.int/edocs/prdocs/en/2004/wipo_pr_2004_374.html. Further information on PCT e-filing can also be found at <http://www.wipo.int/pct-safe/en/index.htm>

WIPO has also used the Internet to enhance the delivery of its services through the Madrid system for the international registration of marks,²⁴ and, through the WIPO Worldwide Academy²⁵ which offers Internet-based distance learning programs in IP.

(e) IP capacity-building

Developing the skills necessary for individuals to benefit fully from use of information and communication technologies, including the Internet, is a major challenge for governments, civil society and international organizations. Activities and programs aimed at awareness-raising and training in use and management of IP rights figure prominently in the WIPO Program and Budget for 2004-2005.

For example, the WIPO Small and Medium-Sized Enterprises (SME) Division is funded to provide education and skills training to improve the competitive performance of SMEs, particularly in developing countries. Likewise, distance-learning programs developed by the WIPO Worldwide Academy are used to reach out to librarians, scientists, teachers, inventors and other professional groups to build skills in use of the IP system. WIPO's technical assistance programs have also produced pioneering regional infrastructure for collective management of copyright, such as the Caribbean Copyright Link, which harnesses ICTs to centralize data-processing functions to maximize the distribution of royalties to rights owners among fledgling copyright societies in that musically rich region.

Information technologies as an opportunity for the IP system

Communication with users is a fundamental component in all ICT activities, and WIPO reinforces its own planning mechanisms through regular contact with key stakeholders through its Standing Committee on Information Technologies (SCIT) and the Committee's two working groups which deal, respectively, with monitoring major projects and issues of standards and documentation. The debates within the SCIT serve to ensure that WIPO is implementing a robust ICT vision, while the two-way flow of information allows WIPO to manage evolving business needs within its user community and helps users manage their own ICT activities by factoring in WIPO's ICT products and services.

Conclusion

From an international perspective, WIPO continues its work, begun over a decade ago, to assist Member States to meet the challenges and realize the opportunities presented by the impact of the Internet on IP. The 'digital challenge' to IPRs is being met, and opportunities for more effective and profitable use of IPRs are being exploited, in a growing number of countries around the world. It must be acknowledged, however, that much of the progress is taking place in the developed rather than the developing world.

²⁴ See <http://www.wipo.int/madrid/>

²⁵ See <http://www.wipo.int/academy/>

Phase One of the World Summit on the Information Society,²⁶ which took place in Geneva in December 2003, identified the multiple economic and social issues that must be addressed in narrowing the Digital Divide and providing a truly global platform for the legitimate exchange of goods and services in a networked environment. The WSIS Declaration of Principles and Plan of Action²⁷ provide much food for thought concerning these thorny problems, including how to ensure that IP continues to function and expand as an engine for economic growth in the Information Society. As outlined in this paper, WIPO is striving to meet these challenges across the full range of its activities, and in its role as the principal international forum for policy development where the Internet and IPRs meet.

²⁶ See <http://www.itu.int/wsis>

²⁷ See http://www.itu.int/wsis/documents/doc_multi.asp?lang=en&id=1161|1160

Accreditation for Open Standards-Setting Organizations

Eddan Katz

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Technological design is political. In a digitally networked environment, technical decisions about the infrastructure of Information and Communications Technologies (ICT) can have a broad impact on public policy, innovation, and economic growth. The decisions governing these developing systems are increasingly being made in the form of standards and developed by a growing multitude of Standards Setting Organizations (SSO). Made up of a complex web of trade associations, professional consortia, formal national organizations, and globalized movements such as Open Source, these SSOs have a variety of policies and procedures governing their process. Most of these organizations are not regulated and many do not adhere to principles of due process, consensus, and openness.

Over the last few decades, SSOs have become dominated by large multi-national corporations. In the ICT industries, new standards can be leveraged for significant market advantage, and influence over the standards-setting process can be highly lucrative. National governments have also recognized the importance of standards to help shape their economic policy. As governments and corporations take advantage of the standards-setting process, the guiding criteria of long-term economic growth, system interoperability, and the public interest have been undermined. Participation is being controlled to obtain the appearance of consensus within a pre-selected group. Intellectual Property Rights (IPR) are being used to unfairly maximize royalty revenue from adopted standards. Standards are being used as part of product marketing strategy to create barriers to interoperability and restraints on competition

International governance bodies can help safeguard the public interest of standards by developing a system of accreditation of Open Standards principles for SSOs. Direct government regulation and standards development will not be sufficiently comprehensive or efficient, and lacks the necessary expertise for the fast-paced growth of ICT industries. Through a system of accreditation regulating the process of standards-setting bodies according to principles of openness, the public interest of standards development can be preserved. *Democratic participation* must be promoted in order to ensure that not only direct stakeholders have their interests represented, and legitimate consensus can be reached. *Intellectual Property constraints* must be defined to prevent manipulation of standards for rent-seeking and market dominance. *Preserving Interoperability* is necessary to support a competitive market and the compatibility of new technologies within growing interdependent systems.

The following guidelines are categorized by fundamental principles of the standards-setting process: *Democratic Participation*, *Intellectual Property Constraints*, and *Preserving Interoperability*. SSOs should be required to maintain and enforce these guidelines in order to be recognized as legitimate.

Democratic Participation

(1) Open Membership

Participation expenses should be reasonable and must not be implemented as an economic barrier for membership. Remote participation should be facilitated for meetings where core standards are being decided.

(2) Due Process

Transparency of process should be maintained and procedural decision-making should be available to all members. A structure for enforcing violations and for the appeal of decisions must be implemented.

(3) Consensus

All interests should be discussed and agreements found without undue influence or domination by a particular group of members. Dissent should be recorded and made available in public record.

Intellectual Property Rights Constraints

(1) Disclosure of IPRs

Members should disclose patents and other intellectual property rights relevant to the implementation of a standard. Holders of patents not cooperating with disclosure requirements should be prevented from enforcing the patent against the implementation of the standard.

(2) Fair Licensing

Holders of IPR must make them available for licensing on Reasonable and Non-Discriminating (RAND) terms based on independently defined costs. Royalty free standards development should be encouraged.

Preserving Interoperability

(1) Public Availability

All completed standards documents and updates must be made available to the general public. Work-in-progress documents should be made available at a reasonable cost.

(2) Open Interface

Standards should optimize compatibility of systems for product and platform interoperability. Enhancements and expansions of core standards should not undermine compatibility with older systems.

The Struggle over Internet Governance: Searching for Common Ground

Markus Kummer

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(WGIG)

1. This paper aims to explain where the WGIG is coming from and what point it has reached in its deliberations after its third meeting, held from 18–20 April in Geneva. It also makes an attempt at speculating where it might be heading for, taking into account a number of proposals that have been floated informally within and outside the group. While drawing on material that has been prepared by the WGIG, the views expressed in this paper are those of the author alone and should in no way be seen as prejudging future deliberations within the group.

Background and current state of play

2. The WSIS Declaration of Principles and the WSIS Plan of Action²⁸ adopted in Geneva set the parameters for the WGIG and contain its Terms of Reference and work programme. The WGIG has been asked *inter alia* to 'investigate and make proposals for action, as appropriate, on the governance of the Internet by 2005',²⁹ dealing with the following issues:³⁰

- Develop a working definition of Internet Governance;
- Identify the public policy issues that are relevant to Internet Governance;
- Develop a common understanding of the respective roles and responsibilities of governments, existing international organizations and other forums as well as the private sector and civil society from both developing and developed countries.

3. The main deliverable of the WGIG will be a report to be presented 'for consideration and appropriate action' for the second phase of WSIS in Tunis in 2005.

4. The WGIG chose as its point of entry into the substantive work the identification of public policy issues that are potentially relevant to Internet governance, as called for in paragraph 13 (b) of the Plan of Action and started work by gathering facts and mapping out the terrain, thus moving

²⁸ WSIS-03/GENEVA/DOC/0005

²⁹ WSIS Declaration of Principles, Paragraph 50, WSIS-03/GENEVA/DOC/0004

³⁰ WSIS Plan of Action, Paragraph 13 (b), WSIS-03/GENEVA/DOC/0005

toward an implicit working definition of Internet governance. The WGIG agreed to take a broad approach and, in a first step, not exclude any potentially relevant issues. This first, fact-finding phase was intended to lead to the identification of public policy issues that are relevant to Internet governance.

5. In a second phase the WGIG grouped the issues into the following four key public policy areas for further investigation and discussion:

(a) Issues relating to infrastructural issues and the management of critical Internet resources, including administration of the domain name system and IP addresses, administration of the Root server system, technical standards, peering and interconnection, telecommunications infrastructure including innovative and converged technologies, as well as multilingualisation. These issues are matters of direct relevance to Internet Governance falling within the ambit of existing organisations with responsibility for these matters.

(b) Issues relating to the use of the Internet, including spam, network security, and cybercrime. While these issues are directly related to Internet Governance, the nature of global cooperation required is not well defined.

(c) Issues which are relevant to the Internet, but with impact much wider than the Internet, where there are existing organisations responsible for these issues, such as IPR or international trade.

(d) Issues relating to developmental aspects of Internet governance, in particular capacity building in developing countries.

6. At its last meeting the WGIG assessed the adequacy of current governance arrangements. In the discussions it became clear that the focus of its attention would be clusters (a) and (b). As regards cluster (b), the WGIG agreed that the topic of spam had to be discussed as a matter of priority. With regard to clusters (c) and (d) it was felt that there was no need to interfere with existing governance structures, but that the interface between existing structures with Internet issues should be examined.

Possible avenues for future discussions

(a) Spam, network security and cybercrime

7. Spam is a good example for the need for increased international cooperation as well as for a multi-stakeholder approach. One government alone cannot provide a solution and as long as there is a 'safe haven' the problem will continue to exist. Furthermore, it would be a prerequisite for a successful fight against spam to have a dialogue between policy makers, engineers, the private sector and civil society. Engineers are unable to work out a technical solution unless policy makers agree on a definition and tell them what it is they have to prevent. At the same time civil society feels very strongly about aspects related to freedom of expression as well as data protection and privacy. Due to the multi-faceted and multi-layered character of the problem, there is no 'natural institutional home' to deal with this issue.

8. Various proposals have been put forward, ranging from drafting model legislation, concluding bilateral or plurilateral agreements to combat spam or starting negotiations on a multilateral convention. Given the fact that it takes time to negotiate and ratify a multilateral convention it has also been pointed out that such a traditional diplomatic approach would not be suited to this fast moving technology. The phenomenon spam may have disappeared well before the instrument to combat it would be ready. Therefore, the focus of a possible recommendation may well be on more informal models of collaboration, based on consultations, best practices, recommendations or guidelines. The OECD toolkit to combat spam could provide a useful model in this regard. A similar approach could also be adopted with regard to cybercrime and network security.

(b) Logical infrastructure

9. Discussions so far have shown that the root zone file, the domain name system and the allocation of IP addresses are at the core of the debate. While some of these issues are part of the discussion on ICANN reform in light of the 2006 deadline, when the MoU between the US Government and ICANN terminates, other issues reflect the concern of those governments who would like to have a greater say in Internet governance arrangements. One of the central questions will be whether there should be no governmental oversight at all after 2006, replacing US oversight. It is clear however that many governments would feel uncomfortable with this idea. On the contrary, some governments would like to extend oversight over areas hitherto not under the authority of the US Government. They advocate some form of oversight body within the UN framework, which in their view would give greater legitimacy to governance arrangements. The question therefore will be (a) whether to have governmental oversight over these functions, and, if the answer is yes, (b) what kind of oversight (simple audit function, arbitration, policy direction) and (c) over what areas of activity?

(c) Institutional aspects

10. The third task given to the WGIG ('Develop a common understanding of the respective roles and responsibilities of governments, existing international organizations and other forums as well as the private sector and civil society from both developing and developed countries') may well be the most difficult one. Certainly, the answer to this question will be key to a successful outcome of the negotiations on Internet governance at the second phase of WSIS. Voices of reason warn against being over ambitious, and advocate building on existing structures. One key element will be ICANN's Governmental Advisory Committee. Will it need to be reformed to take on some oversight functions or will it be replaced by some other body? Will the reformed GAC or the new body have direct policy authority over some functions, while keeping its advisory role for the rest of ICANN's activities?

11. Several proposals have been made to set up an additional body with a very light structure to address all public policy issues related to the Internet. Most proposals see this body as a discussion forum 'without teeth' that would meet maybe once a year and assemble the wider Internet community as well as all organizations and institutions dealing with Internet issues. Such a forum could serve as an 'early warning system', dealing with new issues as they arise and recommend to specialized agencies or institutions concerned to take care of them. In all discussions it was recognized and accepted that whatever its nature such a forum would have to

include all stakeholders on an equal footing. Moreover, a link to or anchorage in the UN system would also be seen as necessary, in order to give it legitimacy.

12. Furthermore, there is an undisputed need for a better coordination among and between all organizations and institutions dealing with Internet issues. Such a coordination model could be based on existing models of inter-agency cooperation. Last but not least, the discussions have shown that there is also a need for policy coordination at national level with regard to Internet governance. International coordination cannot work without coordination at that level too.

13. The discussion on the roles and responsibilities of all stakeholders so far has shown that by now a multi-stakeholder approach with regard to Internet governance is widely accepted. There is also an emerging common understanding that not all stakeholders have to participate on an equal footing in all bodies or that their role varies according to the function of the process concerned. Most would agree that IETF for instance is best left to the engineers, while governments remain the principal actors when it comes to negotiating binding treaties. However, this is part of an ongoing debate. Some government representatives hold the view that national sovereignty and international law must remain the keystone of any international governance system, while civil society in particular argues that on the global level we have to go beyond the thinking in terms of national sovereignty, which should be interpreted in a new and broader environment and include players with different legal status. This emerging new trilateralism, involving governments, the private sector and civil society, would suggest the need for a new conceptual framework which is on the one hand embedded in the existing system of international law, but goes on the other hand beyond this, bringing other type of norms (for example, 'soft law', self-regulation) to global governance concepts. There is however some reason for concern about the lack of participation of private sector and civil society representatives from developing countries. Some concerted efforts would seem necessary to allow for their meaningful and effective participation in trilateral global governance arrangements.

Governing the Internet as Medium and Message, Model and Metaphor

Don MacLean

Member of the Working Group on Internet Governance

Forum participants have been asked to prepare position papers on the most pressing aspects of Internet governance and the most promising approaches to resolving them, *inter alia* to help the UN Working Group on Internet Governance provide input to the second phase of the World Summit on the Information Society.

Although I am a member of WGIG, in this paper I will attempt to step back from this role and look at the problem of Internet governance from the outside—on the basis of my pre-WGIG experience with Internet governance issues.

In the past year or so, this experience involved editing a collection of papers on Internet governance for the UN ICT Task Force, and writing a background paper on the subject for an ITU workshop.³¹ The main point of this work was to show that Internet governance includes much more than the management of Internet names and addresses.

In addition to this work on the general concept of Internet governance, over the past five years I have undertaken a series of consulting assignments related to practical issues of Internet governance, broadly understood. In Canada, these assignments have involved work on broadband access in rural and remote areas, e-government, the e-economy, and spam. Internationally, these assignments have involved initiatives to establish e-policy networks and strengthen developing country participation in international ICT decision-making.

As a result of this work, I have come to the conclusion that the most pressing issues of Internet governance are issues of process, function and structure, not issues of substance, explanation or prediction. For many of you, this will be a less than startling finding. However, for a previously unreconstructed policy analyst, it is something of a revelation.

To cast this proposition in relation to the WDIS Declaration of Principles, the more pressing issues concern the practical meaning we can give to the notion that Internet governance should be 'multilateral, transparent, and democratic, with the full involvement of governments, the private

³¹ See <http://www.unicttaskforce.org> for a free download of MacLean, D. (ed.) (2004) *Internet Governance: A Grand Collaboration*, which includes 'Herding Schrödinger's Cats: Conceptual Tools for Thinking about Internet Governance', a paper originally prepared for the February 2004 ITU Workshop on Internet Governance (see <http://www.itu.int/osg/spu/forum/intgov04/index.html> for the proceedings of this workshop).

sector, civil society and international organizations’—not in an ideal world, but in the current international environment.

Put another way, in terms of the WGIG mandate laid out in the WSIS Plan of Action, in my mind developing a common understanding of the respective roles and responsibilities of these different actors is a more pressing issue than defining Internet governance and identifying the public policy issues that are related to it. Likewise, recommending how existing governance arrangements should be changed is a more pressing challenge than making substantive recommendations with respect to particular issues.

Why is this so?

My experience in dealing with practical issues related to Internet governance suggests that there are a number of reasons why process is more pressing than substance—reasons that are strengthened by a much longer experience dealing with issues arising from the interplay between information and communication technologies (ICTs), and economic, social and governance structures.

The Internet as Medium and Message

I have used Marshall McLuhan’s (in)famous dictum that ‘the medium is the message’ as a shorthand way of referring to the more substantial work of his mentor, Harold Innis—in particular, to Innis’ idea that communication technologies are not neutral, but contain ‘biases’ that shape economic, social and governance structures.

The development of the Internet over the past ten years into a widely accessible, easy-to-use, public medium for interconnecting the ever-expanding range of ICT technologies, services and applications that are available to individual consumers and users appears to confirm that the widespread diffusion of networked ICTs enables new kinds of communications, which in turn alter economic and social processes and structures, including those of government—e.g. by increasing communication and learning opportunities for end users, transforming production processes, eroding hierarchical structures, reducing barriers, increasing choice, stimulating competition, personalizing service, etc.

The experience of the past ten years also appears to confirm that, even if communication technologies contain biases that shape economic and social structures as Innis surmised, the relationship is not one of cause and effect, but is more akin to a dialectic through which economic and social structures also shape the governance of technology and guide its evolution.

A decade ago, it was not unreasonable to posit a more tightly coupled relationship in which the governance principles, processes and structures that had arisen from the creation of the Internet and steered its development up until that point could be substantially transposed into the larger governance universe the Internet was entering, without being essentially transformed.

Today, it seems much more difficult to make the claim that the original set of Internet governance principles (e.g. the end-to-end principle, bottom-up processes, community self-government, industry self-regulation) are sufficient to guide the future development of the Internet.

As well as putting power in the hands of users whose only desire is to communicate, to learn, or to manage transactions more efficiently, we have seen that the Internet puts power in the hands of those whose intent is to invade privacy, to cause mischief, to deceive and to steal. As well as creating opportunities for individual users and groups to create content, develop services, and exercise fundamental freedoms, the Internet creates opportunities to monopolize markets, control access to information, and deny basic human rights. As well as enriching the comparatively well-to-do people who have easy and affordable access, the Internet further impoverishes and disadvantages those who do not.

We are now at the point where the 'bias of communication' introduced by the Internet in association with other ICTs has sufficiently re-shaped economic and social structures that established approaches to governing traditional communications media (i.e. telecommunications, broadcasting, the cultural/content industries) clearly do not provide an adequate basis for governing the Internet—whether it is seen in isolation as a communication technology, or more broadly in interaction with economic and social structures.

We are also at the point where the re-shaping of the Internet through its interaction with global economic and social forces has progressed sufficiently to make it equally clear that established approaches to Internet governance do not provide a sufficient basis for guiding its future development towards the ambitious public policy goals that have been posited for the Internet—by individual countries, and universally in the WSIS Declaration of Principles.

One of the essential messages of the Internet is that new governance models are needed.

The Internet as Model and Metaphor

If it is true that the Internet means that new governance models are needed, and if it is also true that traditional telecommunications, broadcasting, media and Internet governance models are no longer adequate to achieve the public goals, private ambitions, and personal expectations that have set for the Internet, on what basis can we design new governance principles, processes and structures?

To answer this question, it may be helpful to revert from Innis, the economist and social theorist, to McLuhan, the medieval scholar turned media analyst, to consider whether there are elements in the structure of the Internet as a medium of communication that can help suggest an appropriate governance model.

The basic notion of the Internet is that it is a 'network of networks', all of which use open protocols and standards, as well as a common system for identifying resources, to enable higher-level communications among networks—regardless of differences in their underlying technologies, internal structures, contents, purposes, and user communities.

Thus described, it seems to me that this notion of the Internet can indeed suggest the outline of a new governance model that responds to the needs of an Internet/ICT-shaped world, and which is multilateral, transparent, and democratic, and fully engages all actors.

In this model, we could conceive of Internet governance as the product of a 'governance network of governance networks'—that is:

- as the product of interaction between government networks, private sector networks and civil society networks operating at local, national, regional and global levels,
- each with its distinct ecology of goals, constituents, contents, internal structures, and underlying 'technologies' for accomplishing its purposes (i.e. laws, markets and communities respectively), and
- communicating through 'governance protocols', which would define the roles and responsibilities of different actors and establish decision-making rules and procedures on the basis of agreed norms (which might vary according to context, within an underlying framework of rights and freedoms), in relation to particular issues.³²

Considered in the abstract, it may be difficult to judge whether this proposition is anything more than a metaphorical leap of faith, or an example of the dangers of reasoning by analogy.

However, when seen in the light of emerging examples of Internet governance practice, the proposition that effective Internet governance is essentially about setting up open, publicly accessible communication networks to coordinate action between different kinds of governance networks, which are logically and practically distinct, may appear somewhat more convincing. For example,

- The Internet Corporation for Assigned Names and Numbers (ICANN) appears to be an interesting example of this kind of governance model, particularly if the flaws in its current structure and processes can be remedied.³³
- The 'multi-stakeholder, toolkit' approach to combating spam and dealing with other issues of cyber-security, which is currently being developed among OECD members, may illustrate how a 'governance network of governance networks' model could be applied to some of the more complex and difficult Internet governance issues facing the global community.³⁴
- The community-based approach to extending access to broadband networks and high-speed Internet services that is currently being trialed in rural and remote areas of Canada, among

³² It is interesting to note that the WSIS Declaration of Principles appears to contemplate a scheme of this kind in §49, in defining the roles of national governments, the private sector, civil society, intergovernmental organizations and other international organizations.

³³ See 'What to Do About ICANN: A Proposal for Structural Reform', an April, 2005 concept paper by the Internet Governance Project available at <http://www.internetgovernance.org> for an interesting set of proposals as to how this might be done.

³⁴ The author hopes to be in a position to share the Canadian example of this approach, which is scheduled for public announcement in May, with Forum participants at the time of the event. In addition to tough anti-spam laws and strengthened enforcement measures, this approach includes detailed codes of practice developed by ISPs, other network operators, and e-mail marketers, as well as initiatives to promote public awareness and increase international cooperation.

other places, is a potentially powerful model for serving areas previously considered uneconomical, through the creation of local 'networks of networks' involving community associations, public service providers, businesses, government agencies, and residents.³⁵

It is still too early to tell if these and other examples of Internet-modeled governance networks will prove more effective than traditional approaches in dealing with specific Internet governance issues, and whether they can be generalized across the entire range of Internet governance issues so as to create a global Internet governance régime.³⁶

This will depend on the nature of the governance challenges that arise from the ongoing interaction between the Internet, ICTs and economic and social structures. It will also depend on the evolution of the Internet itself, and the extent to which emerging communication technologies—such as Next Generation Networks, ubiquitous networks, grid computing, and optical circuit-switched networks—preserve the fundamental features of the traditional Internet, or introduce substantially different communication models.

In addition, even if Internet-modeled governance arrangements prove effective at the local, national, and regional levels, it will almost certainly be more difficult to introduce them at international level where far more governance variables come into play—as the ICANN example demonstrates.

In spite of these unknowns and uncertainties, it seems clear that the international application of the model of Internet governance as a 'governance network of governance networks' provides the possibility of creating innovative arrangements that are more inclusive, transparent and democratic, and more fully engage all actors, than existing arrangements.

At the very least, this proposition seems worth testing and evaluating, whether through WSIS or by other means.

³⁵ See <http://broadband.gc.ca> for one example of a community-based approach to achieving access to broadband networks and high-speed Internet services in areas that lie outside the commercial marketplace. Unlike traditional governance models for serving uneconomical areas, which typically rely on public or private subsidies to build out networks and provide affordable services, this approach is based on the notion that it is possible for individual communities or groups of communities to build a 'business case' sufficiently robust to attract private investment in broadband infrastructure, and to create competitive local markets for Internet content, applications and services, by aggregating the needs of local health care facilities, schools, libraries, government agencies, businesses, community associations and individual residents through the agency of 'community champions'—essentially, local Internet governance structures that bring technology down to earth by establishing and maintaining communication networks within the community.

³⁶ Although it is a subject beyond the scope of this paper, it might be worthwhile investigating whether Internet-modeled governance arrangements of the kind it proposes could be applied to other areas of public policy and international cooperation, or whether models of this kind are already emerging. It is also interesting to note that the need to provide effective international governance for a previous communication technology—the telegraph—led to the creation of the first intergovernmental organization, the International Telecommunication Union (ITU). Might the need to provide more effective international governance for the Internet lead to a similar governance innovation—the first set of arrangements that are significantly more inclusive, transparent and democratic than those embedded in traditional intergovernmental organizations?

How should the WGIG shape policy and practice on Internet governance and regulation?

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From the standpoint of the operators of the Internet registries, the deliberations of WGIG relating to the 'name space' are matters of deep concern. Those involved in day to day operations of the Internet believe that WGIG should shape policy and practice in ways that do not threaten the Internet's operational stability.

The Internet registries are at the heart of the operation of the domain name system. The registries process applications for registration of domain names submitted by ICANN-accredited registrars on behalf of registrants. The registries operate the name server constellations that support global Internet user transactions numbering in excess of 15 billion transactions every day.

It has been the experience of the registries that ICANN has operated in a manner consistent with its charter—namely to promote 'the global public interest in the operational stability of the Internet' by '(i) coordinating the assignment of Internet technical parameters as needed to maintain universal connectivity on the Internet; (ii) performing and overseeing functions related to the coordination of the Internet Protocol ('IP') address space; (iii) performing and overseeing functions related to the coordination of the Internet domain name system ('DNS'), including the development of policies for determining the circumstances under which new top-level domains are added to the DNS root system; (iv) overseeing operation of the authoritative Internet DNS root server system'.

The interests of the registries are not necessarily identical with the interests of registrants or registrars, but all parties share a profound interest in the Internet's operational stability. Any proposals that could upset the technical systems administered by ICANN and other technical bodies must be examined with great care. There should be an emphasis on a practical approach to continuing the successes of the Internet, rather than making changes so as to attain theoretically ideal political goals.

In a public statement, the Internet Society expresses this clearly:

The Internet Society believes that the best way in which to extend the reach of the Internet is to build on those aspects that have worked well—e.g. the long established open, distributed, consensus based processes and many regional

³⁷ David W. Maher is Senior Vice President – Law & Policy of Public Interest Registry. The views expressed in this paper are solely those of the author and do not necessarily reflect the views or positions of the Public Interest Registry.

forums for the development and administration of the Internet infrastructure. Decision making about issues such as resource allocation or IP Address Policy has always been in the hands of the Internet community, in order to be as close to those who require and use the resources as possible. It is this participative model, and being close to the end users, that led to the phenomenal, stable growth of the Internet.

WGIG, the Working Group on Internet Governance, recognizes that Internet infrastructure is only a portion of the concept 'Internet governance'. However, WGIG has largely focused on Internet infrastructure. In doing so, it misses opportunities to develop new mechanisms to address issues of usage of the Internet. This is an area of new social and political questions that are a by-product of the explosive development of technology. Many of these involve a mixture of technical and policy considerations, and they would benefit from creative and cooperative approaches by WGIG.

Some examples are:

- Protection of personal privacy
- Trademarks
- Spam
- Consumer protection from criminal and fraudulent schemes

ICANN, as one of the principal technical coordinators of the Internet, has not been entirely clear about its own responsibilities in these areas. In a FAQ on its web site, ICANN states:

ICANN's role is very limited, and it is not responsible for many issues associated with the Internet, such as financial transactions, Internet content control, spam (unsolicited commercial email), Internet gambling, or data protection and privacy.³⁸

This description by ICANN of its self-imposed limitations has led to some confusion. ICANN has always recognized that at least some of its decisions involve interplay of technical considerations with various expressions of public policy objectives. These objectives include those brought to bear from national, regional and global perspectives. ICANN has, from its inception, been deeply involved in some of the issues that its FAQ states are *not* part of its purview. WGIG could properly fill a role in shaping these public policy objectives and working with ICANN and, in some instances, with other technical bodies to achieve them.

I. Protection of Personal Privacy

The question of protection of privacy is central to the work of ICANN's three Task Forces on WHOIS.³⁹ The description of work for each of the Task Forces attempts to focus the scope of their discussions on particular questions, as opposed to the general issue of protection of personal

³⁸ <http://icann.org/faq/#WhatIsICANN>

³⁹ <http://gnso.icann.org/issues/whois-privacy/index.shtml>

privacy. However, the fact remains that each Task Force is dealing with privacy issues that arise directly from the structure of the name space. WGIG and ICANN could profitably work together to make recommendations for the administration of WHOIS that are consistent with privacy norms, such as, for example, the recommendations of the Article 29 Working Group of the European Commission.⁴⁰

II. Trademark law

Trademark law is one of the most significant fields in which ICANN has coordinated technical and public policy considerations in the domain name system (DNS). The United States government document, the 'White Paper' that established the general structure of ICANN, made it clear that ICANN would have to do something about cybersquatters in order to preserve the stability of the system.⁴¹ When ICANN was formed, it worked with the World Intellectual Property Organization (WIPO), to establish a Uniform Dispute Resolution Policy (UDRP) that has been applied to many cybersquatting problems. It imposes a novel structure of administrative dispute resolution on conflicting claims regarding trademarks and domain names. Without question, it has created a new concept of trademark rights. However, the necessity of intervention in trademark rights, which would not normally be thought of as falling in the 'technical' arena, was dictated by the process that led to the creation of ICANN.⁴²

Some groups have objected to the UDRP on the ground that it gives inadequate recognition of the right to use domain names for political and protest purposes. Further study and recommendations for changes in the existing system are needed.

III. Spam

The technical community (such as the Anti-Spam Research Group of the IRTF and other bodies) is actively involved in seeking solutions to the spam problem.⁴³ The enormous volume of spam on the Internet has special significance in developing countries where there is often limited bandwidth and the interference of spam restricts the usability of the Internet. However, even though some spam control proposals are closely related to ICANN's technical functions, ICANN's web site FAQ attempts to keep ICANN from becoming embroiled in the spam problem.⁴⁴ This portion of the FAQ should be replaced by a statement acknowledging that ICANN will accept responsibility to coordinate technical and policy solutions to this problem.

⁴⁰ http://europa.eu.int/comm/internal_market/privacy/docs/wpdocs/2003/wp76_en.pdf

⁴¹ http://www.ntia.doc.gov/ntiahome/domainname/6_5_98dns.htm

⁴² The White Paper acknowledges that the IAHC (created by Jon Postel and ISOC) defined the basic structure of dispute resolution that became the UDRP. <http://icann.org/udrp/>

⁴³ <http://asrq.sp.am/>

⁴⁴ 'Is ICANN the proper authority to report spam? No. ICANN is a private, non-profit technical coordination body for the Internet's name and numbering systems. The content of an e-mail message, ftp file, or web page bear no inherent relation to the assigned domain name, and therefore fall outside of ICANN's policy-making scope. If you have a problem with the way somebody is using the Internet, you should take it up directly with that person or with the applicable Internet Service Provider or governmental agency depending on the circumstances.' From: <http://icann.org/faq/WhatisICANN>

IV. Consumer Protection

Related to the spam problem are various kinds of fraudulent messages, such as 'phishing', 'pharming' and use of the Internet as a vehicle for more conventional criminal activities. Internet technical bodies, including ICANN, cannot take responsibility for enforcing national law, but, as in the examples above, there are clearly opportunities for cooperation in areas where there are mixed technical and policy considerations.

If WGIG will focus on the issues of 'Internet governance' policy and practice such as those described above, it will achieve far more than by spending more time and effort on Internet infrastructure.

Pandora's Box—Reflections on challenges of Internet governance

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Pandora's Box

Internet governance gained prominence as a term in the mid 1990s and then it was understood, among other things, to stand for management of some key Internet administrative tasks. As these early administrative functions, such as the management of unique identifiers, i.e. name space, IP address space, software ports and protocol parameter assignments,⁴⁶ moved more into public consciousness, organisations and users world-wide started to ask if there were any policy ramifications connected to the existing technical and coordination tasks. Pandora's box was opened.

Today, Internet governance is a much broader term and its meaning is still expanding, changing and evolving. It equates to a much larger set of issues and questions relating to social, technical, economic and political spheres of how the Internet is run. As part of the WSIS process, the Working Group on Internet Governance (WGIG) has been tasked to define the term. During this on-going exercise, it has become obvious that Internet governance not only encompasses the idea of what's being or not being governed yet, and by whom and how, but it is also a process in the making in itself. Working group members and various multi-stakeholders are participating in and contributing to the debate about existing and possible new methodologies, principles and governance mechanisms.

WGIG has a challenging task to come up ideally with a social, economic and political definition of Internet governance that is acceptable to all stake-holders: businesses, NGOs, civil society, governments and international organizations.

The issues are important and hard, and it's a difficult process.

⁴⁵ Desiree Milosevic is Policy Development Adviser at Afilias Global Registry Services. The views expressed in this paper are solely those of the author and do not necessarily reflect the views or positions of Afilias, ISOC or CPSR.

⁴⁶ At the time performed by IANA and since 1998 jointly by ICANN/IANA.

However, the Internet is 'just' a part of the world we live in today and a reflection of our society. Many Internet governance questions are general and international issues, not Internet specific ones.

New Technology Requires New Politics

It is good to remind ourselves that every new technology requires new politics and, that the Internet has been built on principles of openness and interoperability, i.e. open standards, the network neutrality i.e. end-to-end principle as well as on distributed, consensus-building governance processes.

The influence of business has contributed tremendously both to economic and social aspects of the Internet. The Internet has become one of the leading forces behind economic growth in our societies. There are many challenges in front of us and serious threats to the Internet as we know it.

We need to be extremely careful and not stifle innovation with too much regulation and bureaucracy. It is often the case that when the technology is frozen, regulation flourishes.

I support the idea of adoption of the subsidiarity⁴⁷ principle, whereby governments and other stakeholders should undertake only those initiatives in Internet governance which exceed the capacity of individuals or private groups acting independently.

I support the inclusive structure of Internet governance and endorse the WSIS Declaration of Principles as I have a first-hand experience of working in the ICANN/DNS community that is also democratic, transparent and has multi-stakeholders. ICANN's governance mechanism is a slow bottom-up consensus-building process but it is a democratic, transparent and multilateral one.

Looking at the ICANN's revised Article 5, one can see that its original charter also evolved from technical co-ordination to include the following: 'ICANN shall operate for the benefit of the Internet community as a whole, carrying out its activities in conformity with relevant principles of international law and applicable international conventions and local law and, to the extent appropriate and consistent with these Articles and Bylaws, through open and transparent processes that enable competition and open entry in Internet-related markets. To this effect, the Corporation shall cooperate as appropriate with relevant international organizations'.

We should fully endorse further evolution of an independent ICANN.

⁴⁷ <http://en.wikipedia.org/wiki/Subsidiarity>

More Coordination

Today's governance model needs evolving. Both the commercial and social sides of the Internet developed rapidly, so there is need for more coordination between major Internet bodies⁴⁸ as well as room for improvement of new models that are innovative and global.

There is further development and coordination required among entities that manage and regulate the Internet today, e.g. between W3C, IETF, ASF, UNESCO and ICANN to work on the problem of Internationalization.

In general, there is a need for more horizontal and transversal self-regulation governance mechanisms between existing organisations, including W3C, IAB, IRTF, IESG, IETF, ITU, IEEE, ICANN, ISOC, WTO, OECD, WIPO, UNESCO, civil society organizations, and NGOs, to address needs of open Information Society. Broader discussion is still needed about issues not covered by any of the existing organizations.

Conclusion

To say how to better steer the Internet we need to answer the question what kind of Internet do we want to create? And how accessible? That will define what mechanisms of Internet governance we will build and choose from. We need to decide what kind of rights and freedoms and protection will we guarantee. Do we want to build a world without privacy for the supposed sake of better security? Should the principles of freedom of speech and cultural diversity be core values of Internet governance? Nobody should tell you how to walk down the street but if you decide to punch someone then one should be able to stop you. Same rights could apply in cyberspace.

I believe that we need to regulate different spheres, such as economic, social and political, appropriately and on a separate level. Otherwise we will not be able to reach consensus or dialectic resolution of opposite views (e.g. Property is freedom, property is theft) in a truly multi-stakeholders' environment.

I believe that policy makers should preserve the Internet's architecture and principles of open, decentralized, user-controlled and democratic Internet allowing free flow of information. The Internet is a distributed system and it can therefore accommodate different national and global regulations at the same time.

⁴⁸ www.acm.org/ubiquity

Towards a Framework Convention on Internet Governance

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Introduction

There are a number of different ideas being proposed for the next steps in the process of reforming global Internet governance. Of course, one should first acknowledge that many, echoing Ma Bell (the old AT&T) fans in the 1970s, have been saying 'If it ain't broke, don't fix it.' After all, the old monopoly did provide excellent service. If the service one wished to buy was one AT&T wished to sell. In a nutshell, that is indeed the issue of Internet governance today. All acknowledge that the Internet, as was the telephone more than a century ago, is a wonder of the modern world. The dilemma is that the institutions and structures surrounding this modern wonder are young, and the Internet itself remains as mysterious to modern heads of state as the telephone was to their predecessors of the nineteenth century. Therefore this discussion on what Internet governance might be, when it is more grown up as an infrastructure and service, is both welcome and needed.

This brief paper argues that the discussion to take place is more fruitful than most on another analogous topic—that is, the weather, or more specifically, global climate change.⁵⁰ Leaving aside for the moment the intransigence of certain leading powers, who also retain the power to impede reform of global Internet governance, this paper argues that a framework convention on Internet governance can be a helpful next step, to provide an ongoing structure for collective education, and possibly in time, collective action, on the future of Internet governance.

A Dynamic Process to Reach Consensus on Internet Governance

Some have called for new institutions to oversee this process, while others have called for a restructuring of existing institutions to reform Internet governance. I argue that neither of these are

⁴⁹ In addition to Dr. McKnight's academic roles, Lee is also President of Marengo Research LLC and Chairman of Wireless Grids Corporation. The views expressed in this paper are those of the author, and should not be taken as those of any of the institutions with which he may be affiliated. Any errors of fact or interpretation are those of the author alone.

⁵⁰ This paper is inspired by discussions within the Internet Governance Project, and is derived in part, with permission, from the paper authored primarily by John Mathiason but with some assistance as well from Derrick Cogburn, entitled 'An Internet Framework Convention'. See www.internetgovernance.org for this version of the paper.

realistic possibilities, in the absence of consensus on such basic issues as ‘what do we mean by Internet governance?’

Therefore, this paper calls for a framework convention which can provide a structured means for civil society, businesses, governments, and international organizations to develop comprehensive solutions for vexing problems such as spam. A framework convention would allow these bodies (e.g., ICANN, ISOC, IETF, WIPO, ITU, OECD, etc. etc.) to continue to collectively explore the issues of Internet governance, and whether or not existing institutional frameworks are adequate or in need of modification. Like the Law of the Sea convention and the Global Climate Change convention before them, taking this step would acknowledge the complexity and importance of a global consensus being reached.

An Internet framework convention could be established by the United Nations or alternatively co-established by leading actors from civil society, business, government, and international organizations. The second alternative is likely to be more palatable to existing stakeholders, not all of whom would agree that the Internet should be analogised to constrained natural resources, since the Internet’s resources, whether bits, network capacity, or Ipv6 numbers, if not inherently limitless, are not constrained by physical laws in the same way as the oceans or atmosphere are.

As discussion of Internet governance proceeds over the coming years, the question of reforming institutional arrangements will move to the center of the debate. It will be difficult if not impossible to agree on an existing institution to take responsibility for Internet governance. Some parties are reluctant to have any formal institution at all involved with all aspects of Internet governance. Other parties have problems with existing non-governmental arrangements such as ICANN. Others oppose granting additional authority to existing international organizations like the ITU. As an International non-governmental organization with quasi-governmental powers, ICANN has come under scrutiny in the recent years for their compliant relationship with the United States, as well as their relative lack of accountability, oversight and representation.⁵¹

The situation is very similar to that which was faced in dealing with climate change in the 1980s. In that case, the first step taken to deal with the problem was to agree that the problem existed and to agree on its dimensions. The second step was to agree on the norms that should be applied. Similar to Internet governance, a large number of national actors and different international organizations were involved in climate change issues (the World Meteorological Organization, the United Nations Environment Programme, UNESCO, to name a few), and there was significant interest by non-governmental organizations. It was recognized that any regime to deal with the issue would have to have a sound basis in international law, and therefore an international convention would be needed. Rather than seeking to solve all of the problems of climate change in a single convention, a method that risked getting bogged down in contentious detail and taking considerable time, the governments and organizations concerned decided instead to pursue what they called a ‘framework convention.’ This convention would establish the principles and norms under which international action would proceed, and set up a procedure for negotiating the more detailed arrangements that would be necessary to deal with climate change. The conference of

⁵¹ The Internet Governance Project has explored these issues and proposes reforms for ICANN in a recent paper ‘What to do about ICANN: A Proposal for Structural Reform’ (www.internetgovernance.org). As an issue vital to Internet governance, reforming institutional arrangements require cooperation from the International community in order to move forward toward concrete policy options. It is necessary to closely examine existing operational groups like ICANN, to ensure fair representation and competition.

States party to the convention would become the oversight body and negotiating forum and its secretariat could provide the necessary studies.

The situation with regard to Internet governance is remarkably similar. A large number of national governments are involved, as are a number of international organizations (ITU, WIPO, WTO, UNESCO and the United Nations itself, to name a few), as are many civil society organizations such as the Internet Corporation for Assigned Names and Numbers (ICANN), and somewhat related organizations such as the Internet Society and the standards organization the IETF, or Internet Engineering Task Force (IETF). Any effort to deal with Internet governance will naturally need to be firmly grounded in international law, suggesting a convention as a means of providing the necessary standing. The time is ripe for agreement only on principles and norms, as well as on procedures for dealing with future issues as they arise.

Conclusion

A one-size-fits-all approach to Internet governance cannot succeed. For a United Nations Framework Convention on Internet Governance to be elaborated and agreed, further research and debate is required. The conclusions of the Working Group on Internet Governance can contribute, as can more broadly the WSIS process, as well as the broader work of members of civil society, governments, and academe.

This Oxford Internet Institute event, if it can achieve consensus on the need for a structure to achieve consensus on Internet governance, could be the first step, in a long process, eventually towards a framework convention. The convention itself is not a quick-fix, but rather a long-term approach towards a dynamic process to achieve, over time, consensus on the changing roles and responsibilities of a variety of public, private and non-governmental actors, enabling the Internet to continue to function as the network of networks, for the collective benefit of all. Just as the weather continues to change, so too will the Internet, and therefore also Internet governance. So it is not a question of whether the Internet, or the weather, is broken, but rather what if anything can be done to improve our virtual and real environments, for all of our benefits. A framework convention can get us past the point of just complaining about the weather, and move us toward making a positive contribution to change.

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Two practical examples of issues in internet governance

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Introduction

This position paper is a personal contribution, and does not necessarily represent any position endorsed by my employer, the International DOI Foundation (IDF). Nor does it propose a position on many of the internet governance issues touched upon with greater expertise by other participants at the OII Discussion Forum. However it draws from my experience in working in a body, the IDF, developing an internet-based framework for one particular set of applications (persistent identification and management) over the past seven years. It highlights two issues which I propose that any discussion of internet governance should address, and which are currently only partially satisfactorily addressed.

In considering the management of material on the internet, we can adopt the 'technical' perspective of viewing all material as simply bits (0 and 1s in packages); or the semantic perspective of treating these packages as meaningful items (music recordings, e-books, photographs). Both are valid for appropriate purposes, just as viewing a person as a set of molecules or as a holistic organism are valid viewpoints. Managing material as semantically meaningful objects with identifiers is a recognised need for many applications. As the applications become more sophisticated, objects may be representations of people, resources, licences, avatars, sensors, etc., which require the ability to identify them by *name* and to have these names *specify identity* (what is named).

Issue 1: Naming objects

A standard represents an agreement by a community to do things in a specified way to address a common problem. The International DOI Foundation (IDF) has developed an internet-based approach for the naming of digital objects and their management, since we believe that the naming of digital objects as first-class entities (i.e., independent of location) will be critical to the long term evolution of the Internet. The IDF has also attempted to ensure conformance with all relevant generic external formal standards,⁵² which do not yet specify a satisfactory approach for naming objects consistently. There is currently considerable debate on the issue of generic standards for naming objects. DOI is designed to be capable of being used in any specification which may finally be endorsed. Until a clear consensus is reached in the Internet communities on which approach is

⁵² The DOI Factsheet 'DOI and Internet Identifier Specifications' (<http://www.doi.org/factsheets/DOIIdentifierSpecs.html>) discusses those relevant in the Internet communities IETF and W3C. Note that that document is currently undergoing revision as the discussions in IETF and W3C evolve.

to be preferred, DOI remains agnostic as to formal registration as a generic scheme, but usable and widely implemented for millions of objects.

However, the International DOI Foundation (IDF) is a strong supporter of the Handle System (www.handle.net) developed by Dr Robert Kahn (co-inventor, with Vint Cerf, of the TCP/IP protocols), and believes it offers the best infrastructure component available today for managing digital objects. The Handle System provides a general-purpose global name service enabling secure name resolution over the Internet, designed to enable a broad set of communities to use the technology to identify digital content independent of location. Importantly though, note that the Handle System is here used simply as an illustration of some of the issues which arise in naming objects: one may envisage other such systems which would encounter similar issues.

The Handle System is described in a series of informational RFCs.⁵³ Handles by themselves are necessary but not sufficient for the function of the DOI System, a framework for managing intellectual content and facilitating electronic commerce, administered by the non-profit open membership International DOI Foundation (www.doi.org). The Handle System, available for download at no cost for research or experimental use, includes an open set of protocols, a namespace, and an implementation of the protocols. The protocols enable a distributed computer system to store handles of digital resources and resolve those handles into the information necessary to locate and access the resources. This associated information can be changed as needed to reflect the current state of the identified resource without changing the handle, allowing the name of the item to persist over changes of location and other state information. Each handle may have its own administrator(s), and administration can be done in a distributed environment. The name-to-value bindings may also be secured, allowing handles to be used in trust management applications. The Handle System is an infrastructure on which applications serving many different purposes are being built. Some examples are intellectual property rights management applications, persistent identifiers for digital objects on the Web, and institutional data preservation and archiving.

The Handle System does not use DNS, but can work alongside it; if necessary, Handles can be expressed as URLs (using proxy servers which understand both the Handle protocol and http). DNS can be considered as an abstraction layer providing a means of managing the IP addressing layer of the internet in a convenient way. DNS is a separate layer to TCP/IP and routers, which sit on top of lower layers, but would work quite happily if DNS evaporated tomorrow. There are also layers above.⁵⁴ Similarly, the Handle System can be thought of as an abstraction layer, running on TCP/IP, providing a means of managing the names of digital objects on the internet in a convenient way. The Handle System is extremely effective as a means of managing material as semantically meaningful objects with identifiers.

The Handle RFC's contain an IESG Note that 'Several groups within the IETF and IRTF have discussed the Handle System and its relationship to existing systems of identifiers. The IESG wishes to point out that these discussions have not resulted in IETF consensus on the described Handle System, nor on how it might fit into the IETF architecture for identifiers. Though there has

⁵³ Sam Sun, Larry Lannom and Brian Boesch, 'Handle System Overview'. Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3650, November 2003. Sam Sun, Sean Reilly and Larry Lannom, 'Handle System Namespace and Service Definition'. Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3651, November 2003. Sam Sun, Sean Reilly, Larry Lannom and Jason Petrone, 'Handle System Protocol (ver 2.1) Specification'. Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3652, November 2003.

⁵⁴ Kahn, Robert E. and Cerf, Vinton G. 'What is the Internet (And What makes it Work)?', paper prepared by the authors at the request of the Internet Policy Institute, December 1999. http://www.cnri.reston.va.us/what_is_internet.html

been discussion of handles as a form of URI, specifically as a URN, these documents describe an alternate view of how namespaces and identifiers might work on the Internet and include characterizations of existing systems which may not match the IETF consensus view’.

The reference to ongoing debates about the nature of URIs, URNs, and URLs (which sometimes approach the character of religious wars and have been ongoing for over ten years) and the references to an undefined ‘IETF architecture for identifiers’ suggest that improved standards of clarity and process (e.g., what is the consensus?) would be beneficial to any development which, like the DOI, attempts to build constructively on existing infrastructure.

The current dominance in internet governance and, perhaps more importantly, in internet funding, of organisations reliant on one naming mechanism, domain naming (a mechanism which makes it particularly difficult to identify digital content independent of location) may be problematic in introducing complementary alternative naming mechanisms.

Issue 2: Specifying what is named: digital policy enforcement through the analysis of meaning

The DOI system arose from a perceived need for digital rights management infrastructure, as a tool for content management (both commercial and non-commercial). But as Mark Bide has pointed out,⁵⁵ digital rights management, even in the limited context of the management of ‘content’ on the network, has at least four different components, a much broader definition than the one we are used to:

- A ‘policy metadata’ layer, which allows for the structured description of policies—what permissions relate to this item of content, under what conditions of use (for example, attribution, period of use, payment), and what is not permitted (for example, adaptation);
- An ‘authentication, authorisation and access’ layer—which allows for the structured identification and authorisation of different users (or classes of users) and the matching of their privileges with the permissions relating to content;
- An ‘enforcement’ layer, which is the technology most commonly associated with the acronym ‘DRM’—the technology which allows policies relating to content to be enforced even after content has been released from a controlled local network into the (uncontrolled) global network;
- An ‘audit’ layer, which allows activities to be recorded and compliance with policies to be monitored.

Mechanisms which would allow these layers to be created—such as ‘structured identification and authorisation of different users (or classes of users)’—have application far beyond content protection. The ‘rights’ that we should manage in the network are not simply therefore those of traditional content management (such as copyright enforcement, as seen in the recent music and

⁵⁵ For a more detailed discussion of this issue see Bide, M. (2004) ‘Digital Rights Management: preventing or enabling access?’ *Serials* 17:2, pp. 141-147.

motion picture industry concerns over piracy). The same layers apply also to those rights which characterise civil society: personal and collective rights to privacy and protection from fraud and other crime. In the absence of a trusted infrastructure, the future potential benefits of the global network will be increasingly curtailed. The domination of spam in e-mail in boxes, and the growth of internet fraud are symptoms of problems which will affect not just copyright but wider human rights. Unless this destruction of value can be controlled—through the development of a trusted network computing infrastructure—many of the potential benefits of the network will never be realised.

This abstract plea for trust may sound like an intractable problem without any practical way forward. However one of the practical elements of a trusted infrastructure is the structured description of entities, allowing the analysis of meaning. This task is being attempted by the proponents of semantic web technologies and more traditional ontology development. There has been significant progress in technical means of contextual analysis of meaning.⁵⁶ The governance issues around the concepts of these technical means of interoperable metadata as a vocabulary for intellectual property rights are significant, since any formal analysis of meaning is underpinned by the question of 'who says': who has the right to authorise semantic mappings and to undertake analyses; who is *allowed* to say.

The IDF has an interest in this area: having recently been appointed as the Registration Authority for the MPEG 21 Rights Data Dictionary (ISO/IEC Information technology—Multimedia framework (MPEG-21)—Part 6: Rights Data Dictionary, ISO/IEC 21000-6), IDF will now work with ISO to establish operational details of this function.⁵⁷ The mechanism underlying the Rights Data Dictionary is one of the most sophisticated developments of the concept of precise contextual analysis of meaning. Governance will be a key component, and one where precedent is sorely lacking.

⁵⁶ See DOI factsheet: 'DOI and Data Dictionaries' <http://www.doi.org/factsheets/DOIDataDictionaries.html>

⁵⁷ IDF appointed as Registration Authority for MPEG Data Dictionary. <http://www.doi.org/news/DOINewsApr05.html#4>

Internet Governance in the context of historical and future perspectives of telecommunications technologies and policies

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The Evolution of Networks

Like most technology-driven industries, the telecommunication sector has historically been characterized by steady growth punctuated by an occasional leap forward, usually when a new communications technology is introduced. This historical pattern has repeated itself a number of times, beginning with telegraph in the 1840s, the telephone in the 1870s, radio telegraphy or 'wireless' in the 1890s, radio broadcasting in the 1920s, television broadcasting in the 1950s, geostationary satellite communications in the 1960s, computer communications in the 1970s, optical communications in the 1980s, and the Internet and mobile communications in the 1990s. For the last 140 years, the ITU has had to rapidly adapt to and embrace all new innovations in communications technologies.

In the latter part of the twentieth century, the almost simultaneous arrival of two major innovations—mobile phones and the Internet—not only changed the face of communications, but also provided fresh impetus for economic growth.

In the case of the Internet, fifteen years ago, prior to the web, the Internet was mainly focused on academic and research use. It was also mostly North American-based, not-for-profit, and used primarily for email and file transfer. After the invention of the Web, during the mid-1990s, there was rapid growth throughout OECD countries and increasing privatization of its backbone. The mid- to late-1990s witnessed the rise and fall of 'dot.com' mania and with it the belief that the Internet was a suitable platform to subsume all existing telecommunication networks and services.

Today, the Internet has now spread to most countries of the world; wherever there is some semblance of an existing telecoms infrastructure. And the Internet's demographics continue to change. The Asia-Pacific region now has the largest share of Internet and mobile users and also leads in advanced Internet technologies, such as broadband access and mobile data. The Republic of Korea and Hong Kong, China, are the top two economies in the world in terms of broadband Internet penetration. In mobile Internet technologies, Japan and the Republic of Korea were the first two nations to launch third generation mobile networks commercially. These accomplishments,

⁵⁸ The opinions expressed in this paper are those of the author and do not necessarily reflect the opinions of the ITU or its membership.

combined with a much larger potential for growth, corroborate a view that the global telecommunications epicentre has shifted from North America and Western Europe to the Asia-Pacific region.

The Evolution of Network Architectures

The technical underpinnings of the Internet have also changed rapidly. The growing popularity of the Internet and other IP-based networks during the last ten years has driven new requirements for telecommunications capacity and bandwidth, which has driven tremendous innovation in access and transport networks. Some examples include the enabling of new broadband networks⁵⁹ by leveraging telephone copper wire 'last-mile' networks with DSL technologies, the re-architecting of television cable networks to support bi-directional IP-based services, and dramatic enhancements in optical networking technologies. As one illustration, during the last five years, based on ITU standards, there has been an increase of over 100 million new broadband users globally. Concurrently, intense standards work is underway at the ITU and in other standards bodies to further the integration and interoperability of IP-based networks with the public switched telephone and mobile networks.

In particular, substantial standards and resource investment are being made by all major operators and equipment manufacturers in what is referred to as *Next Generation Networks* or *NGN*. NGN can be seen as a logical progression from separate PSTN- and IP-networks to a unified telecommunications network for electronic communications based on IP. The fundamental difference between NGN and today's telecom networks is a shift from 'circuit-switched' single service networks (focused on voice) to 'packet-based' multi-service platforms (of which 'voice' is only one of a palette of available services).

Definition of Next Generation Networks

Next Generation Network (NGN): a packet-based network able to provide telecommunication services and able to make use of multiple broadband, QoS-enabled transport technologies and in which service-related functions are independent from underlying transport-related technologies. It enables unfettered access for users to networks and to competing service providers and/or services of their choice. It supports generalized mobility which will allow consistent and ubiquitous provision of services to users.

Source: ITU-T Recommendation Y.2001 (2005)

Another way to look at NGN is an Internet Protocol (IP)-based core onto which a signal and control infrastructure is overlaid—somewhat equivalent to the PSTN's Signalling System Seven (SS7). The transition to NGNs makes possible a common network infrastructure for many communication services and applications. This reduces capital and particularly operational costs compared with separate service-dedicated networks. Therefore, it is also a promising platform upon which to build

⁵⁹ See Chapter 7 in <http://www.itu.int/osg/spu/ip/itu-and-activities-related-to-ip-networks-version-1.pdf>

out cost-effective 'triple-play' network infrastructures (voice, data, and video). These new networks should be considered collectively as the successor to the current global PSTN.

Obviously, the need for global standards for NGN to provide access to worldwide markets is necessary as operators and equipment manufacturers make their shift to an all IP-based infrastructure. Multi-service networks operating across carriers on a global scale also need harmonized interfaces and protocols, as well as international standardization performed in a market-driven process. The telecommunications and IT industry is now focusing its efforts on carrying out this activity at the ITU.⁶⁰ In the coming years, there will be extensive technical developments as well as deployments of NGNs around the globe.

Cycles of Networks

Napoleon once said: 'History is the version of past events that people have decided to agree upon.' When one looks back over history at advancements in telecommunications, there is a tendency to forget about the highs and the lows, the boom–bust cycles, the dubious investment schemes and the sometimes irrational and excessive enthusiasm for new technologies. The price of hindsight is typically great historical simplification.

The Internet is not the first telecommunications medium to come along promising a radical transformation of the methods by which we communicate with each other. For example, the invention of the telegraph was perceived, in many ways, as much more of a revolution than the Internet was in the 1990s. Although it is hard to believe now, it was a technology that gripped the imagination of the mid-19th century. It was an invention described as the 'annihilation of space and time': that is because, for the first time in history, a communication means was available that was divorced from physical transportation. And it had to be built from scratch. While the Internet has essentially been built on top of the global telephone network infrastructure, the physical infrastructure for the telegraph was built from nothing. This required extensive and massive business investments. And just as with the Internet in the 1990s, there was a great deal of 'irrational exuberance'⁶¹ and technical and business failures in the technology's early days.

The Internet is also not the first time a fellowship of amateur trailblazers has led the charge across a new media hinterland. This same cycle was repeated in the early days of wireless or 'radio telegraphy,' as it used to be called. Like the Internet craze in the late 1990s, there was a 'radio craze' in the 1920s that took the United States by storm. Journalists wrote ecstatic articles describing the newest developments in wireless technology. The airwaves were more or less wide open and unregulated, as professionals had pretty much ignored the mass-market potential of wireless technology, leaving plenty of space for amateur enthusiasts to stake their claims along the bandwidth spectrum. Licensing requirements were issued by the US Department of Commerce for anyone who wanted to set up a transmitter. Once you had your own transmitter, there was a 'radio community' of like-minded enthusiasts eager to share their world with you. It was an interactive medium that was user-dominated and user-controlled.

⁶⁰ See ITU-T Study Group 13 (Next Generation Networks) at <http://www.itu.int/ITU-T/studygroups/com13/>; ITU-T Focus Group on Next Generation Networks (FGNGN) at <http://www.itu.int/ITU-T/ngn/fgngn/>; Open Communications Architecture Forum (OCAF) Focus Group at <http://www.itu.int/ITU-T/ocaf/>

⁶¹ A phrase used by Alan Greenspan in 1996 to describe the overvalued stock market at that time, <http://www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm>

In the 1920's, *Radio Broadcast* magazine was the accepted voice of the 'radio community'. It was also the focal point for the articulation of their common values and their interests. *Radio Broadcast* sought to chronicle the ways in which the advent of a new communications medium promised to alter the face of culture and society permanently. The magazine spoke with as much enthusiasm as today's Internet community and they passionately debated many of the same questions. They believed in *their* new technology, and they believed that it should be harnessed to help make the future better than the past. 'Will Radio Make the People the Government?' demanded a headline in a 1924 issue of *Radio Broadcast*.

Cycles of Policy and Regulation

For those who know the history of telecommunications, there is little surprise that there are strongly felt debates as to how to address the numerous policy and regulatory issues that often emerge with new communications technologies. 'The problems never were as large or as complex as they are right now,' said one of the early pioneers of the telephone in 1910. There is always the eternal struggle between the large and little ideas—between the people who can see what might be and those who only see what is. When the telephone was introduced into the United Kingdom, the Postmaster General immediately ruled that it was a new species of telegraph and thereby fell under his jurisdiction.

The deployment of all new communications technologies is inevitably accompanied by a belief that everything has changed and none of the old rules or systems are relevant. In the 1980s and 1990s, many—particularly the engineers and academics behind its creation—idealized the Internet as a vast electronic exchange of ideas that should ultimately regulate itself. Many argued that government had no role to play in cyberspace and the dominant culture was one of common accepted norms, free speech, free information and technical coordination with little outside interference.

As in the 1920s with radio, today there is passionate debate as to the role of governments in this new media. But even we can see that debate shifting significantly in the last few years. In the 1990s, the common question was 'should the Internet be regulated?' This now seems somewhat moot, with the extensive level of Internet-related legislation being enacted daily around the world. The Internet has now simply become far too mainstream to be treated any different from the rest of society and the economy. In a number of jurisdictions, it is now widely accepted that whatever rules apply to conventional media may also be applied to the Internet—or sometimes even more restrictive rules.

With all this national activity, it is easy to infer that the concept of the nation state and sovereignty over telecommunications policy and regulation will continue to exist and also serve as the fundamental basis of multilateral cooperation. This model has served well for a number of years and there are a number of reasons for its success. As Elihu Root, the first US Secretary of State and the 1912 Nobel Peace Prize Laureate, said:

'Thousands of years of differing usages under different conditions forming different customs and special traditions have to each separate race its own body of preconceived ideas, its own ways of looking at life and human conduct, its own views of what is natural and proper and desirable.'

The reality bears out the premise. If we examine current Internet-related legislation around the world, we see that for better or worse, each nation and society is applying its collective wisdom, misconceptions, preferences, prejudices and interest group lobbying to the rules of the Internet.

The Economist, in reporting on the Internet governance debates at WSIS said:

‘... it is a positive sign that countries are discussing how to run the Internet, since it requires global solutions to its problems. Clearly, the old utopian dream that the Internet would undermine the very notion of the nation state belongs in the dustbin of history. The reality is rather more mundane: the sorts of disagreements that characterize other global issues such as trade, the environment and human rights, are now migrating to the network, as the Internet becomes part of the fabric of everyday life.’

In this regard, the role of nation states vis-à-vis the establishment of international regimes was stated clearly in the WSIS Declaration of Principles:

49 a) Policy authority for Internet-related public policy issues is the sovereign right of States. They have rights and responsibilities for international Internet-related public policy issues;

It is hard to imagine an equivalent statement being made in the late 1990s, when some considered the politically correct theme was that no government bodies, either national or international, should have a role to play in setting the rules for cyberspace. No better proof is needed that a lot can change in a very short time.

Convergence in the Policy and Regulatory Environment

All telecommunications policy makers and regulators are aware that the days when legislation and regulation could assume distinct services running over distinct networks are disappearing fast.⁶² Before convergence, specific services and networks were not at all closely intertwined. The public switched telephone network was optimized for person-to-person voice communications. Broadcast networks were optimized for one-way delivery of radio or television. The Internet was designed for non-real-time transportation of packets, with no consideration for quality of service. These networks and services are now converging and the bits flowing over the networks are ‘co-mingling’, to use a term from Nicholas Negroponte.⁶³ When the transportation of bits and services becomes co-mingled and yet is treated with separate or asymmetric policies and regulation, national legislative and regulatory frameworks will need to adopt.

The rapid growth of broadband platforms, Voice over IP (VoIP) and the transition to NGN will clearly have an increasing impact on national policies, market regulation and intergovernmental cooperation. Where today’s telecom market regulation is primarily focused on voice services and

⁶² For example, in the past, TV might be delivered by coaxial cable and telephony could only be delivered by twisted copper pair. Today, both physical media can deliver both services.

⁶³ <http://web.media.mit.edu/~nicholas/>

sector-specific policies and regulation,⁶⁴ future approaches and sectoral legal requirements will need to address electronic communications in a much broader sense. To cite one approach, the European Union's telecommunication regulatory framework,⁶⁵ adopted in March 2002, represents one of the notable attempts to move away from technology-specific and service-specific legislation towards a technology-neutral approach.

As there is a transition to NGN-type infrastructures on which an increasing number of critical public services are layered, based on national approaches, there will also be a transition to policy or regulatory requirements that may be similar or identical to existing rules applied to services offered over current circuit-switched networks. Such examples might include provisions for public safety needs, disability assistance, law enforcement support (in particular, legal interception), competition considerations, fraud prevention, prioritization during emergencies, privacy and data protection, and consumer protection against unwanted intrusions.

Even if sectoral policies and rules are not exactly the same as in the past, there still is a need for an ongoing and forward-looking dialogue on the policy and regulatory impacts of NGN environments. One of the key issues will be deciding what level of regulation of NGN services is both necessary and reasonable, without stifling innovation. In particular, potential control points in an NGN environment need to be identified, discussed and debated. This has already started. Last week, the UK's Internet Service Provider Association asked the UK telecoms regulator Ofcom to ensure that there is clarity to the regulatory principles and policies necessary to support effective competition with the planned introduction of NGN by BT.

Conclusion

To conclude, the transition to this new converged environment represents a dramatic new wave of major challenges for policy makers and regulators, both nationally and internationally. In response to this, an international dialogue is needed on these issues, including the sharing of national experiences and approaches, and assistance in capacity building with developing economies in transitioning to this new paradigm.

In reality, this is 'Internet governance': the development of an enabling environment that assists governments to 'foster a supportive, transparent, pro-competitive and predictable policy, as well as a legal and regulatory framework, which provides the appropriate incentives to investment and community development in the Information Society.'⁶⁶ What is needed now is the development of an overall and enduring architecture based on national policy, legal and regulatory initiatives, with intergovernmental collaboration and capacity building.

⁶⁴ In the United States, this is sometimes referred to as 'silo' regulation.

⁶⁵ See 'Regulating for convergence: overview of the EU Regulatory Framework for Electronic Communications, and similar developments in other parts of the world: EU Framework directive', Allison Birkett, European Commission, at: http://www.itu.int/ITU-T/worksem/conreg/presentations/conreg_0504_alison_birkett.zip

⁶⁶ <http://www.itu.int/wsis/docs/geneva/official/poa.html>

The United States Approach to the Internet: Guiding Principles for the UN Working Group on Internet Governance

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Introduction

In the Declaration of Principles and Plan of Action produced during Phase I of the World Summit on the Information Society (WSIS), governments, the private sector and civil society joined together to recognize that information and communication technologies (ICTs) are a key element of political progress, economic growth, and social development. Integral to these discussions was the emergence, for the first time, of a global consensus identifying the importance of a multi-stakeholder, multi-partnership approach to the development of ICTs and, in particular, the Internet.

The WSIS agreed upon a work program to continue discussions on the difficult topic of international public policy issues related to 'Internet governance'. The Summit recognized the importance of full and active stakeholder involvement as a pre-requisite for the successful international coordination and cooperation needed to meet our shared goal of ensuring all the world's inhabitants realize the benefits afforded by the Internet. The United States fully supports this activity as directed by the WSIS to the UN Working Group on Internet Governance (WGIG) and offers the following guiding principles with respect to Internet development for participants to consider and adopt.

Guiding Principles

The Internet and the variety of applications that it supports provide tremendous opportunities for economic and social development around the world. What started as a small-scale, experimental system of links among US academic institutions is now a gigantic global network connecting all users from any access point, regardless of national or geographic borders, that has flourished as a medium for the free flow of information and ideas. The Internet continues to expand in terms of size and scope and has become a significant and important means of doing research, for communicating with others, and for conducting business. It is natural, and in fact a healthy sign, that as this 'experiment' continues and this medium evolves into a global facility, the world community considers carefully the roles and responsibilities of all stakeholders in ensuring its continued development and success.

In the United States, the advancement of Internet technologies and applications continues to flourish to the benefit of consumers and the broader economy. High speed Internet is placing personal and economic power into the hands of individuals. The increased reliance of the health, education and business sectors on the Internet is shrinking geographic, economic and cultural boundaries. The following seven principles should guide Internet related public policy discussions:

- **Promoting an enabling environment through effective and efficient competition:** To maximize the economic and social benefits of the Internet, a clear, market-based, legal framework and supportive policy environment that promotes and ensures effective and efficient competition. The United States believes that full competition is the cornerstone of a healthy, robust Internet market. Innovation, expanded services, broader participation, and lower prices will arise most easily in a market-driven arena, not in an environment that operates under substantial regulation.
- **Recognizing the roles of all stakeholders:** One of the main drivers of the success of the Internet has been its distributed nature. This open architecture has allowed for and encouraged innovation by all stakeholders. The United States believes that cooperation and partnership among all stakeholders is fundamental to building a people-centred Information Society. Public-private partnerships are essential to this effort.
- **Supporting continued private sector leadership:** The private sector is the primary investor in, and innovator of, Internet infrastructure, products, content, and services. They are the primary stakeholders who build, operate and maintain the IP based networks that collectively form the Internet and are largely responsible for its commercial success. Consequently, it is imperative that private sector leadership in these areas be maintained and encouraged.
- **Avoiding overly prescriptive or burdensome regulation:** The Internet exists in a dynamic, fast-changing environment. Competitive market forces, rather than prescriptive rules, continue to respond to public needs. While being cautious not to use outdated regulatory models on the Internet, the United States recognizes that each country needs to address its domestic public policy objectives. However, often the costs of regulation can outweigh the benefits of regulation. Therefore, we encourage countries to examine the pros and cons of regulation prior to adoption, on a case-by-case basis, in a full and open process.
- **Ensuring the stability and security of networks:** Ensuring security and confidence: Security of and confidence in Internet protocol (IP) based networks and systems are essential if the economic and social potential of the Internet is to be achieved. Building this trust framework requires that all stakeholders take action, appropriate to their roles, to assess and address risks; understand and accept their responsibilities; and cooperate at the individual, national, regional, and international levels.
- **Embracing the global, collaborative and cooperative nature of the network:** The Internet is intrinsically global in nature and national efforts need to be supported by effective international and regional cooperation. The United States believes that efforts should be made to enhance existing synergies and not duplicate the extensive body of work already underway in the global and regional bodies.

Conclusion

As we approach the issue of Internet governance, the United States is mindful of the paramount goal of building an open, empowering Information Society. Communications technologies link the peoples of the world; therefore, a major challenge that we face—governments and the private sector alike—is to ensure that all persons can harvest the benefits that these technologies unleash. As we approach the issue of Internet governance, it is critical that we take no steps that endanger the ongoing rapid expansion of the Internet around the globe, particularly in developing countries. We believe that the goal of universal access is most effectively advanced by promoting competition, private sector led investment, free flow of information and good governance.

The Internet is one key that can unlock the door to limitless opportunities for all stakeholders in society, including individual consumers, businesses, social and public interest organizations and local and national governments. It can bring us together in ways that never existed before. It has the power to promote the exchange of information and ideas for mutual benefit. Given the Internet's potential to drive economic growth, foster information-exchange, benefit cultures, and spread democracy, we must implement sound decisions and strategies to enable it to grow and achieve its promise of development and prosperity for the benefit of all mankind.

Creating Global Commons for Public Information

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Introduction

The boundaries between the open and closed segments of public-sector information regimes are dynamic and shift over time and place. Some of the factors that lead to significant changes are global or regional, while others are specific to a nation's political system or culture. Among the major factors that have promoted greater openness in public-sector information over the past decade are the democratization of many governments following the collapse of the USSR, the rapid development and exploitation of digital networks, and the adoption of more open public information regimes, particularly in the new democracies, and leading to various e-government initiatives worldwide.

At the same time, there have been strong forces driving governments to further restrict the information they produce at public expense. Many of these forces emanate from the contrary or reactive interests inherent in the very same factors and trends that have promoted openness in public information regimes. Tightened access restrictions have been based on the protection of perceived national security interests and on a trend toward more privatization and commercialization of public information resources. The proprietary interests have been buttressed by greatly strengthened intellectual property (IP) rights in all areas of information content and technology.

The capability of the internet to make available information products to millions of potential users openly, instantaneously, and at zero marginal cost has been especially instrumental in leading to reactive legal responses by established firms in the information industry that see such capabilities as a direct economic threat rather than as an opportunity. These multi-national economic interests have lobbied successfully at both the national and international levels for the adoption of hyper-protectionist IP treaties and statutes. They also have brought into widespread use highly restrictive information licensing practices—enforced by increasingly effective digital rights management technologies—that have skewed the social and economic balance of rights in information. New IP laws and restrictive licenses have thus broadened, lengthened, and deepened the scope of legal protection in information goods generally, with still poorly understood effects—both intended and unintended—on the information society.

⁶⁷ Note: The views expressed in this background paper are those of the author and not necessarily those of the US National Academies.

Not only has this tightening of the IP regime at both the international and national levels led to reductions in the rights of user access to and use of private information sources, but it has produced a similar effect in the public information sector. In those countries that apply IP protection to public information, such added restrictions of course directly reduce the public's rights of access and use. Nevertheless, even in those jurisdictions or information domains in which IP protection of public information resources is not allowed, the increased legal protection has indirectly reduced the unrestricted availability of government information by increasing incentives and pressure from the private sector to gain exclusive control over those public resources for profit.

For reasons outlined below, however, it is generally desirable to make public information freely and openly available online, subject only to carefully circumscribed, legitimate restrictions. This can be done either by enabling legislation, implemented by administrative regulations, or through private law agreements—contractually constructed information commons—between institutions or individuals. Both are outlined briefly below.

Statutory Regimes for Open Access to Public Information

Consistent with—and in spite of—the larger trends and forces that continually shift the boundaries of the open and closed segments of public information regimes, there are many legal, economic, and other public-policy reasons that support the placing of most information produced by governments as public goods in the public domain under conditions of open access and unrestricted re-use.⁶⁸

- A government entity needs no legal incentives from exclusive property rights to create information. Both the activities that the government undertakes and the information produced by it in the course of those activities are a public good.
- The public has already paid for the production of the information. Free and open online access is the most equitable and ethical method of its dissemination, removing economic and legal barriers to all users. The public good nature of the information makes universal access appropriate.
- Transparency of governance is undermined by restricting citizens from access to and use of public data and information. Rights of freedom of expression are compromised by restrictions on re-dissemination of public information.
- Numerous economic and non-economic positive externalities—especially through network effects—can be realized on an exponential basis (though they may be difficult to quantify)

⁶⁸ A *public good* has two characteristics. First, no additional costs are involved in providing the good to additional persons (formally, the good has zero marginal costs and is referred to as being non-rivalrous). Second, it is costly (and therefore socially wasteful) to exclude individuals from benefiting from the good (formally, the good is non-excludable). *Public-domain information* may be characterized as information whose uses are not restricted by intellectual property or other statutory regimes and that are accordingly available to the public for use without authorization or restriction. The public domain is the yin to the proprietary yang. *Open-access information* may be defined as either public-domain or proprietary information that is made openly and freely available on the internet or through other media. If proprietary, the information being made available through open access nonetheless retains any of the exclusive property rights that may be conferred by statute, unless expressly waived by the rights holder.

accurately) through the open dissemination of public-domain data and information on the internet.

Some legitimate, countervailing policies that may limit the free and unrestricted access to and use of government information include the following:

- Statutory exemptions to public-domain access and use may be based on specific national security concerns, the protection of personal privacy, and respect of confidential information (plus other exemptions to Freedom of Information laws, where applicable).
- Government agencies generally protect the proprietary rights in information originating from the private sector that are made available for government use, unless expressly exempted.
- Government agencies may not be allowed to compete directly with the private sector in providing information products and services, particularly if such activities fall outside the agencies' legislative mandate.
- Government-generated information is not necessarily provided free, even if there are no restrictions on reuse. It must be recognized, however, that any charges that may be levied can pose a substantial or insurmountable barrier to access by the poorest and most disadvantaged potential users.

A statutory regime based on default rules of open availability and unfettered use of public information will maximize the value of public information on digital networks by:

- Expressly prohibiting intellectual property protection of all information produced directly by government;
- Treating the public information resources as a major social and economic infrastructure investment, with concomitant institutional mechanisms/support;
- Disseminating the information at no more than marginal cost (free online); and
- Balancing the social and private interests in the adoption of new IP laws and policies, and maintaining robust immunities and exceptions favoring the public interest (freedom of expression, libraries, scientific/educational/journalistic uses, access for disabled people, and other fair use/fair dealing exceptions).

Contractually Constructed Information Commons

Absent a statutory regime that expressly places public information in the public domain and that broadly promotes its open and free availability online, it is possible to create public-domain or quasi-public domain enclaves in cyberspace using private contracts or inter-institutional agreements. The experiences of the public research communities in many countries since the advent of the internet are particularly instructive in this regard. Public science has been at the forefront of many new paradigms of digitally networked information creation and dissemination activities that use such 'permissive licensing' approaches. Scientific research communities have led efforts to develop open-source software, open data archives and federated data networks, open institutional

repositories, free university curriculum materials online, open access journals, community-based open peer review, collaborative research Web sites, virtual observatories, and distributed Grid computing.

These initiatives have given rise to unprecedented opportunities for accelerating the progress of science and innovation and creating wealth based on the more efficient exploitation of data and information produced through public investments in research. They are part of the emerging broader movement in support of both formal and informal peer production and dissemination of information in a distributed, volunteer, and openly networked digital environment. Such activities are based on principles that reflect the cooperative ethic that traditionally has imbued much of civilian government science agencies and academic research institutions; their norms and governance mechanisms may be characterized as those of 'information commons', rather than of a market-based system trading proprietary information.

Public science information commons activities are now increasingly utilized in both government and government-funded institutions, where proprietary concerns and market forces generally are diminished in relation to the private sector. Such models are thus especially suitable for other public-sector information activities on digital networks. However, the permissive licensing approach is now also being used in the creation and dissemination of more traditional, private-sector information products—whether audio, images, video, or text—where the authors wish to make their works more openly available and used more broadly, but still maintain ownership and control over their works. A range of licensing templates have been developed by a pro-bono law organization in the United States, the Creative Commons (see <http://www.creativecommons.org>), which offers a menu of licensing options 'with some rights reserved'. These permissive licenses are now used by many individual authors and institutions in making their works accessible in the expanding 'information commons'.

Concluding Observations

The internet provides unprecedented opportunities to produce information in a distributed, volunteer, open digital environment and to disseminate information products freely, globally, and instantaneously. These capabilities, vastly different from the print paradigm, enable valuable, direct socio-economic results and positive, indirect externalities that are enhanced exponentially through network effects. The net results can be realized most efficiently and effectively by making public-sector information available online free-of-charge, on a non-proprietary basis, that maximizes access and encourages re-use. Such global information commons can be created through a combination of statutory and regulatory law at the national level, and by contract at the institutional and individual levels at all spatial and temporal scales. In particular, the creation of such commons based on principles of universal and equitable access has the potential to be of greatest benefit to poor and disadvantaged users in developing the information society and the knowledge economy.

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The struggle over internet governance: searching for common ground

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Four models for internet governance

The regulatory issues surrounding the Internet have given rise to various modes of interaction and of articulation among actors. These may be organised into four types:

Community governance

Community governance is based on spontaneous solidarity and interdependence of interests between stakeholders who share a set of values and identify with similar norms. They are able to accommodate one another without difficulty and resolve their conflicts straightforwardly, either through discussion or through consensus; participants have little need for heavily formalised arbitration mechanisms. Community governance was the Internet's dominant mode of regulation when university researchers were its primary user base. Part of the same (small) world, with long-established communication channels and coordination mechanisms at their disposal, and adhering to similar information ethics—non-commercial goods and services, reciprocity, knowledge sharing, the discounting of commercial activity, an aversion to information's commoditisation—these university researchers managed to organise the network without great intra-organisational difficulties. The Internet protocols, for example, were defined by cooperative working groups energised by their search for solutions in the collective interest. Another form of community governance was manifested in the first generation of discussion newsgroups, whose rules of behaviour were elaborated through tacit agreement between users without needing to resort to codification or the creation of institutional bodies.

Community governance bears some similarity to the self-regulation of daily life in a village whose inhabitants adjust their interactions to respect implicit local norms. Like village life, community governance presents significant scaling difficulties: practicable in small, relatively homogeneous groups, it is difficult, even impossible, for vast groups of hundreds of thousands whose interests may be largely divergent. Community governance is conservative, because it depends on norms established through tradition and tends to exclude innovation and ostracise atypical behaviour. Conflict management is difficult under community governance, which depends on unspoken and rarely-formalised rules that are difficult to question without placing the system in crisis; disrespect for these rules may be perceived as contesting the group's very identity.

Market governance

Market governance postulates a state of dispersed competition between autonomous actors whose interests are independent of one another, each seeking to maximise individual advantage. Arbitration of preferences takes place through the price system. An initial reading would suggest that market governance is well-suited to the Internet, which appears to provide a marketplace in which each agent can acquire near-perfect information and easily enter into contact with other agents, thus permitting the continuous mutual adjustment of supply and demand—a salve for the woes of real-world markets, where market participant information is typically incomplete, where transaction costs are sometimes so high as to perturb the exchange mechanism, and where rigidities or lags are routine in the adjustment of supply to demand. Traditional market imperfections such as information asymmetry or the irrationality of market participants would, in other words, melt away on the Internet, giving place to a system in which market governance might reign both at the level of infrastructure, such as in managing bandwidth or URL allocation, and at the level of the applications, services, and content exchanged over this infrastructure. Even apparently complex questions of security management and privacy measures might be resolved through market mechanisms: Internet users are free to pay according to the level of security and privacy in which they seek to wrap their transactions, choosing between competing service providers for the delivery of such services.

Market governance of the Internet runs into several problems, however. First, the Internet contains many spaces in which user behaviour is not governed by prices or profit seeking, but in fact works towards the collective interests, for example the many Web sites on which Internet users freely post their knowledge and expertise for public consumption. While one might argue that such behaviour is not as altruistic as it might first appear (and is actually serving a logic of maximisation of individual interests via symbolic gratification, such as reputation-building, social network assembly, or the expectation of a counter-gift in exchange for the initial gift in a barter framework), market governance obviously does not apply to those parts of the Internet.

While it is true that the Internet lowers information transmission costs considerably, the costs of making a content offering known, and of gathering and using information, remain significant. In a market environment, the former are likely to lead to bottleneck locations which afford undue advantage to the strongest service providers, even without considering more deliberate audience capture manoeuvres such as loss-leader services designed to attract customers and build their loyalty. Information usage costs, meanwhile, refer to the well-known 'digital divide' dilemma: beyond Internet access costs, network use requires a set of competencies which are distributed unevenly through society. Pure market governance runs the risk of widening these inequalities. Where applications and content services are strictly price-based and not subject to minimal standards, for example, some Internet users will find themselves incapable of paying for services whose security or confidentiality provisions or, in the case of information, immediate pertinence does not meet their requirements, thus reinforcing the gaps between 'info-rich' and 'info-poor'.

Hierarchical or state regulation

This type of regulation assumes that the activity of system participants is coordinated by a central authority which defines end goals, then organises a framework of social action to meet them. Because this authority is generally the state—though, in theory, it need not be—hierarchical

governance is often referred to as state or national regulation, or else interstate or international where it involves agreements between several governments. The advantage to hierarchical governance is its mandate to act in the common social good and thus transcend that which market governance reveres, particular interests. Hierarchical governance of the Internet, for example, would thus be aimed at ensuring network access among the poorest segments of society, protecting the pluralism of expression and diversity of cultures, and guaranteeing the rights of consumers or of citizens with regard to service providers.

The quality of hierarchical governance depends on the central authority's double capacity to meet the demands of social actors, and to control the implementation of plans and action programmes adopted for that purpose. Far from a rational process of seeking out the public interest, however, the elaboration of public policy often results from trade-offs and compromises between the state and various groups which pressure it from both without and within. What is more, when applied to a large-scale social collective, hierarchical governance implies voluminous and complex information exchange between the central authority and the regulated entities. Hierarchical governance leads at best to elevated administrative costs which may reduce collective utility to, at worst, unenforceable rules.

To these usual difficulties of hierarchical governance the Internet adds a series of problems linked by the question of territoriality. By definition, hierarchical governance functions according to the framework of the nation-state, the political form which commands legitimate authority and whose right to intervention on its territory is recognized. But the Internet includes a variety of de-territorialised practices and infrastructures, involving actors which fall into different national jurisdictions. The potential litigation which electronic commerce implies illustrates this difficulty: where a French Internet user and Canadian service provider transact via a US Web site, which jurisdiction's consumer laws prevail? An initial read would suggest that the appropriate response is to move the level of hierarchical governance from the national to the international level via international treaty. But this solution has its own series of well-known problems: fundamental gaps between national legislations which make compromise near-impossible; free-rider strategies of some governments seeking comparative advantage by abandoning the constraints accepted by their counterparts; lack of legitimacy or else democratic deficits in interstate negotiation mechanisms.

Associative regulation

Associative regulation is based on agreements and contracts, and entered into by participants who choose to form a voluntary association to define the rules by which their mutual relations, or relations with third parties, are to be organised. Examples of associative regulation on the Internet abound: technical standards and protocols, service provider user agreements bounding privacy expectations, access to contents non-suitable for children or freedom of expression, and so forth. Indeed, charters and agreements as to user behaviour are among the principal instruments of associative regulation.

While associative regulation may look like self-regulation,⁶⁹ it rarely exists autonomously, and generally requires state intervention either in its design, or its application. Associative regulation is

⁶⁹ See Price and Verhulst (2000) for a useful discussion of self-regulation as applied to the Internet.

often initiated by the state, either through delegation, where the state voluntarily delegates its regulatory-administrative powers to an activity sector by specifying its principles and general framework, or else through coercion, where the state threatens to apply its own regulatory constraints in the absence of associative regulation. Norms produced through associative regulation may find themselves incorporated in law and imbued with general authority, and litigation generated by their application may find itself in tribunals or specialised agencies of hierarchical governance. In practice, associative regulation thus underlines the great variety in how labour is divided between state and associative actors (Campbell 1999).

Associative regulation can be attractive. It is seen as a relatively light, flexible form of regulation, proportional to the problems it is assigned and, because it is self-administered and voluntary to at least an extent, well-accepted and applied by social actors. But associative regulation, too, has its problems. First, the problem of free-riders: because it is voluntary, associative regulation functions only when all stakeholders agree to participate and conclude an agreement among them. This weakness explains the *a posteriori* state intervention which frequently follows associative regulation, and is designed to impose the application of these rules to all social actors by the only party capable of doing so. Second, agreements intended to function as associative regulation are sometimes just standards imposed by very powerful market actors. Such 'agreements' have a unilateral, rather than consensual or contractual, character. In some cases, this unilateral character may be explained by the absence of representative speakers for certain stakeholder groups, particularly users and consumers. Finally, what may be associative regulation's greatest weakness is its ability to produce private contracts which contradict social norms.

Examples: governance modes of key issues

As the table below illustrates, Internet regulation currently takes in a number of regulatory modes. On some issues (standards and protocols), a single mode of regulation dominates. On other issues, several modes cohabit.

We might wonder whether there is not a 'natural' cycle in the modes of regulation, as the case of technical standards would seem to suggest. First, the market allows different standards to compete; some establish pre-eminence, others fade away. Second, associative agreements are sought to federate those standards which remain, so as to ensure interoperability. Finally, public authorities sanction the standards, or norms, which have prevailed, even making them mandatory. An alternative but equally compelling cycle is presented by the communications sector, whose long-term tendency has been toward the decline of hierarchical governance and concomitant rise of a market governance that is tempered by associative regulation.

In a transitory environment, at least, the coexistence of regulatory modes has a number of advantages. In some areas, market governance can provide a means for discovering individual preferences and alert public authorities to needs that they were unable to perceive or to measure. The existence of an albeit small market for privacy protection in the form of anonymous Web surfing services, for example, is an interesting indicator for public authorities who might be called on to establish some form of regulatory framework in this area. Meanwhile, associative governance can act as a sort of laboratory for hierarchical governance, in which regulatory agreements reached between a small number of actors within a sector can be extended to the rest of the sector, or even to others.

Every form of regulation has both advantages and drawbacks. No governance mode is ideal, but some are more efficient than others with regard to one parameter or another (feasibility, effectiveness, representativeness, legitimacy, cost, etc.). The evaluation of Internet regulation must therefore be conducted according to explicit criteria, such as the criterion of democracy (this point will be developed during the OII seminar).

	Community governance	Market governance	Hierarchical governance	Associative governance
Network standards and protocols	Academic Internet. Some newsgroups. Open Source Movement	Especially for PC and software standards	Formerly ITU, now passed to associative governance following telcos privatisation	The now-dominant form: ICANN, Internet Society, ITU
Access to infrastructures and services		Essentially	Secondarily (definition of universal service, assistance, and subsidy)	Marginal: e.g. community centres for Internet training
Privacy protection	Implicit rules applied in small groups	Sometimes, through the purchase of secure services	In some countries (e.g. informatics law and freedom in France)	Charters or codes of conduct between service providers and users
Authors' rights, copyright, intellectual property	Open Source Movement		National legislation	WIPO. Creative Commons
Electronic commerce		Essentially	National and international (EU) consumer protection	Arbitration systems, behaviour codes
Freedom of expression	'Indymedia' movements, etc.		National legislations. Article 19 of the Universal Declaration of Human Rights	Thematical portals or 'Web rings' which adhere to or promote common values
Sensitive content (pornography, violence, hate speech, etc.)	In the case of private intranets	'Credit card regulation'	National legislation	Behaviour codes; collaborative supplier-user filtering systems
Cultural diversity		Through the definition of communication and information services as regular services	National legislation and cultural policy; international treaties on protecting and promoting cultural diversity	Very few examples, (agreements between some information providers and users to take into account cultural diversity, minority representation)

An Empirical Foundation for Normative Internet Policy

Tom Vest

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'Common Ground' can indeed be found in the Internet today, in the IP addressing system that binds all—all individuals and institutions, all producers and users, all infrastructure and applications—together in a shared logical universe of interactive communication possibilities. Just as its metaphorical namesake implies, this addressing system provides a common operating surface that hides a great diversity of underlying transmission media, protocols, and infrastructure systems, on top of which a cumulative landscape of applications and services—of uses and usage—continues to evolve.

Active IP addresses possess three critical features, which taken together make them ideally suited as a locus for normative Internet policy planning and evaluation. Each represents both a source and a destination for Internet traffic, which is generated through the interaction of Internet users (home subscribers, institutional users, occasional and transient users, etc.) with Internet content and services—and with each other. The considerable costs (or potential revenues) arising from such interactions make each decision to use an IP address in 'Internet production' a fundamentally economic calculation. In addition, each IP address is uniquely associated with a specific logical network, the one that first 'injects' it into the global logical matrix. This association makes it possible to observe the cumulative effects of such economic decisions across networks and over time, as individual networks add additional IP addresses (i.e., *grow*) more or less rapidly, new networks emerge, and old networks disappear. Finally, using contact information collected at the time of their creation and maintained on a voluntary basis, each logical network can be associated with a real-world institution (sole proprietorship, enterprise, ISP, university, government organization, etc.), and a country of administration. This final feature of IP addresses and their originating networks is essential to network troubleshooting and event management—operators must be able to know where and whom to turn to when new challenges (or new opportunities) emerge. Significantly, it also permits the empirical investigation of Internet growth and evolution in the context of broader technical, economic, and demographic factors.

This common ground of IP addresses grows in a consistent if historically informed pattern, as new users, usage, and uses are added to the existing Internet resource pool using technology and operational practices that change (typically becoming more efficient) over time. Today, that pool does not yet encompass all potential or aspiring users, nor does it provide unlimited and unconditional usage to those already connected. Neither does the existing slate of Internet services and applications exhaust the range of communication possibilities that the current generation of information technology affords. So long as all participants are united by this common, interoperable logical addressing system, each new addition to this system contributes directly or indirectly to a generalized *network effect* that benefits all. Because of this positive dynamic, all participants, current as well as future, share a common interest in seeing that these two frontiers—the horizontal frontier of users and usage, and the vertical dimension of applications, services—of *uses*—remain

open to new entrants, to novel innovations, and to cross fertilization *by each other*. Preserving that openness represents perhaps the best means of rapidly extending the Internet production horizon, of extending the Internet's benefits to now underserved populations, and so of nurturing the global information economy to its fullest potential.

Unlike the Internet's myriad 'subterranean' components and 'superficial' overlay features, the growth of this shared logical ground of IP addressing can be empirically measured on a global scale using free, publicly available data. Although the preserved empirical record is relatively shallow (extending back only to 1996 or 1997), it is incredibly rich, depicting an estimated 97% of the full universe of active Internet resources—users, usage, and uses—on time scales ranging from daily to bi-hourly. This Internet production data has been used extensively since the mid-1990s by pioneering Internet operators and researchers to address some of the technical challenges of explosive Internet growth. However, its value as an empirical record of achieved Internet development, and thus a potential bellwether for normative Internet policy, is only now beginning to come to light. For example, an initial comparison of national-level growth trends on the Internet's physical (telecommunications) and logical edges suggests that network provider diversity fosters accelerated Internet resource accumulation, much as specialization and the 'division of labor' are rewarded with increased productivity and capital formation in the material economy.⁷⁰ Additional research in this area might help to reframe the perennial debates pitting 'Bellheads' against 'Netheads'—or perhaps even the 'network geeks' versus the 'policy wonks'—in a more constructive, empirical context. It might also help to check the rise of what could be described as new form of information economy mercantilism, wherein state-centric or territorial communication policies advance the goal of maximizing external earnings (by controlling all cross-border traffic flows) while minimizing imports and domestic competition, perhaps to the ultimate detriment of local Internet resource development, if not the global information economy in general.⁷¹

However tentative and speculative these hypotheses may be, close involvement with the Internet's common IP addressing system strongly suggests a few maxims for the Internet governance movement. First, the institutional arrangements that currently insulate this essential but finite technical resource from political and commercial manipulation should be preserved, if not strengthened. Global norms governing the proper ratio between IP addresses and their real-world Internet resource counterparts (users, uses, usage), and criteria for the allocation of IP addresses for use in real-world Internet production must continue to be developed and administered in an extra-national context, guided by the principle of open access as tempered by the requirements of prudent resource husbandry. Shifting control, or even sharing control of these resources between institutions with mixed goals or divergent priorities would, at the least, run the risk of weakening the link between *mere Internet routing* and real-world Internet production, and could ultimately result in a clash of interests between current Internet participants and the users, uses, and usage that remain in our collective future. Instead, the current system should be strengthened by making the global norms governing sub-delegation explicitly and enforceably 'transitive', i.e., equally binding on any and all other institutions (i.e., national and local Internet registries, individual ISPs, etc.) that participate at any point in the extension of beneficial control over IP addresses to Internet producers and users.

Public availability of full and accurate contact/identity information (ideally, current and past) for every participating factor in the Internet's global logical mesh is another critical takeaway for Internet

⁷⁰ Preliminary results are published online at <http://www.pch.net/resources/papers/the-wealth-of-networks/Vest-WoN@SIMS-DLS-050316.pdf>

⁷¹ E.g., <http://www.pch.net/resources/papers/the-wealth-of-networks/Vest-WoN@UCB-CDF-040430.pdf>

governance. Without such information, it is difficult to have full confidence in any empirical inference that bridges the divide between real-world entities (e.g., persons, companies, countries), and the shadows that they cast on the Internet's logical layer (e.g., IP addresses, Autonomous Systems, Autonomous Routing Domains, etc.). Much more important, it is impossible to have full confidence that future developments, faults, or attacks affecting the Internet's shared resource pool can be remedied, let alone deterred, if the resources involved cannot be credibly associated with their responsible parties in the real world. While contact information at the network operator (or more precisely, the network *aggregator*) level will always remain the highest priority, the presentation of independent and accurate contact/identity information at finer granularities (e.g., the networked enterprise level) could help to create a flatter, less hierarchical relationship between network producers and network end users. Autonomy and equality coupled with anonymity is not a credible expectation in a global system where every participant enjoys broad powers to act and interact on a global scale, with potentially global-scale effects.

Finally, the absolute centrality of the Internet's common IP addressing system, coupled with the (perceived) relative paucity of concerns expressed about current IP address management arrangements compared to other Internet governance issues, argues strongly for a cautious approach, if not a wholesale uncoupling of address-related questions from other governance concerns. Sound thinking will not emerge from taking up questions related to this essential technical resource as a postscript to governance concerns about other features of Internet administration or technical management. The current IP addressing system *is* the Internet's common ground—one that has provided a sound foundation for a decade of rapid global expansion thanks a set of subtly interrelated technical and institutional arrangements of unknown durability. These should be carefully evaluated and understood fully before any significant change is proposed, so that the process of 'breaking new ground' does not also irrevocably break the old.

Internet Governance = Coordinating Cooperation

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It is attractive to believe that a single, widely accepted and useful definition for 'Internet Governance' exists and can be found. Moreover, defining the term will help clarify and bound a difficult, spirited debate involving many active participants and their interests. I believe that the search for such a definition is more meaningful and productive than finding general agreement on the term itself—something we may never find. The search encourages us to coherently articulate, and aggregate, our concerns related to the Internet; however we wish or perceive it to be. This takes an important first step to avoid or resolve any conflict that risks severing the cooperation essential for the Internet to function, evolve and provide value.

While I believe it important to identify, understand and assess the roles of all those who wish to participate in existing governance arrangements; it is my position that it is more fundamental to recognize that the Internet is acting as a catalyst for global change; which is precipitating issues faster than we are able to wisely recognise, respond and resolve them. Specifically, the rate at which can collectively make wise and informed decisions has not kept pace with the rate we are able to produce, share and exchange resources over the global network.

We cannot agree fast enough. More precisely, we have not found timely mechanisms to find agreement relevant to the issues that demand global resolution; as they arise and as we understand them. This may be precarious as I believe the complexities of issues, and their complex interactions, have increased. Furthermore, I suspect that this complexity will further grow as the number of networked participants increase, their natures change and the resources available evolve. In short, the many issues today (tractable thus far) may only be a precursor of issues of ever increasing complexity that follow. This should not be surprising as the Internet merely mirrors the society that uses it.

We must get organised.

I propose the critical problem is how we manage ourselves to respond to complex change. Here I believe that the United Nations (UN) can, and should, play a unique meta-coordination role: coordinating the coordination of global cooperative efforts to resolve issues precipitated by the Internet and its widespread use. Once the adequacy of existing governance arrangements has been assessed, we should have a better idea how to evolve new or existing coordinating structures which collectively oversee the challenge which the Internet presents.

Thus, our natural desire to be precise with terminology, to gain control over when we mean, may ironically be counter-productive to the WSIS Declaration of Principles and our desire to build an inclusive Information Society. By accurately defining 'Internet Governance' today, we may accidentally define what is not 'Internet Governance' tomorrow—this is perhaps unwise.

What we must recognise is that the usefulness of this amorphous term has been in its ability to rapidly bring us together to start finding solutions—nothing more, nothing less.

Statement by the Civil Society Internet Governance Caucus, the Gender, Human Rights, Privacy and Media Caucuses on behalf of the Civil Society Content and Themes Group

23 February 2005, Geneva

1. We commend the Secretary General of the United Nations on the establishment of the Working Group on Internet Governance.

We express our support for the WGIG's multi stakeholder approach, and wish to stress that there is a fundamental difference between multilateral and multi stakeholder processes, and that the Summit documents were explicit in calling for the balanced participation of all stakeholders. Legitimate and successful Internet Governance can only be achieved if all concerned or affected groups have an opportunity to influence the outcome. Gender balanced representation in all aspects of Internet Governance is vital for the process and its outcomes to have legitimacy.

We believe the WGIG is becoming a working model for multi-stakeholder collaboration, with all sectors providing expertise and contributions.

The governments that agreed to this new global practice should now take positive steps to ensure its full implementation.

As a first step, conformity with this evolving norm should be carefully assessed with respect to existing arrangements at intergovernmental level, like the ITU, WIPO, UNESCO, other organizations such as OECD and WTO, private sector arrangements like ICANN and the IETF, and to emerging mechanisms.

2. The WGIG should ground its work within a human rights and development framework. The rights to freedom of expression and privacy are of special importance in this context as is the need for a greater emphasis on the principles of openness and transparency.

The caucus believes that two outcomes of the WGIG will add significant value:

1. An understanding of how governance mechanisms can further these basic rights and principles,
2. An elaboration of the concept of democratic internet governance which fosters the goals of creativity, innovation and cultural and linguistic diversity.

3. The extent of participation from those who do not yet have access to the Internet is still far from sufficient. This is especially true for civil society actors. The stakeholders present during this WSIS process have been, in the main, economically privileged and predominately male. We would like the WGIG to make appropriate recommendations to ensure the effective participation of ALL people from all regions of the world. For governance mechanisms to be all-inclusive and transparent, even women and men who are not yet connected by any communication technologies should be represented and heard.

4. All stakeholders should recognize the diversity of processes and mechanisms involved in Internet governance, including:

- decisions by individual users
- private agreements
- national policies, and,
- international and transnational bodies.

This diversity of perspectives, opinions and values should be reflected in the final report and any further outcomes of the WGIG. While we support WGIG's efforts to establish consensus on various issues, the report should go beyond consensual matters and find ways to reflect diversity.

5. Although Prepcom 2 is early for substantive progress on issues and definitions, we wish to emphasize those that the WGIG must consider in its next phase of work:

- Unilateral control of the root zone file and its effects for the name space
- The crucial role of technical standards in the preservation of an interoperable global Internet
- The impact of Internet Governance on freedom of expression and privacy
- The different implications of Internet Governance for women and men
- The impact of Internet Governance on consumer protection
- International Intellectual property and trade rules where they intersect with Internet Governance
- Access to knowledge as global commons

In addition we wish the WGIG luck in coming to closure on a coherent and meaningful definition on Internet governance.

The relevance of the WGIG report lies in advancing a global understanding of these issues. Such an understanding constitutes the basis of informed, inclusive and democratic approaches to Internet governance. We look forward to progress being made on these issues and the opportunity to contribute further to WGIG's work.

Regarding follow up of WGIG's final report, negotiations must be conducted "in an open and inclusive process that ensures a mechanism for the full and active participation of governments, the private sector and civil society from both developing and developed countries" as stated in the Geneva

declaration of principles. The final negotiated document **MUST** reflect and honour the multi-stakeholder process that produced it.

Statement made by the Presidency of the Council of the European Union

WGIG Open Consultations, 18 April 2005

The EU would like to thank the WGIG for its ongoing work on key issues related to the stable and secure functioning of the Internet.

Among these, the question of internationalization of the management of the Internet's core resources, namely the domain name system, IP addresses and the root server system appears as one of the main issues in this debate.

The EU believes that a new cooperation model is needed in order to concretize the provisions in the WSIS Declaration of Principles regarding the crucial role of all actors within Internet governance, including governments, the private sector, civil society and international organizations. We think that the existing Internet Governance mechanisms should be founded on a more solid democratic, transparent and multilateral basis, with a stronger emphasis on the public policy interest of all governments.

This new model should be based on the following principles:

- 1) it should not replace existing mechanisms or institutions, but should build on the existing structures of Internet Governance, with a special emphasis on the complementarity between all the actors involved in this process: governments, the private sector, civil society and international organizations;
- 2) the new public-private co-operation model should contribute to the sustainable stability and robustness of the Internet by addressing appropriately public policy issues related to key elements of Internet Governance.

The EU believes that governments do have a specific mission and responsibility vis-à-vis their citizens and their role within this new cooperation model should be mainly focused on principle issues of public policy, excluding any involvement in the day-to-day operations.

Furthermore, the EU strongly reaffirms its attachment to the architectural principles of the Internet, including interoperability, openness and the end-to-end principle.

We therefore support the WGIG in its paper on the root zone file and the root server management when it states that:

'proposals for improvement need to consider that in general the existing system has functioned properly from the technical point of view for more than two decades and that adjustments, where needed, both for technical and political reasons, have to be made in a proper and adequate way related to the functioning, stability, security and further development of the Internet'

This is why we encourage the WGIG to present balanced options for a true internationalization of the management of the Internet's core resources in its Final Report.

While this statement is limited to the issue of internationalisation, the EU reiterates the importance it attaches to the stability, dependability and robustness of the Internet, including spam and network security.