



the **Berkman Center**
for **Internet & Society**
AT HARVARD LAW SCHOOL



Internet Governance for Development: Focusing on the Issues

Position Papers for Workshop

Friday 1 September 2006

Oxford Internet Institute

University of Oxford

<http://www.oii.ox.ac.uk/events/details.cfm?id=23>

Workshop organised by the Oxford Internet Institute in collaboration with the Berkman Center for Internet & Society at Harvard Law School and the e-Horizons Institute at the James Martin 21st Century School, with input from the Net Dialogue project. The organisers are grateful for sponsorship from Afilias, the Internet Society (ISOC) and Nominet UK.

Afilias
GLOBAL REGISTRY SERVICES



nominet

Contents

Tarek Cheniti	3
Kenneth Neil Cukier	5
William H. Dutton.....	10
Urs Gasser	14
Jeanette Hofmann	19
Wolfgang Kleinwächter.....	22
Desiree Miloshevic	27
Don MacLean	30
Dr Milton Mueller	36
Sam Paltridge.....	42
Norman Paskin.....	49
Mary Rundle	58
Matthew Shears	63

Contribution to the Oxford Internet Institute Workshop 'Internet Governance for Development'

Tarek Cheniti

James Martin Institute for Science and Civilization, University of Oxford

The recent World Summit on the Information Society and the forthcoming Internet Governance Forum are eloquent illustrations of the breadth and depth of the societal issues brought about with the exponential development of the Internet. The humanist perspective which the WSIS declaration of principles and plan of action embody makes it obvious that the Internet is, more than a network of wires and protocols, a highly problematic socio-cultural milieu.

I am confident that the traditional policy issues related to Internet governance, including the role and positioning of ICANN in the international arena, will be rightly addressed in the work of the IGF. To my mind, the most prominent aspect about Internet Governance which has not been thoroughly addressed yet is that of freedom of expression.

From an academic point of view, it goes without saying that free speech has constituted an area of unceasing controversy between advocates of liberal/utilitarian thought and supporters of the providence; be it religious, legal, moral, or otherwise. With the promise of anonymity it brings and the open-ended architecture it is based upon, the Internet can only nurture those cleavages. The rise of democratic values in modern societies and the parallel expansion of pornography, hate speech and crime make it highly improbable that practices of self-government will suffice to ensure an offence-free Internet. It also makes it challenging for coherent institutional frameworks to develop across legal and geographic boundaries. Furthermore, the rapid adoption of Internet technologies in developing countries and young democracies has supported the rise of dissident voices and reformist thought. The extent to which this process contributes to the democratisation of these nations is yet another area of strong contention.

From a practical point of view, and having been on the blogosphere for nearly a year now, I have come to realise that the Internet recreates clashes of culture and ideology. Virtually all interactions on blogs are subject to some form of censorship, which either emanates from an external source (e.g. Law, Internet service providers, blog hosting services, the community of bloggers...), or from the blogger herself. Moreover, I have always found it fascinating that literary productions in these forums are the result of a subtle-yet-intense process of negotiation between the writer and his audience. In this process, particular ideas about morality, truth, and the distinction between right or wrong tend to win while others are condemned. This makes it legitimate to ask what particular moral values the Internet promotes, and why.

The second area of interest with respect to governance is that of access rights. This spans not only the general public policy problem of accessibility (e.g. quality and cost of connection in

developing countries, gender balance, privacy..), but the more mundane experiences of Internet usage in educational and professional settings (as illustrated in the example of a recent court case in the US which accepted that surfing the Internet during work hours could justify the termination of employment contracts). Bringing these issues to forefront of the IGF discussions will certainly elucidate the ways in which they could be tackled in the future and the legal instruments that could be implemented to make the most of the opportunities offered by the Internet and alleviate the obstacles to its expansion. A core element of this problematic will naturally be the extent to which civil society ought to be involved in the post-IGF policymaking process. The threshold between consultation and actual participation is very thin in the current state of affairs, and it would be most valuable if the forum could address the issue of multi-stakeholder participation in more substance and dedicate a section on this in its documents. The definition, scope and limits of the actions of civil society will help clarify the range of governance issues which will be left to the judgment of citizens and user communities, and those which remain under the umbrella of direct government intervention. The reason why the future role of civil society should be specified with more precision is mainly empirical. Civic participation, increasingly visible through transnational activism, has flourished in recent years. It has been facilitated by increased literacy, public awareness, human exchange and, even more interestingly, by the Internet itself. It goes without saying then that civil society is the primary target audience when it comes to the management of the Internet as a global resource. How can civil society successfully contribute to the sustainability of this communication tool and what actions should be taken by governments in this direction are the main questions that the IGF will need to look at.

The Internet™: A Solution for Openness Through Closedness

Kenneth Neil Cukier

Technology and Telecommunications Correspondent, The Economist, London, UK.
Contact: KennethCukier@economist.com

Summary: The Internet is facing numerous challenges to its management and architecture. In reaction to those who advocate change, proponents of the current system are trying to hold in place its existing design (be it policy over DNS management, or laws for network neutrality). However, codifying how the Internet ought function may inhibit its natural evolution. This paper proposes that trademark law be used to define what constitutes “The Internet.” This may ensure that the basic principles that account for the Internet’s success are preserved, while also permitting diversity and experimentation for new models of data-networking to take place.

I. Introduction

In 1990, few had heard of the Internet; in 2000 everyone praised the Internet; in 2010, there is a risk that the Internet will cease to exist. Obviously, this is a melodramatic prediction, but if one were to define the central attributes of the network -- its end-to-end character; its famous dot-com and other addresses -- it could turn out to come true.

This is because in a number of small but important ways, the Internet’s design and policy institutions are being challenged by the twin forces of large telecoms operators on one side, and governments around the world on the other. In half a decade’s time, a network that we shall still refer to as the Internet will surely exist -- but it may not embody the same principles of openness that we enjoy today.

This might happen because the telecom operators or governments change the underlying tenants of the Internet to suit their commercial or political interests. But it could just as easily happen because the very people who are most supportive of the Internet’s current design may try to preserve it in a way that essentially encases it in amber.

This is seen in the two biggest disputes pitting the current conception of the Internet against those who call for change: the control of the domain name system (DNS), and network neutrality (NN). There are many other matters, such as efforts among carriers to build “next generation networks,” which is being discussed at the International Telecommunication Union. But DNS management and NN have generated the most tensions because any change in the current set up is perceived to damage the Internet’s initial design, which is responsible for its success -- its universality (with the DNS) and its capacity for innovation (with NN).

The DNS issue has been controversial for a decade. The US oversees how Internet addressing works as a vestige of funding the network's initial creation. Increasingly, other countries believe that a global resource such as the Internet should be managed by the international community. Meanwhile, the question of network neutrality has emerged in recent years as telecom carriers (mainly in the US but increasingly elsewhere) have considered charging customers based on the type of traffic carried over their lines rather than simply offer neutral pipes for content. Such a commercial strategy would centralize the network that has proven so innovative because of its historic decentralization.

II. The Problem

On the surface, the two matters are unrelated: one a concern of national sovereignty and international relations; the other a commercial question of market power by private firms. But seen in another way, they are two heads of the same hydra: in both cases, the reaction by those who oppose the changes is deeply conservative. They seek to retain what they regard as the current beneficial attributes of the network by force of law and policy, rather than permit an openness that would let the Internet evolve in different ways, and leave it to Internet users through the market to decide what network approach is best.

This is ironic. Just as free speech is not intended for speech with which one agrees but for which one finds reprehensible, so too an open network should conceivably be open to change, even if it may winnow some of that very openness in return for other benefits (such as quality of service, security, diversity, or "fairness" in its management). Instead, the response by opponents of change is to enshrine the status quo in policy (in the case of the DNS) and federal law (in the case of NN in the United States).

Even if the proposed changes to the Internet are troubling, the reaction is problematic. The Internet's most successful feature and defining characteristic is its ability to dynamically evolve. Tying down any part of it -- be it its protocols, architecture or institutional framework -- is rather *un-Internet-like*. It risks harming the very thing that its supporters most want to preserve: the Internet's ability to innovate. It would probably even create new, unforeseeable problems. Moreover, it comes at a time when the earliest tenants of the Internet are being reexamined by the engineering community, who are investigating new network architectures with a clean-slate mentality (i.e., initiatives by the US National Science Foundation called FIND and GENI).

The dilemma, therefore, is over how to reconcile the inherent tension between keeping the Internet as it currently is (with the ICANN-sanctioned DNS, and with NN as its underlying architecture), while retaining the network's ability to evolve and mature (even if this throws into doubt these attributes of the net). The Internet must be stable at the same time as it remains open and flexible -- and invites changes using market forces to determine how its development takes place.

Both the proponents of change and supporters of the status quo have not come up with a good way to let this evolution happen. Locking the Internet in place (for example, by mandating only one DNS system, or obligating NN) represents a "closed" rather than "open" solution and undermines the Internet's regenerativity. On other hand, casting the Internet to the winds of the market alone, or government regulation alone, risks serious problems, too.

On one hand, markets sometimes embody market failures that are only known after harm is done, when it is usually too late to reverse the damage. On the other hand, legal remedies

often pre-judge how technologies ought function, which freezes the current system in place and makes subsequent innovations harder to implement. History offers a powerful lesson in this respect: the public-switched telephone network evolved slowly precisely because of government oversight of telecommunications -- for which it took the Internet, as revolution in communications design, to overthrow.

III. The Solution

In such a polarized situation, the goals seem mutually exclusive: keeping the Internet as it is, while enabling the Internet to change. It would seem that the world can't have it both ways; there is only one Internet, after all. However, this is actually a presumption, not a fact -- and the presumption itself is faulty. Why not let many different "internets" (with a lower-case "i") blossom -- that is, let numerous approaches to data-networking with the basic TCP/IP protocol try themselves in the market, at all layers along the network stack, and see which are worth using versus letting pass by the wayside?

To "have it both ways" in this respect -- the Internet of today as well as possible improvements of tomorrow -- trademark law could be used: "The Internet TM". This would represent the Internet as the network currently exists (with NN and the ICANN-sanctioned DNS), clearly delineated and protected by intellectual property rights. A trademark mechanism would not just usefully "lock-in" what many see as its positive attributes; it would also enable the network to easily co-exist with alternative approaches, but not preclude them or treat them as hostile threats (as is the case today, where what constitutes "the Internet" is amorphous).

Putting this idea into practice would not be especially hard. It would be necessary to define what the Internet is, based on its current principles. Much work has already taken place over decades in this respect, from David Clark's notion of the "end-to-end principle" to definitions offered by Robert Kahn, Karl Auerbach, and even the US Federal Communications Commission and other regulatory bodies. From this, a base-line definition could emerge.

An institution would be needed to carry out this definitional process (so it could be established, as well as so it can evolve) and uphold the trademark in the case of misuse. The risk is that the group and process re-creates the problems that bedeviled ICANN (such as being open, internationally representative, multi-stakeholder, etc.). But it need not be so controversial, since its legitimacy would be founded only on the basis of those who chose to recognize it, rather than any formal power it has (much like the technical consensus process of the Internet itself, in the era of Jon Postel).

This could happen through an organization such as the Internet Society, which was founded by the network's earliest engineers in 1991 for just this type of "political" purpose, and already serves as the custodian of Internet technical-standards documents by the IETF. (Indeed, in the late 1990s, ISOC paid to fight to a legal battle to see that a private company was stripped of an earlier trademark on the term "Internet" at the US Patent and Trademark Office; the term was initially applied to automatic bank-teller cash machines, and post-dated TCP/IP, thus there was clear prior use.)

Once "The Internet TM" is established, the market can do its job. First, this would spark disclosure by service providers as to whether they adhere to the concept of NN, and route traffic using the ICANN DNS (of course, they could always supplement this with additional online addressing and navigational systems). Second, network operators that advertise themselves as providing "The Internet TM" service would have to uphold those principles. If

not, they would likely be in breach of consumer-protection rules such as false advertising or deceptive trading practices, and thus regulatory agencies could take action. Firms that mislead customers might also open themselves up to liability from shareholders lawsuits if they were a publicly-traded company.

Also, those network operators would be contravening the terms of use of the trademarked term, which could have its own penalty. Yet the disclosure principle would hopefully be enough to compel network operators to comply with good "Internet" practices, since educated consumers might refuse to use operators that did not.

The benefit of this approach is that network service providers, like the AOLs and CompuServes of yesteryear, could adopt new approaches to data-networking that differ from the current design of the Internet, such as routing alternative domains or charging users based on traffic type. But it would not be illegal to do, which existing proposed legislation would prohibit. Additionally, the world's first commercial "Darknet" (a private, anonymous Internet-like network) is poised to start operation in 2006 in Sweden, which suggests that the day is nearing when a definitional understanding of what constitutes the Internet will be needed.

Over time, "The Internet TM" might emerge as a sort of brand, such as Dolby Noise Reduction or the "E" for the European Union compliance that appears on many electrical products cleared for use in the Europe. We can imagine that the Internet would be the default or de facto standard, as it is today (since for the moment no real alternatives exist, which itself speaks to the existing Internet's success). The difference is that alternative approaches would not be presumptively prohibited or precluded from being introduced, which might otherwise be the case, unless there were a way for different network deployments to co-exist peacefully. Trademark law, in this respect, could be the way to make this happen.

IV. Conclusion

This is a "Gordian Knot" approach -- a single, swift action that constitutes a clean break to solve the problem. It presumes that holding on so firmly to the current state of the Internet actually risks strangling it, akin to the tale of the man who loved a bird so much that he kept it tightly grasped, only to discover that he crushed it.

The use of trademark law is permissive rather than restrictive -- it will allow newness, while clearly demarcating the traditional approach, and giving it a formal way to remain in tact. This is particularly important as the Internet moves forward. Where in the past, the chief threat to the Internet came from the potential for a plethora of variants that jeopardized its universality, today the central risk is its uniformity that undermines the network's ability to change.

One fear of this approach may be that multiple variants of the network would "fracture" the net; this is the argument against differentiated service (which erases the benefit of NN) and alternative roots (which dilutes the authority of the ICANN DNS). Yet these concerns seem overblown. There are so many examples of multiple technical standards in everything from wireless communications (CDMA versus UMTS, as well as differing frequency bands) to electrical voltage (110, 220 and more) that heterogeneity is the norm, and the Internet's singularity actually is the exception. Moreover, technology is able to meld to human needs. Mechanisms that act as translators, converters, gateways and bridges emerge in other domains, be it currency trading or language, it would certainly develop in this situation, too.

Ultimately, “The Internet TM” is a mechanism of closedness that preserves openness. That is, it uses trademark law’s restrictiveness to maintain the current Internet approach as the standard, but does this at the same time as it welcomes newer approaches. Moreover, it leaves it to users themselves to determine which system they wish to use. The Internet, like markets, has always relied on experimentation, diversity and free choice as the way to decide which technologies get deployed, rather than deferring to decisions made before the fact by a central authority that presumes to know best.

It would be peculiar if a network characterized by continual change would have elements of it that could never change. Yet the risk is that a well-meaning attempt to preserve the Internet’s openness could actually render it totally closed. Enshrining the Internet in trademark law would enable it to evolve rather than remain static. In the past, we spelled the Internet with a capital “I”; now we may wish to capitalize the ‘T’ as well, e.g., “The Internet TM”.

The Importance of Setting a Clearly Defined Issue Agenda

William H. Dutton

Director, Oxford Internet Institute, University of Oxford,
1 St Giles, Oxford OX1 3JS, UK (email: Director@oii.ox.ac.uk)

28 August 2006

The Internet Governance Forum (IGF) was an important step in creating a flexible procedural structure for identifying, discussing and addressing key related issues through a growing multi-stakeholder policy dialogue. However, most issues of Internet governance are being grappled with by many separate – but interdependent – actors and agencies at various levels. This has created a crucial need to identify issues, such as those related to development, that are either not ‘owned’ or not well understood in order to facilitate the creation of bridges between actors and agencies trying to tackle the same or similar issues (Dutton 2006¹).

A key aim in such a coordination process would be to ensure substantive issues are not neglected and a balance of interest and effort is maintained across the Internet governance spectrum. The IGF is in an excellent position to play a pivotal coordinating role in shaping and lightly guiding such an approach. Table 1 suggests a framework for a potentially productive way of categorizing diverse governance dimensions into manageable chunks within a big picture.² There are many overlaps and much interaction between the three governance types³ in this table.

Just because an issue is important to the future of the Internet does not necessarily mean it should be addressed by a body focused on Internet governance as such. But it is important that those stakeholders closest to an issue are engaged in their own arena’s governance process in ways that take account of relevant Internet dimensions. Those issues for which there is no adequate existing mechanism for dealing with Internet aspects should then either be brought to the attention of relevant stakeholders who have legitimate jurisdiction over the substantive issues, or an attempt should be made to create new forums or institutions to own substantive issues for which there is no clear current ‘home’, such as those concerned with socio-economic transformations tied to the use of emerging new ICTs (e.g. relating to

1 My submission to the IGF (Dutton 2006) on which this position paper is based originated as a presentation ‘Issues on Internet Governance’ presented to the Joint ICA-IAMCR Symposium on Internet Governance: New Political and Regulatory Frameworks for Global Network Communication, Kurort Rathen, Hotel Rathener, Germany, 15-18 June 2006. My thanks to Malcolm Peltu for his comments on an early draft.

2 This table and other analyses in this paper draw on various research initiatives at the Oxford Internet Institute (OII), particularly an international forum on Internet governance (see Dutton and Peltu 2005) and a series of seminars reflecting on civil society participation in the WSIS (supported by grant RES-451-26-0295 from the UK Economic and Social Research Council, see www.oii.ox.ac.uk/research/project.cfm?id=30).

3 For more detail of these types, see Dutton and Peltu (2005) and Dutton (2006).

important differential social and cultural impacts of use that may affect disadvantaged countries, regions and groups⁴).

Table 1: Classification of Internet governance for development issues

Type	Key issues	Examples relevant to development
I: Internet Centric	Protection and advancement of the Internet's core open architecture and operational infrastructure, including the preservation of its independence from undue influence by particular stakeholders. Smooth evolution of efficient, reliable, secure core Internet architecture and operations. Timely adaptability to continuing and often rapid technological and other changes affecting the Internet.	Global standards setting to enable equitable access to the Internet and World Wide Web. Assignment of Internet addresses and routing of data traffic in ways that do not privilege certain countries, enterprises or other stakeholders. Maintenance of stability of Internet Protocol (IP) to allow innovations (e.g. wireless technologies) that can assist disadvantaged areas and groups.
II: Internet-User Centric	How use or misuse of the Internet is regulated and policed within local, regional, national and international levels and jurisdictions in ways that safeguard users' interests while avoiding the stifling of adaptability to rapid change and user creativity that has propelled the Internet's growth.	'Network neutrality' treating all Internet users and uses equitably. Closing divides in access and user capacities to assist socio-economic development. Free and 'open source' software. Consumer protection for users. Violations of users' privacy. Cybercrimes (e.g. online fraud). Viruses and other 'badware'.
III: Non-Internet Centric	Policy and practice anchored in local and international bodies and jurisdictions not concerned primarily with Internet-related issues. The main issues here concern the intersections between wider governance processes and Internet infrastructure development and use. Covers a vast range of socio-economic issues.	Closing digital divides other than in Internet access (e.g. relating to wealth, age, gender). Supporting cultural and linguistic diversity. Freedom of expression and communication (e.g. degree, or absence, of political or commercial control over content). Copyright, intellectual property rights (IPR), trademarks.

Source: Developed from Table 1 in Dutton and Peltu (2005: 7)

The next steps for the IGF should be to focus on identifying the key substantive issues and their most relevant solution owners, while developing coordination processes to ensure all issues are addressed in the most appropriate forums for their effective resolution. Defining the first issue agenda for the IGF could therefore be the critical point in shaping IGF deliberations and outcomes. However, Internet governance discussions can appear to be remote and

⁴ See Dutton (2006).

intangible to many stakeholders wrestling with complex substantive issues of policy and practice, such as addressing health or educational divides. This means the practical implications of the agenda should be clearly explained in terms that enable relevant stakeholders to appreciate which Internet governance aspects are of particular relevance to achieving their own aims.

My concern with the emerging set of issues being raised within the IGF is their broad scope. For example, 'access' is a very general issue, potentially encompassing all of those in Table 1. My own work has argued that the major issues of information politics in the digital age can be conceptualized as issues of 'reconfiguring access' (Dutton 1999; 2004; Dutton et al 2003).

The political scientist E. E. Schattschneider (1960: 2) once compared political conflict to a fight: 'Every fight consists of two parts: (1) the few individuals who are actively engaged at the center and (2) the audience that is irresistibly attracted to the scene... The outcome of every conflict is determined by the extent to which the audience becomes involved in it.' Contestants with a clear lead in such a conflict might well try to defend the status quo by keeping their own side intact while keeping the spectators in the stands. In contrast, losing contestants can change the odds by dividing their opponents or drawing spectators into the game⁵.

The IGF could have a major role in shaping the future of Internet governance by establishing an agenda that defines and explains the key issues in ways that draw the appropriate actors into effective multi-stakeholder dialogues and policy development that comprehensively address the main Internet governance needs. If the political nature of debate over Internet governance moves the IGF towards an agenda based on issues that are so general they can be defined in a variety of ways by different stakeholders, too many spectators may be invited onto the field. Clearer and more precisely defined issues are more likely to bring in the most relevant stakeholders, and permit other spectators to stay in the stands – although if too narrowly focused, say on technical issues, many key actors could be excluded. Our discussions this week at the OII should seek to clarify what a balanced, sharply-focused Internet governance for development agenda should look like.

References

- Dutton, W. H. (1999), *Society on the Line: Information Politics in the Digital Age*, Oxford: Oxford University Press.
- Dutton, W. H. (2004), *Social Transformation in the Information Society*, Paris: UNESCO Publications for the WSIS.
- Dutton, W. H. (2006), 'Addressing the Issues of Internet Governance for Development: A Framework for Setting an Agenda for Effective Coordination', paper submitted to the first Internet Governance Forum.
http://www.intgovforum.org/Substantive_1st_IGF/Dutton-IG4D-30July06.pdf
- Dutton, W. H., and Peltu, M. (2005), 'The Emerging Internet Governance Mosaic: Connecting the Pieces', OII Forum Discussion Paper, No. 5, Oxford: Oxford Internet Institute, University of Oxford. Available at www.oii.ox.ac.uk/resources/publications/FD5.pdf

⁵ This discussion draws from Dutton (1999): 83-84.

Dutton, W. H., Gillett, S. E., McKnight, L. W. and Peltu, M. (2003), 'Broadband Internet: The Power to Reconfigure Access'. OII Forum Discussion Paper No. 1., Oxford: Oxford Internet Institute, University of Oxford.

Schattschneider, E. E. (1960), *The Semi-Sovereign People: A Realist's View of Democracy in America* (New York and London: Holt, Rinehart, and Winston).

Mapping A Diverse Diversity Debate: An Initial Review of Submissions to the First IGF Forum Meeting

Urs Gasser*

Research Center for Information Law, University of St. Gallen
Berkman Center for Internet & Society, Harvard Law School

Introduction

A systematic review of all the contributions to the first IGF meeting that are available on the official website⁶ reveals that more than a quarter of all submissions have explicitly addressed the *diversity theme*. At least a dozen contributions have devoted one paragraph or more to diversity and/or issues related to it, including access to local content and multilingualism.⁷ However, the review also makes it clear that the

* Email: ugasser@cyber.law.harvard.edu. Thanks to Silke Ernst and Nicholas Bramble at the Research Center for Information Law at the Univ. of St. Gallen (www.fir.unisg.ch) for research assistance, and to Daniel Haeusermann for helpful comments.

⁶ http://www.intgovforum.org/contributions_for_1st_IGF.htm, as of August 25, 2006.

⁷ National Telecommunication Regulatory Authority, Egypt, *Enabling Access Using Broadband: A Multistakeholder Approach*, http://www.intgovforum.org/Substantive_1st_IGF/NTRA_Egypt.pdf; Andrzej Bartosiewicz, *An Overview of ITU-T Internationalized Domain Names activities*, http://www.intgovforum.org/Substantive_1st_IGF/04%20-%20IGF-IDN.doc; ITU/BDT/HRD, *Youth Programme*, http://www.intgovforum.org/Substantive_1st_IGF/06%20-%20IGFYouth%20Programme.doc; Council of Europe, http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc (discussing role of states in internet governance); OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf; The South Centre, *Internet Governance for Development*, http://www.intgovforum.org/Substantive_1st_IGF/SouthCentreGGDPAnalyticalNoteIGF.pdf; UNDP Asia-Pacific Development Information Programme, *Internet Governance Public Policy Issues from the Asia Pacific Region*, <http://www.intgovforum.org/contributions/UNESCAP-APDIPIGF.doc>; Government of Quebec, http://www.intgovforum.org/Substantive_1st_IGF/gouvduquebec.pdf (discussing fundamental principles of internet governance); International Chamber of Commerce, *Issues Paper on Internationalized Domain Names*, http://www.intgovforum.org/Substantive_1st_IGF/Issues%20Paper%20on%20Internationalized%20Domain%20Names.pdf; WSIS Civil Society Working Group, *Scientific Information*, http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-oa.pdf; WSIS Civil Society Human Rights Caucus, http://www.intgovforum.org/Substantive_1st_IGF/HR_Athens.doc; *Indigenous ICT Taskforce*, http://www.intgovforum.org/Substantive_1st_IGF/IGF_contr.f.doc; Yale Information Society Project, *Best Practices for Internet Standards Governance*, http://www.intgovforum.org/Substantive_1st_IGF/BestPracticesforInternetStandardsGovernance.pdf; IP Justice, *Realizing the Internet's Promise of Universal Access to Knowledge and Development*, http://www.intgovforum.org/Substantive_1st_IGF/IPJustice_IGF_Submission_2August2006.pdf; William

discourse about diversity is a very heterogeneous one. Arguably, the first challenge for the IGF is to differentiate among various socio-economic, technical, legal, and cultural aspects that are discussed under the heading “diversity”, and to identify areas where the IGF - given its mandate and institutional characteristics -- can effectively contribute to the further development of a diverse digital ecosystem. Against this backdrop, this position paper seeks to outline a rough framework for the current diversity debate, and seeks to map some of the key issues explored in the submissions.

Framing the Issues

The framework is divided into four elements: core issues, key players, strategies and approaches, and challenges.

1. Core issues:

The diversity debate covers a broad range of subtopics, both Internet-specific aspects and more general issues.⁸ General issues include, among others, socio-economic and educational concerns such as (il-)literacy.⁹ As to the Internet-specific discussion about diversity, one might map the core issues onto three layers of the Internet, i.e., its physical, logical, and content layers.

- At the physical layer, issues such as equal access to and good availability of computing hardware and network infrastructure are frequently identified as core elements (or even prerequisites) of “diversity”.¹⁰ Among the topics considered in this context are decentralized ownership of core network infrastructure¹¹ and the importance of Internet Exchange Points.¹²
- At the logical layer, the debate about the internationalization of domain names (IDN) has been paramount. Several contributors have encouraged the IGF to take the lead

H. Dutton, Oxford Internet Institute, *Addressing the Issues of Internet Governance for Development: A Framework for Setting an Agenda for Effective Coordination*, http://www.intgovforum.org/Substantive_1st_IGF/Dutton-IG4D-30July06.pdf; JFC Morfin, INTLNET, *Multilingual Internet*, http://www.intgovforum.org/Substantive_1st_IGF/e-mdrs-intro.pdf.

⁸ For a classification of Internet governance development issues, see William B. Dutton, Oxford Internet Institute, *Addressing the Issues of Internet Governance for Development: A Framework for Setting an Agenda for Effective Coordination*, http://www.intgovforum.org/Substantive_1st_IGF/Dutton-IG4D-30July06.pdf.

⁹ See, e.g., ITU/BDT/HRD, *Youth Programme*, http://www.intgovforum.org/Substantive_1st_IGF/06%20-%20IGFYouth%20Programme.doc

¹⁰ See, e.g., National Telecommunication Regulatory Authority, Egypt, *Enabling Access Using Broadband: A Multistakeholder Approach*; OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf; WSIS Civil Society Working Group, *Scientific Information*, http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-0a.pdf; WSIS Civil Society Human Rights Caucus, http://www.intgovforum.org/Substantive_1st_IGF/HR_Athens.doc.

¹¹ IP Justice, *Realizing the Internet's Promise of Universal Access to Knowledge and Development*, http://www.intgovforum.org/Substantive_1st_IGF/IPJustice_IGF_Submission_2August2006.pdf.

¹² OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf.

on the building of an IDN framework.¹³ The IDN debate can be seen as part of a broader debate on multilingualism,¹⁴ which -- in turn -- is itself an important sub-cluster within the diversity debate. In the same thematic context, some IGF submissions examine the respective roles of software developers (e.g., Operating Systems, Browsers, translation software) and service providers in the development of tools such as multilingual search engines.¹⁵

- At the content layer, the importance of local content as a building block of a diverse information environment has been explored in several contributions.¹⁶ Linguistic diversity is another, related aspect of (cultural) diversity that is frequently mentioned.¹⁷ And from a structural perspective, the diversity of content providers has come up for discussion.¹⁸

2. Key Players:

By and large, the submissions concerning diversity are issue- rather than stakeholder-oriented. However, as mentioned above, several contributors have identified, at various levels, important players that enable a diverse information ecosystem, including Internet Exchange Points, software developers, content providers, etc. The role of the private sector has been emphasized in a series of submissions.¹⁹ With regard to the content layer in general and the

¹³ See, e.g., Andrzej Bartosiewicz, *An Overview of ITU-T Internationalized Domain Names activities*, http://www.intgovforum.org/Substantive_1st_IGF/04%20-%20IGF-IDN.doc; International Chamber of Commerce, *Issues Paper on Internationalized Domain Names*, http://www.intgovforum.org/Substantive_1st_IGF/Issues%20Paper%20on%20Internationalized%20Domain%20Names.pdf.

¹⁴ See, e.g., Council of Europe, http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc (discussing role of states in internet governance); The South Centre, *Internet Governance for Development*, http://www.intgovforum.org/Substantive_1st_IGF/SouthCentreGGDPAnalyticalNoteIGF.pdf; UNDP Asia-Pacific Development Information Programme, *Internet Governance Public Policy Issues from the Asia Pacific Region*, <http://www.intgovforum.org/contributions/UNESCAP-APDIPIGF.doc>.

¹⁵ See, e.g., ITU/BDT/HRD, *Youth Programme*, http://www.intgovforum.org/Substantive_1st_IGF/06%20-%20IGFYouth%20Programme.doc; Council of Europe, http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc (discussing role of states in internet governance); WSIS Civil Society Working Group, *Scientific Information*, http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-0a.pdf; OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf.

¹⁶ See, e.g., National Telecommunication Regulatory Authority, Egypt, *Enabling Access Using Broadband: A Multistakeholder Approach*, The South Centre, *Internet Governance for Development*, http://www.intgovforum.org/Substantive_1st_IGF/SouthCentreGGDPAnalyticalNoteIGF.pdf; WSIS Civil Society Working Group, *Scientific Information*, http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-0a.pdf; *Indigenous ICT Taskforce*, http://www.intgovforum.org/Substantive_1st_IGF/IGF_contr.f.doc.

¹⁷ See, e.g., UNDP Asia-Pacific Development Information Programme, *Internet Governance Public Policy Issues from the Asia Pacific Region*, <http://www.intgovforum.org/contributions/UNESCAP-APDIPIGF.doc>; Council of Europe, http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc (discussing role of states in internet governance). See also paragraph 53 of the Tunis Agenda.

¹⁸ See OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf.

¹⁹ Most prominently, probably, in OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf. See also Council of Europe,

production of local content in particular, governments and civil society institutions have been identified as important enabling forces and drivers, respectively.²⁰ At the logical layer of the diversity debate, several contributions have emphasized the role of standard setting bodies (e.g., ISO)²¹ -- as well as their responsibilities.²² Interestingly, less emphasis has been put on the role of Internet users themselves as providers of infrastructure elements (in peer-to-peer systems, OSS, peer-governance) or as active creators of diverse and local content.

3. Strategies and approaches:

Naturally, the diversity-related submissions to the first IGF meeting have largely focused on issue spotting and awareness-raising. However, several contributions make suggestions regarding ways in which some of the issues outlined above might be addressed, using approaches such as technological innovation (including, e.g., software development),²³ market forces,²⁴ public-private-partnerships,²⁵ government funding,²⁶ and national policies and laws.²⁷ Other contributions have mentioned the benchmarks of any governance activities concerning diversity, including conformity with international principles of law.²⁸

4. Challenges

Obviously, each diversity-related set of issues outlined above calls for specific responses or actions by a variety of stakeholders. Each response, in turn, is associated with particular challenges. While the contributions have not focused on this particular aspect, this review has made clear that the challenges are at least twofold:

http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc

(discussing role of states in internet governance).

²⁰ See, e.g., The South Centre, *Internet Governance for Development*,

http://www.intgovforum.org/Substantive_1st_IGF/SouthCentreGGDPAnalyticalNoteIGF.pdf; WSIS Civil Society Working Group, *Scientific Information*, http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-oa.pdf.

²¹ See, e.g., Government of Quebec, http://www.intgovforum.org/Substantive_1st_IGF/gouvduquebec.pdf (discussing fundamental principles of internet governance); International Chamber of Commerce, *Issues Paper on Internationalized Domain Names*,

http://www.intgovforum.org/Substantive_1st_IGF/Issues%20Paper%20on%20Internationalized%20Domain%20Names.pdf.

²² See, e.g., Yale Information Society Project, *Best Practices for Internet Standards Governance*,

http://www.intgovforum.org/Substantive_1st_IGF/BestPracticesforInternetStandardsGovernance.pdf;

Government of Quebec, http://www.intgovforum.org/Substantive_1st_IGF/gouvduquebec.pdf (discussing fundamental principles of internet governance).

²³ See ITU/BDT/HRD, *Youth Programme*, http://www.intgovforum.org/Substantive_1st_IGF/06%20-%20IGFYouth%20Programme.doc, for an example/case study.

²⁴ OECD, *Internet Traffic Exchange: Market Developments and Measurement of Growth*, http://www.intgovforum.org/Substantive_1st_IGF/36462170.pdf.

²⁵ WSIS Civil Society Working Group, *Scientific Information*,

http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-oa.pdf.

²⁶ The South Centre, *Internet Governance for Development*,

http://www.intgovforum.org/Substantive_1st_IGF/SouthCentreGGDPAnalyticalNoteIGF.pdf.

²⁷ See, e.g., WSIS Civil Society Working Group, *Scientific Information*,

http://www.intgovforum.org/Substantive_1st_IGF/si-synthesis-oa.pdf.

²⁸ See, e.g., Council of Europe,

http://www.intgovforum.org/Substantive_1st_IGF/CoE%20submission%20to%20the%20IGF.doc (discussing role of states in internet governance).

- Most challenges associated with attempts to foster “diversity” are substantive in nature and vary depending on the issues addressed and the approach taken. In addition, corollary challenges like technical complexity²⁹ and security issues, as well as IP-related problems³⁰ and cultural concerns³¹ may arise as well.
- The procedural challenge relates to the institutional design of the processes that are required to address specific issues -- the establishment of an IDN system, for example. Here, the term diversity gains a different, procedural meaning: when governance mechanisms such as standard setting processes are to be designed, the divergent viewpoints of various stakeholders must be given due consideration.³²

Conclusion

An initial analysis of the contributions to the first IGF meeting confirms the impression that the “diversity” debate includes a broad range of topics. This position paper has outlined the contours of a framework that might be helpful to map the various issues addressed in the respective contributions. The challenges faced by the IGF, however, go far beyond analysis and categorization. First, the many items on the diversity agenda have to be prioritized. Second, the IGF -- like other policy-makers (or “-shapers”) in cyberspace -- faces the challenge of synchronizing technological innovation and market development with regulatory evolution if it chooses to set diversity as an item on the regulators’ agenda. Third, the IGF needs to decide on the approaches, institutions, and structures that are apt to deal with the complex components (and the interactions among them) of a diverse information environment. In this context, the promise and limits of a laissez-faire approach to diversity need to be assessed as well. Fourth, the IGF faces the challenge of facilitating discourse among stakeholders from various cultural, societal, economic and legal backgrounds. A look at the history of (national) debates about diversity in electronic media in general and content diversity in particular suggests that these cultural differences will make any implementation efforts at the international level particularly tough.

Against this backdrop, the IGF would be well-advised to focus on specific and clearly defined issues (e.g., the IDN issue), while gaining a deeper understanding -- and raising awareness -- of the interplay among the many elements that are crucial for building and maintaining a diverse digitally networked information environment.

²⁹ See, e.g., International Chamber of Commerce, *Issues Paper on Internationalized Domain Names*, http://www.intgovforum.org/Substantive_1st_IGF/Issues%20Paper%20on%20Internationalized%20Domain%20Names.pdf.

³⁰ See, e.g., *Indigenous ICT Taskforce*, http://www.intgovforum.org/Substantive_1st_IGF/IGF_contr.f.doc.

³¹ See *id* (“language loss”).

³² See, e.g., Yale Information Society Project, *Best Practices for Internet Standards Governance*, http://www.intgovforum.org/Substantive_1st_IGF/BestPracticesforInternetStandardsGovernance.pdf.

The IGF as a New Approach to Transnational Governance

Jeanette Hofmann

Social Science Research Centre Berlin, Germany

Probably by accident rather than by political intention, the Internet has evolved into a transnational network, transnational to be understood in the way that Nye and Keohane defined the term in 1971.³³ Unlike the telephone system with its autonomous national networks, the Internet stretches across national borders. Moreover, crucial infrastructure services such as root servers or DNS registries may be under private control. The Internet thus can be seen as an example where private and public entities depend on each other. Neither can governments run the Internet the way they used to operate telecommunication monopolies, nor has the private sector so far succeeded in establishing a model of "self-governance" that would be capable of regulating Internet infrastructure resources without governmental oversight.

As Nye & Keohane also pointed out, transnational interactions as such are certainly not a new phenomenon. Private actors have always influenced international relations in significant ways, and the boundaries between public and the private spheres may have been more blurred than political theory was willing to acknowledge. However, what may have changed over the last two or three decades are the pervasiveness and the relevance of transnational policy arrangements. Trans-border cooperation between public and private entities has become ubiquitous and does affect the everyday life of citizens in many ways. The shift of political authority beyond the nation state and the rise of various forms of "private authority" (Hall & Biersteker 2002; Cutler, Haufler & Porter 1999) have gained increasing attention both in society and academia. International and transnational decision making bodies are being questioned for their lack of democracy and accountability. The "chain of legitimation" between domestic voters and diplomatic or ministerial delegations representing citizens in transnational policy negotiations is regarded as being too long, and civil society groups request a say in policy decisions that may affect them.

Several international and transnational organizations have been experimenting with new approaches that take into account the request for more transparency and public access. ICANN, for example, organized a global online election in 2000 in order to represent individual users on its board of directors. However, only a minority of individuals involved in ICANN at that time sympathized with this participatory approach and direct user representation on the ICANN board was dismissed a few years later. The UN has also embraced the idea of civil society and private sector participation. First steps date back to the UN Charter which

³³ "Thus, a transnational interaction may involve governments, but it may not involve only governments: Nongovernmental actors must also play a significant role. We speak of transnational communication, transportation, finance, and travel when we refer to nongovernmental or only partially governmental interactions across boundaries." (Nye & Keohane 1971: 332).

specified a "Consultative Status" for NGOs with ECOSOC. Another, more recent example is the Global Compact launched in 2000 with the goal of strengthening the UN's cooperation with the private sector in areas such as human rights or labour standards. The series of UN World Summits has also become a venue for governments, civil society and private sector to negotiate new forms of collaboration. WSIS has been the first UN Summit where non-state actors were explicitly invited to actively participate and advance the trendy multi-stakeholder approach.

Outcomes of WSIS such as the temporary Working Group on Internet Governance in 2004/2005 and the forthcoming Internet Governance Forum reflect and experiment with the multi-stakeholder approach. Both, WGIG and IGF embody the goal of new forms of transnational cross-sector collaboration below the crucial level of binding decision making. The World Summit has not delegated any authority to the IGF. As specified in the Tunis Agenda, the mandate of the IGF restricts the forum's activities to various forms of communication, facilitation, advice and, perhaps most daring, making recommendations "where appropriate". The outcome of the forum will thus not consist of official declarations, agreements or action plans. Instead it will take on the form of reports that recapitulate previous sessions and workshops, in other the contributions of the participants. At least in theory this looks like a very egalitarian approach as it holds the forum's attendees responsible for the quality of its results.

The IGF has no formal authority, but even the softest forms of power such as offering a platform for dialogue and discourse require a certain degree of international reputation and legitimacy in order to be accepted. As yet, the forum doesn't have any reputation and legitimacy; it will need to earn it. In particular, it needs to convince the sceptical observers who predict that the IGF will end up as a mere "talk shop". The challenge for the IGF is to create a communicative space that enables participants to address in a productive manner concrete problems related to Internet Governance. This year, the IGF approaches this task by emphasizing the interactive nature of the sessions and workshops that aim at bringing together the various views and concerns surrounding each topic under discussion.

The overall theme of the first IGF meeting is Internet Governance for Development with capacity building as a cross-cutting issue. To some degree the general theme and the four sub-themes reflect and develop further selected strands of debate and common understandings of WSIS. First of all, this concerns the acknowledgement that Internet Governance "should constitute a core issue of the Information Society agenda" (Declaration, para 48). Second, it concerns the acknowledgement that Internet Governance has evolved into a comprehensive policy field comprising "more than Internet naming and addressing", as the Tunis Agenda states (para 58). Third, it concerns the understanding that Internet Governance combines "social, economic and technical issues" (Tunis Agenda, para 58); and finally the consensual principle that "the ongoing and active evolution of the current arrangements" in Internet Governance requires a multi-stakeholder process (Tunis Agenda, para 61) that "maximizes the participation of developing countries" (Tunis Agenda, para 65).

The WSIS process has established a set of important principles for the further development of Internet Governance. It will be one of the tasks of the IGF to interpret, prioritize and apply these principles in the context of practical challenges and objectives. The four sub-themes form a first organizing step in this direction. They are worded in terms of general categories so that a broad variety of stakeholders can relate to them. While the focus of each sub-theme may also depend on the interests articulated throughout the interactive sessions and workshops, there are obvious links across these themes. This is certainly true for "Openness" and "Security". One of the benefits of the forum will be to bring together experts from both of these fields and discuss "the burning issues" of one area in light of the other.

The draft program of this year's IGF meeting rightly describes Openness as "one of the key founding principles and characteristics of the Internet". Given the growing security concerns in many OECD countries, Openness seems also good approach to discuss potential implications of new forms of cyber security for the Internet architecture.

However, one of the important topics of WSIS seems conspicuously absent from the first IGF agenda. None of the four sub-themes addresses issues such as the management of Internet names and numbers, "political oversight" in Internet Governance or the open question of "public policy issues pertaining to the Internet" (Tunis Agenda, para 69). It is not without irony that these disputed topics that triggered the IGF as an institutional innovation in the first place are not mentioned in this year's program. It is understandable and probably wise to direct the first IGF meeting towards less controversial topics promising more constructive results. Yet, in the long run it seems important to also develop discursive formats that would allow for coping with political conflicts relating to Internet naming and addressing.

Transnational forms of governance depend on new participatory structures and processes to become more legitimate. The IGF may contribute to this development.

Comments on the Future of ICANN

Wolfgang Kleinwächter

University of Aarhus

1. The Legal Personality of ICANN

One of the problems around ICANN is that it represents an innovation in international politics. It does not follow an established model under contemporary international law. As a private corporation it is not a subject under international law, however ICANN deals with governments by communicating according to vague defined procedures via the Governmental Advisory Committee (GAC). The GAC, although it has governments as members, is not an intergovernmental organisation. It is not a decision making body but an advisory body which is in a formal sense no subject of international law. This is one source of confusion.

To remove the confusion there is no way back to “traditional models”. ICANN has to move forward and to develop new innovative procedures and practices. Taking into consideration that ICANN itself is an innovation it makes only little sense to investigate whether models in international politics are available which could be followed by ICANN. While it is true that special examples, practices and procedures between international non-governmental organisations and individual governments can be a source of inspiration, ICANN and the ICANN community should recognize that ICANN itself is a model which reflects the new needs of the information age for multistakeholder policy development processes.

During the “World Summit on the Information Society” (WSIS) the heads of states of UN members recognized that the principle of multistakeholderism is a fundamental principle for the information society in general and in particular for the governance of the Internet. Multistakeholderism was defined as the “full involvement of governments, private sector and civil society” in policy development and decision making. All three main stakeholder groups are involved in ICANNs policy development and decision making processes. However there is a high level of dissatisfaction among stakeholder groups about the practice of the real involvement in ICANNs policy development and decision making. The only way forward for ICANN is to improve the processes and procedures for policy development and decision making.

2. Procedural Issues for the Interaction among Stakeholders within ICANN

Neither WSIS nor WGIG defined in detail how the interaction among the three stakeholder groups should be formalized. This is an opportunity for ICANN to develop innovative

procedures. As a first step ICANN should develop more formalized procedures for interaction among the ICANN Board, the Supporting Organisations (SO) and the Advisory Committees (AC). While some procedures are already in place (one example are the procedures under Article 11, Section 2.1 of ICANN Bylaws for the relationship between the Board and the GAC), the whole system of procedural interaction among stakeholders within ICANN gives still a lot of room for improvement. Very often it is unclear, how the Board has to deal with recommendations coming from SOs or ACs and how conflicts between the Board and SOs/ACs are settled.

While formalized procedures should offer a certain degree of flexibility, it should provide also clarity for stakeholders what they have to do in cases where they either want to make a proposal or a policy recommendation or where they disagree how the Board deals with an issue or a recommendation coming from this specific stakeholder group.

ICANN could consider to establish “Joint Mediation Committees” which would be activated in cases of conflict between the Board and a SO/AC. In such a committee representatives from both sides could discuss the controversial issues and try to find a compromise or “rough consensus”. Such a formalized procedure would allow to channel complaints in a bottom up way and would build trust into ICANNs institutions and the whole PDP system within ICANN.

This relates in particular to the relations between the Board and the ALAC, after ICANNs reform in 2002 abolished the direct election of ICANN At Large directors. It would make sense to consider the establishment of a joint Working Group between the ICANN Board and ALAC, similar to the joint Working Group between the Board and the GAC. It could be also considered, to give more clear guidelines to the NomCom with regard to the nomination of NomCom directors representing the At Large stakeholder group. The fact that the At Large stakeholder group has only one non-voting director in the board is a matter of great concern, undermines the acceptance and legitimacy of ICANN and invites governments, who claim to represent individual Internet users of their country, to step in.

The only way forward is not to go back to a purely intergovernmental or purely private sector group but to improve the process of interaction among the stakeholder in policy development and decision making by recognizing and practisizing the so called horizontal principles of Internet Governance like openness, transparency, accountability, democracy etc.

3. Relationship with the US Government

ICANNs relationship with the US government is one of the main source of concern for many Internet communities. These concerns have two dimensions: One is the legal seat of ICANN and its incorporation under Californian Law. The other one is the contractual relationship with the Department of Commerce. Both issues are formally not directly linked and should be treated separately.

A. The Place of Incorporation

While the place of incorporation is an issue of concern, it must not be a major barrier for independent ICANNs policy development and decision making. As Janis Karklins has said, a lot here is “perception”. However, symbolism plays a great role in politics.

Hans Correll has proposed to look into models how other NGOs under US federal or state law have made special arrangements to be protected against political interference from the host country. A special US Presidential Executive Order, as mentioned by Hans Correll (with regard to ISDC, IASI and IFPRI), could make sense. It could also make sense to look into the practice of other non governmental global institutions which deal with “global issues” and cooperate with governments.

Next to the “International Red Cross”, the “World Soccer Federation” (FIFA) and the “International Olympic Committee” (IOC) are two interesting cases. Both private organisations are incorporated under Swiss legislation but do not have a formal relationship with the Swiss government or any other government. However, the events both the IOC and FIFA are organizing need a high involvement of governments, in particular of the government of the host country for the Olympic Games or the World Soccer Cup. Both events raise high sensible security issues and need a close relationship between the IOC/FIFA and the relevant government. Both FIFA and IOC have contracts with the relevant governments which define specific rights and responsibilities regardless of the fact, that IOC and FIFA are nongovernmental institutions and insofar not a subject under international law. However both organisation have a questionable record as openness and transparency is concerned and have been also involved in a number of corruption cases which also became the subject of congressional hearings (in the case of the Salt Lake City Olympic Winter Games in 2002).

One other (complementary) option could be to have a second Headquarter and to incorporate ICANN under the jurisdiction of another (European/Asian/African) country. This would give ICANN more flexibility for cases where the legal seat could become a problem. It would be also a confidence building measure for stakeholders who mistrust US policy. And it would offer alternatives to litigation.

Additionally, ICANN could consider to change the name of the corporation. While ICANN is already an established well-known trademark of its own, its name doesn’t say anything that it is an “international” or “global” corporation, different from a “national corporation”. By keeping ICANN in the acronym, the corporation could be renamed into GICANN or WICANN (Global/World Internet Corporation for Assigned Names and Numbers). This would be another confidence building measure and symbolize that ICANN, although incorporated under the jurisdiction of California, is not an American corporation.

B. The Contractual Relationship with the US Government

This relationship between ICANN and the US Department of Commerce has two elements: One is the Memorandum of Understanding (MoU), the other one is the IANA contract. Both contractual arrangements terminate September, 30, 2006.

i. MoU

The MoU between ICANN and the DOC should terminate as soon as possible under the condition that ICANN

- is embedded into a contractual system with all TLD registries and root server operators (relevant contractual arrangement can have different forms);
- has a functioning internal and external control mechanism;

- completes its reform which would guarantee that all processes are managed democratically, openly, transparent and in due course on the basis of agreed procedures and under full involvement of all stakeholders and
- specifies its relationship with the GAC for cases which have a clear public policy component and are related to the political security and stability of the Internet.

It seems to me that there is still more time needed before ICANN can be released into independence.

ii. IANA Contract

The IANA contract is different both with regard to the legal nature and the substance. Historically the US government has moved into a position to make the final decisions with regard to modifications, deletion and additions of TLD Root Zone Files to the Internet Root Server System, including ccTLDs. This is seen as a key element to maintain the security and stability of the Internet. The function to authorize the publication of TLD root zone files is a mainly technical function, however it has raised a high degree of political concern, in particular in the WSIS process. The unilateral oversight role of the US government is also used more and more by individual groups and national governments to justify efforts to develop additional or alternative root server systems which have the potential to undermine the unity of the global internet (in particular if it comes to iDNs on the TLD level).

It makes no sense to “internationalize” the oversight over the root in a way that instead of one government a group of government overtakes the functions as they have been executed by the US government. The Burr/Cade proposal has a lot of risks to contribute to a counterproductive politicization of this technical issue. As Karkelins has said, only the question how to compose such an “intergovernmental oversight group” could lead to endless controversial diplomatic battles.

To reduce the level of concern there could be four interrelated efforts:

- a unilateral declaration of the US government (along the lines of Article 62 of the Tunis Agenda) that the US government will not interfere into decisions regarding another country’s country code TLD. The language of such a unilateral declaration should go beyond the formulation, used in the declaration of the four principles from June, 30, 2005 and express not only “the recognition” of the concerns by national governments but indicate clearly, that nothing will be done to interfere into the management of the relevant ccTLD root zone file (in particular with regard to deletions of ccTLD Root Zone Files in the hidden root server).
- A more automated formalized procedure for modifications of ccTLD root zone files, as developed and proposed under eIANA by NARSK
- The development of a procedure for bilateral interaction among individual governments and IANA for cases, where a national government has a political concern with regard to the management of the national ccTLD and which can not be managed in cooperation between the ccTLD Registry and IANA.
- The development of a procedure how to deal with individual cases with regard to deletions, modifications and additions of root zone files to the Internet root server system where two or more national governments have expressed a political concern. Such concerns could be discussed by an ad hoc joint GAC/IANA Committee which

would be activated only if a formal request from more than one government for an individual case is made.

Realising the Potential of the Internet Governance Forum

Desiree Miloshevic*

Background

Internet governance as carried out per Geneva principles is recognised as “an essential element for a people-centred, inclusive, development-orientated and non-discriminatory Information Society”.

The first meeting of the Internet Governance Forum (IGF) will take place in Athens on 30 October – 2 November 2006. It will initially address four main topics: **openness, security, diversity** and **access**. The IGF is expected to subsequently address other public policy issues that are also of a “cross-cutting”¹ nature and “do not fall within the scope of any existing body”², but are of equal importance for achieving the IGF goals, such as ICT capacity building and bridging the digital divide, as well as contributing to reaching the Millennium Development Goals.

IGF success parameters

Following the Tunis Agenda, the UN Secretary-General will examine the IGF’s viability in 2011. If the IGF is successful, we may see its continuation. Looking ahead, the success of the IGF will depend on many factors, but it should include the following:

(1) Avoid becoming a “simple” continuation of the WSIS process. To avoid some of those perceived problems of WSIS, the IGF should work on securing *better participation* of all stakeholders: governments, private sector, civil society, the Internet technical community and academia. It should aim to involve more participants and outsiders in its process and mobilize their efforts, especially from the developing nations, by reaching out to individuals and organizations that are actively addressing the relevant issues.

(2) Avoid becoming just another public policy “road show”. The IGF should work *towards getting the right balance between public participation and framing of discussions at*

* Desiree Miloshevic is an ISOC board member, special adviser to the IGF Chair, and international affairs and policy adviser for Afiliias, the domain registry; the views expressed here are her personal opinions and do not necessarily reflect the opinions of those organisations.

¹ as set out in paragraph 72b of the IGF mandate of the Tunis Agenda:
http://www.itu.int/wsis/documents/doc_multi.asp?lang=en&id=2267%7C0

² as set out in paragraph 72b of the IGF mandate of the Tunis Agenda:
http://www.itu.int/wsis/documents/doc_multi.asp?lang=en&id=2267%7C0

appropriate levels. Remote participation considerations are also related to this issue. In order to not repeat some of the shortcomings of many “far flung” Internet conferences where physical attendance is required (e.g. ICANN, though ICANN facilitates good public participation), the IGF should work towards making *remote participation the centrepiece*, and making the physical meetings almost secondary. The challenge is to do so without the signal-to-noise ratio going to zero, i.e. finding the right balance for public participation.³

(3) Adopt ISOC’s ‘case study’ approach⁴ for each of the public policy issues by *building issue-awareness* through a case study approach and emphasizing best practice and expertise sharing. By exposing current challenges faced by developing countries, this approach would facilitate and drive discussions towards the more concrete and practical, “what can be done” level by making them visible to all multi-stakeholders and non-technical players. For example, the IGF could focus on existing projects that showcase technology, business, policy and regulatory practices that are directly relevant to solving issues of access, such as deployment of network infrastructure in less developed countries and rural areas with different economies of scale, thus improving accessibility and diversity.

(4) Educational and practical outcomes. The forum’s success will also be judged by both *educational and practical outcomes*, such as:

- the degree to which it brings further understanding of the Internet’s underlying core values and principles that are worth preserving, such as openness, inter-operability and the end-to-end (or neutrality) principle;
- an understanding of how the Internet works; by understanding which organisations are in charge and their current policies and best practices;
- the degree to which it brings together stakeholders and helps create and deliver new, innovative projects;

(5) Build *financing* mechanisms and strong *voluntary support* for the IGF activities. It relies on support and coordination among all stakeholders on national, regional and international levels.

Conclusion

The IGF’s mandate includes informing policy makers, organisations and Internet users worldwide about some of the most important public policies that relate to the use of information and communication technologies and that are not addressed elsewhere. At best, these discussions should inspire participants to take a more active role and become part of a solution, thus providing an even more meaningful participation in Internet governance matters.

Although the Internet Governance Forum is a non-binding structure, the public policy issues that will be discussed at the forum come with a great social, economic, cultural and political impact and thus responsibility for all stakeholders.

³ <http://www.intgovforum.org> - The IGF has already taken steps towards enabling remote participation by building an on-line resource depository and making the main public policy debate sessions available via a webcast.

⁴ <http://www.isoc.org/isoc/conferences/wsis/documents/IGFPPIssuesFINAL.pdf>

Bridging the gap between political, cultural, economic and technological issues related to Internet governance will be one of the key factors of success for the first meeting of the Internet Governance Forum.

The principles underlying the actions of the stakeholders of the IGF must be visible outside the Internet governance community. Since the Internet is increasingly becoming the landscape of the citizens' activities of developed and developing countries, the IGF will carry an important role in defining and reaching broad agreement on issues, principles and values shared by the entire community.

Challenges Facing the Internet Governance Forum in the Near and Longer Term

Don MacLean

IGF Success Criteria

The World Summit on the Information Society recognized the complexity of Internet governance issues and arrangements, the need to involve all stakeholders in Internet governance processes, and the benefits of establishing a new forum for multi-stakeholder policy dialogue – the Internet Governance Forum (IGF).

WSIS gave the IGF a “soft power” mandate. In the words of the *Tunis Plan of Action*, the IGF “would have no oversight function and would not replace existing arrangements, mechanisms, institutions or organizations ...would be constituted as a neutral, non-duplicative and non-binding process ...(and) would have no involvement in day-to-day or technical operations of the Internet”.³⁴ However, these limitations do not mean that the IGF has no significant powers.

In addition to discussing public policy issues related to key elements of Internet governance, facilitating discourse on issues that are cross-cutting or lack an institutional home, and facilitating exchange of information and best practices, WSIS gave the IGF a mandate to:

- advise stakeholders on ways and means of accelerating Internet availability and affordability in developing countries;
- promote stakeholder engagement in Internet governance processes;
- identify and make recommendations regarding emerging issues;
- contribute to capacity building;
- promote and assess the embodiment of WSIS principles in Internet governance processes; and
- help find solutions to issues arising from the use and misuse of the Internet.³⁵

In other words, in addition to providing a forum for discussion and information exchange, the IGF mandate gives it considerable scope for formulating policy advice on a wide range of Internet governance issues, as well as for undertaking practical actions aimed at capacity-building and problem-solving.

³⁴ *Tunis Agenda for the Information Society*, §79, available at <http://www.iut.int/wsisis>

³⁵ *Ibid.*, §72

The overall position of this paper is that in order to make a difference – by adding value to existing processes and promoting policy, program and institutional innovation – the IGF must deliver effective results with respect to the second, more activist part of its mandate. If this is not done and the IGF is only a talk shop, it is unlikely to make a significant contribution to the evolution of global Internet governance arrangements, or to be sustainable in the longer term.

Challenges

Delivering these kinds of results in the near- and longer-term will be a challenge the IGF for several reasons.

Geopolitical Change:

The world in which the IGF will begin and in which its activities will unfold is a very different place from the world of the mid- to late-1990s and early 2000s in which the debate about Internet governance was initially framed. This results from factors such as: changes that have taken place in: the distribution of economic and political power (particularly as a result of the rise of countries such as China, India and Brazil, the resurgence of Russia, U.S. trade and budgetary deficits, the “triple whammy” of energy demands, supply constraints, and climate change, etc.); the replacement of “pax Americana” with the “clash of civilizations”; the “war on terror” and the consequent emergence of security as an over-arching issue that cuts across many dimensions; the collapse of the Doha round, the rise of regionalism and the resurgence of left-wing ideologies. These changes arguably will make it more difficult for the IGF to achieve consensus on the general lines of policy advice that should be given to developing countries than would have been the case had the geopolitical conditions of five-ten years ago continued to persist and the “Washington consensus” continued to prevail.³⁶ Indeed, the difficulties WSIS negotiators had in agreeing to text during the first and second summit phases foreshadowed the difficulties that are likely to face IGF participants.

The ICT/Development Gap:

Against this background of geopolitical change, a particular challenge for the first (and probably subsequent) IGFs will be to make effective links between Internet governance and development by engaging stakeholders from both developed and developing countries as well as public and private development agencies in the application of the Internet and other ICTs. Louder Voices, a 2002 study by the Commonwealth Telecommunications Organisation and the Panos Institute found that developing country stakeholders were not effectively engaged in international ICT governance processes, principally because of weaknesses in governance processes at the national and regional levels.³⁷ The study also found evidence of a significant gap between ICT governance processes and development governance processes, and

36 See Ernest J. Wilson III, “The Governance of Global Electronic Networks: Contrasting Views of Dominant and Non-Dominant Actors”, in William J. Drake and Ernest J. Wilson III (eds.), *Governing Global Electronic Networks*, Cambridge, MIT Press, forthcoming, for a discussion of the “Washington consensus” v. the views of the “Rest of the World (ROW)” in relation to the global governance of ICTs.

37 Don MacLean, David Souter, James Deane and Sarah Lilley, *Louder Voices: Developing Country Participation in International ICT Decision-Making*, London, Commonwealth Telecommunications Organisation and Panos London, 2002. Available at www.cto.int/publications/louder_voices_final_report.pdf.

suggested that this gap impeded the effective use of the Internet and other ICTs to further the achievement of development goals. A Louder Voices follow-up study of developing country and civil society participation in the two phases of WSIS concluded that these gaps persist, and noted in particular the lack of engagement by development agencies in the WSIS process.³⁸ Making links between “the development of the Internet” and “the Internet for development” will be vital to the success of IGF, given its origins and mandate. However, this task will be all the more challenging since the priorities of many development agencies have evolved in recent years in response to the adoption of the Millennium Development Goals, which focus on very basic issues of poverty reduction, health care, education and gender equality; the above-noted changes in the geopolitical context, and the re-emergence of environmental issues, particularly climate change, as a key development priority.

Evolution of the Internet:

The task of the IGF is likely to be compounded by the changes that have taken place in the ICT sector and the Internet itself as a result of the interaction of technological, economic and social trends in the years since the Internet governance debate was initially framed and the WSIS process conceived. Annex A, which is drawn from a May 2006 presentation to an OII seminar on the topic “Where Now? A Rough Guide to Internet Governance Post-WSIS”, attempts to outline the evolutionary path of the Internet and its governance arrangements during the past three decades and to forecast how they may evolve over the next five-ten years. As the Internet continues to branch into different evolutionary lines as a result of technological opportunity, commercial strategy, economic and social demand, and public regulation, the IGF will have to confront an environment in which there are different species of Internet that raise different sets of policy issues, carry different regulatory baggage and give rise to different kinds of governance arrangements.

Inventing Global Multistakeholder Governance:

One of the most interesting and potentially significant results of WSIS was the apparent recognition by the 175 governments participating in the process that effective Internet governance requires multi-stakeholder approaches involving governments, the private sector, and civil society. The statement in the *Tunis Agenda for the Information Society* that “the international management of the Internet should be multilateral, transparent and democratic, with the full involvement of governments, the private sector, civil society and international organizations”³⁹ – if taken seriously by all participants and given effect through the IGF and by other means – provides a normative platform for reforming agencies currently involved in aspects of Internet governance, as well as for innovating in areas where global arrangements currently are lacking but clearly required. The mandate of the IGF gives it a potentially important role in facilitating and promoting the construction of multi-stakeholder arrangements that go beyond the advisory and/or partially inclusive mechanisms that are currently found in established Internet governance fora (e.g. ICANN, ITU) – as well as in the construction of new arrangements to address emerging Internet governance issues that are cross-cutting and/or currently lack an institutional home (e.g. various issues related to information and network security and privacy). While examples of multi-stakeholder approaches to Internet governance

38 David Souter, *Whose Information Society? the voice of developing countries and civil society in the World Summit on the Information Society*, a report for the Association for Progressive Communication, forthcoming

39 TAIS, § 29

can be found at the national, regional and community of interest levels, there do not appear to be ready-made precedents at the international level, where the development of multi-stakeholder models is complicated by various factors and must be reconciled with national sovereignty. One of the principal challenges facing the IGF therefore is to invent the practice of multi-stakeholder global policy development.

Assessing the Issues Facing IGF-06

The first meeting of the IGF will take place in Athens from October 30 – November 2, 2006. “Internet Governance for Development” will be the overall theme of the forum, and capacity building will be a cross-cutting priority. Four broad themes will be discussed during the formal sessions of the forum:

- openness – including issues of freedom of expression, free flow of information, ideas and knowledge, empowerment and access to knowledge
- security – including issues of creating trust and confidence through collaboration, particularly by protecting users from spam, phishing and viruses while protecting privacy
- diversity – including issues of promoting multilingualism, IDN and local content
- access – Internet connectivity policy and cost, including issues of interconnection costs, interoperability and open standards

Each of these issues is likely to provoke lively discussion among participants. However, for a number of reasons not all of them have a similar potential to lead to the kind of results necessary to the long term success of the IGF – i.e. the provision of clear and practicable policy advice to developing countries accompanied by the engagement of all stakeholders in the “Internet for development” process, particularly with respect to capacity-building, governance innovation, and institutional reform.

Two of the themes selected for discussion at the first IGF – openness and access, particularly issues related to interconnection costs – have long and somewhat contentious histories at the international level, in relation both to the Internet and other communications media. They were also the subject of considerable disagreement within the Working Group on Internet Governance and at other points in the WSIS process – a harbinger of what likely awaits IGF-06. Although of fundamental importance to both “the development of the Internet” and “the Internet for development” – and in spite of the relatively clear policy guidance given with respect to these themes and issues at Geneva and Tunis – the IGF is unlikely to be able to make a significant difference to their advancement. In part this is because they are generally related to differences that are deeply embedded in the economic, social, cultural and political structures of different countries and regions, and which affect much more than the governance of the Internet. It is unlikely that the IGF will have the leverage to significantly shift the divergent and often opposed positions that exist on these issues.

In contrast, the other two themes selected for discussion at the first IGF – security and diversity – appear much more promising candidates for generating clear and practicable policy advice, cooperative actions among stakeholders and innovative governance arrangements that will lead to practical results in developing countries.

- These two themes and their accompanying issue-sets are directly related to the development of the Internet, and must be resolved to realize the Internet's potential to support economic and social development.
- Security and diversity are also emerging issues on which some significant work has already been done at the national and regional levels, often on a multi-stakeholder basis, but which largely lack established governance arrangements of the kind that have long been in place internationally to deal with issues related to the themes of openness and access (i.e. the U.N., ITU and WTO – although WIPO and UNESCO may be significant players in relation to the issue of “local content”, depending on how it is viewed by IGF participants). This greenfields situation provides an opportunity for constructing innovative multi-stakeholder governance arrangements.
- Experience at the national and regional levels has shown that effective action on at least some of the issues related to the themes of security and diversity requires cooperative action among stakeholders and innovative approaches to governance – models that differ in potentially significant ways from the more traditional legal/regulatory approaches usually taken to issues of openness and access (examples of innovative models include “co-regulatory” and “multi-stakeholder toolkit approaches” to dealing with spam and other Internet abuses).
- Security and diversity appear to be issues which all countries have a greater common interest in resolving cooperatively at the international level – whatever their economic, social and ideological differences – than is the case for issues related to openness and access.
- Security and diversity also have the advantage of engaging key questions related to the broad issues of openness and access in a focused, practical manner, which may make it easier to make progress and achieve consensus among different stakeholders on key Internet-related elements of these issues than would be the case if the themes of openness and access were addressed more generally (e.g. through policies and practices to reconcile freedom of expression, privacy and information and network security in the context of measures to counteract spam and other abuses of the Internet).

ANNEX A

Evolution of Internet Governance – Phase I

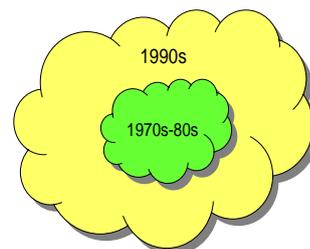
- TCP/IP
- Network of networks
- Internet community
- IETF
- End to end principle
- Running code and rough consensus



17

Evolution of Internet Governance – Phase II

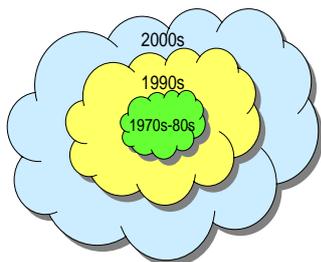
- WWW
- DNS
- ISPs
- Dotcoms
- Globalization
- ICANN
- Governance by private contract



18

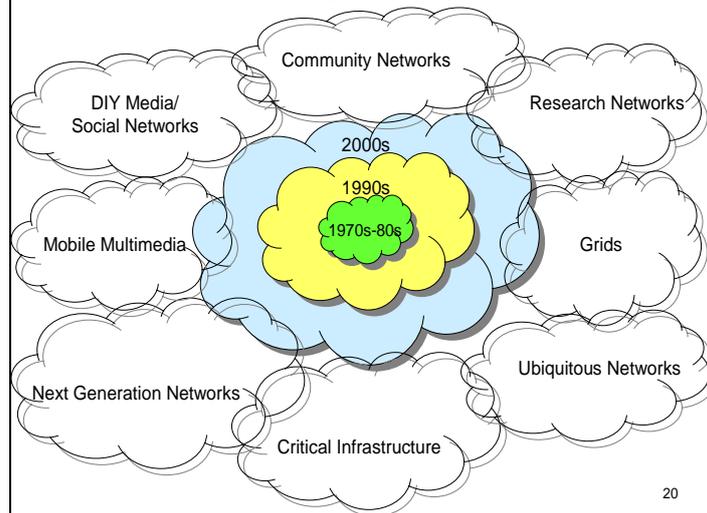
Evolution of Internet Governance – Phase III

- IPv6, MDNs, alternative roots, XML
- Portals, search engines, web services
- Dot bomb and telecom meltdown
- Convergence and competition
- Abuse and regulation
- Security and sovereignty
- WSIS, WGIG
- Multi-stakeholder governance



19

Evolution of Internet Governance – What's Next?



20

Source: Don MacLean, "Where Now? A Rough Guide to Internet Governance Post-WSIS", Oxford Internet Institute, May 19, 2006

The Access Theme: What can Global Internet Governance Really do for Developing Countries? Reflections on “development,” international institutional change, and the availability and affordability of Internet service

Dr Milton Mueller

Syracuse University School of Information Studies
Internet Governance Project

The Forum’s overriding theme is “Internet Governance for Development.” The choice of that emphasis is predictable, given that promoting “development” constitutes one of the UN system’s chief claims to legitimacy. But is it all that meaningful? How does global Internet governance actually help or hinder the availability and affordability of the Internet in developing countries? There is surprisingly little detailed discussion of this point. Most invocations of “development” are purely rhetorical.

Of course, it is easy to document the major disparities in Internet access, infrastructure, services and governance between developed countries (especially the United States) and developing countries (especially in Africa). But these Internet disparities basically mirror differences in wealth and development across the board, showing up in virtually every other economic metric (income, trade, etc.) whether IT-related or not. Are these gaps in economic wealth and political power products of global Internet governance, or vice versa?

This leads to a question that is both politically important and academically interesting: Do international institutional arrangements passively reflect existing disparities in wealth and power among national political economies, or do they help to create, reinforce and lock in those differences, and thus maintain them over time? If the institutions passively reflect these disparities, you can’t really change much by fiddling with them, they will evolve and respond naturally as the relative economic positions of the players change. If on the other hand the international institutions help to create, reinforce and lock in the differences, then one can get more leverage by focusing change efforts on them.

In this paper I want to do the following things:

- Encourage us to think more deeply about the logical and operational links between the actual or potential mechanisms of Internet governance and the ability of developing countries to expand Internet availability and affordability;
- Demonstrate the relevance and applicability of Knight’s (1993) theory of institutions and distributional effects, using it as an analytical framework to deal with the problem;

- Discuss the relationship between general economic development and the development of telecommunications and the Internet, and the relationship between national and global efforts to promote development;
- Use the WTO GATS framework as an example of the ways in which international institutional arrangements both reflect and reinforce economic and political disparities. I will also very briefly explore how the WTO GATS framework might be applied to Internet interconnection arrangements, one of the issues identified as affecting the availability and affordability of Internet service in developing countries.

Institutional Theory

The following shorthand description of a theory of institutions is based on the work of Jack Knight (1993) and the general school of thought associated with the new institutional economics. This theory recognizes that institutions create collective benefits through coordination and the reduction of uncertainty and transaction costs. But it adds an important set of caveats. First, the realization of collective benefits is *not* sufficient to explain the emergence of institutions; second, institutions do not distribute those collective benefits equally to all parties, some are relative winners and others are relative losers; third, to understand the actual form that human institutions take, you have to look at the bargaining and negotiation among the actors over the distributional effects of the institution and you have to recognize that those actors are fundamentally self-interested.

The theory's emphasis on the distribution of benefits is useful, for the following reasons. First, it focuses attention on both the *quantity* of the benefits and the degree to which the distribution of the benefits is *skewed* toward specific actors or groups of actors. Second, it indicates a threshold limit on institutional change: changing or creating institutions is costly, involving investments in lobbying, publicity, startup costs and also involving much risk and uncertainty. If the prospective benefits do not exceed such costs and risks, institutional change is unlikely to happen. Or if a distributional bias exists but is not so major, nothing is likely to change. Third, this perspective militates against sloppy categorization of the actors into categories such as "capitalists" and "workers." In real social processes, *some* businesses and *some* workers may gain, while others may lose; likewise for alleged conflicts between "developing vs. developed countries" (there are significant heterogeneity of interest among developed, developing and poor countries, and they do not rise or fall as a category). Real social science requires that we specify with precision which actors benefit relatively and which are relative losers.

Development and Governance

With that quick romp through relevant theory, we turn now to a general assessment of the contribution of the Internet, and global internet governance, to development. Let me begin with two observations (necessarily unsubstantiated in a short paper like this). First, global Internet governance is important but is no substitute for the development of national telecom markets and policies, especially when it comes to access issues. Second, the success of national telecom policy in bringing infrastructure and services to people at affordable prices is *always* subordinate to *general* economic development and growth in a country. The statistical correlation between telecom infrastructure and national GDP is never perfect, but it is always extremely high, accounting for somewhere around 70-80% of all variation. And the penetration

of telecom infrastructure is always one of the chief variables accounting for the degree of internet development.

China is the most obvious and important case of a country that has rapidly moved from an information age nonentity to a real player. How did this happen? Certainly not by reliance on international aid or global policy making institutions. One critical first step was an opening to external investment and trade. This occurred across the board, not just in telecom. Another was a move toward substitution of market forces for central planning domestically, while retaining important state controls. The prime mover of telecom development in China was the “household responsibility” program which de-collectivized agriculture and allowed the rural population to accumulate wealth. The results proved that if people have rapidly growing income then they will, quite reliably and rapidly, buy more internet and telecom services. It wasn’t the telecom that made them richer, although those consumers were wise enough to know that better communication helped them, it was a general economic reform. And if government policy does not throw dysfunctional legal and regulatory barriers between consumers and suppliers, as it often does in both developed and developing countries, that “natural” consumer desire to buy needed products and services will promote and sustain the growth of telecom infrastructure and internet services and applications. China also carefully introduced market incentives into its telecom-related state enterprises and adroitly exploited the desire of foreign capital to establish a position in its potentially huge domestic market.

Likewise, it was competition and private investment from 1893 to 1925 that propelled the US telecom infrastructure into its world-leading, dominating status and extended infrastructure availability to the entire country. (Mueller, 1997) Governmental subsidies filled out the last 5 percent or so – important from an equity point of view, but you can’t put the cart before the horse. The concept of universal service and universal service subsidies was not meaningful or achievable had not a thriving free market put a widely available system into place and produced more competitive, efficient suppliers.

When it comes to the availability and affordability of the internet, some commentators seem to imply that international venues for Internet governance can somehow solve the economic inequality of developing countries in the Internet economy. I want to register my skepticism on this point. It seems to me that with the important exception of the global trading regime, international institutions have a decidedly secondary role in influencing access and affordability. Global governance institutions lack legislative power, taxing capabilities and systematic enforcement capabilities beyond what national governments give them. If developments in the global arena are taken too seriously a lot of energy and resources get diverted from areas where they can do more good.

That being said, the Internet is a uniquely global system, and I do believe that there are global governance problems related to the internet that need to be solved. In other words, institutional changes at the international level do have the potential to make developing countries relatively better off. Or to put it more precisely and less hopefully, reforms in global internet governance can alter the distributional effects of the Internet economy, making some actors better off and others worse off. We need to be aware of the fact that the “better off” category may or may not include all developing countries; it depends on the type of changes made. Institutional changes at the international level can also make everybody worse off, if the changes are guided by ideas that are ignorant of economic principles and the realities of human incentives and behavior. The best thing, therefore, is to find those institutional changes that are Pareto optimal, in the sense that they make many actors better off without making anyone worse off. Or, falling short of that lofty goal, we might settle for a relative worsening of some richer and more powerful actors (e.g., the U.S. military) if we could achieve large and broadly based improvements.

The WTO Regime

We jump now to a vast, complex and controversial area and treat it somewhat superficially due to the short format. It is not difficult to show that free trade, competition, and liberalization of the world's trading system, while clearly good things in the abstract, were implemented in a way that reflects very clearly the NIE theory about bargaining over distributional effects. Trade liberalization in the 1990s occurred first in those areas favored by the strongest and most advanced nations, especially the US. (It must however be noted that free trade is as controversial within the US as it is elsewhere. The US auto, textile and electronics industries have all been clear losers once subjected to foreign competition, and most recently there is a nativist backlash against "offshoring" of labor-related services. Nevertheless, few doubt that US consumers benefited enormously and that the overall US economy is much stronger as a result.) At any rate, in the WTO, the US government paid special attention to opening up markets where the U.S. was thought to have a competitive advantage: telecom services, and information content protected by copyright, patents and trademarks. While the US was pushing strongly for free trade agreements in telecom and information services and pushing for stronger and harsher forms of governmental enforcement of IPR, it was restricting trade in labor services by closing its borders and making entry into the country more difficult. Likewise, Europe was continuing to protect its agricultural markets. Agriculture and labor are the two areas where, of course, developing countries might have the advantage. As one report put it, "A major challenge to Africa's agricultural sector is posed by the continuation of developed country protectionism. ...[where] countries continue to subsidize their agricultural sectors while African countries, under successive structural adjustment programmes (SAPs), have made large cuts in all forms of support to their farmers." (UNECA, 2004)

What we find in these cases, and perhaps more generally, is that the stronger, richer countries gain a first-mover advantage in setting the rules, and those rules definitely reinforce their advantage in the short term. But we also seem to find that once the rules are embedded in an institutional framework, the principles and norms upon which they are based can be used against the dominant countries and applied to situations they did not intend. The creation of an international institution does not terminate the bargaining over distributional effects, it simply channels it into specific forms. Moreover, once an institution is in place the weaker countries gradually gain knowledge about the negative distributional effects and learn how to negotiate the system in ways that turn things more to their advantage. Something like this is currently happening with the trade regime, as the G77 turn anti-protectionist principles against Europe and the richer countries and bargain for opening markets in ways that would favor their own economies.

Trade and Internet/Telecom Services

I'd like to apply the ruminations above to the issue of Internet interconnection, placing it in the frame of a trade in services issue. The general hostility to trade liberalization among many civil society activists and developing country governments has I think blinded them to the huge accomplishments of liberalization and competition in the telecom-information sectors. This mistake comes, I think, from a tendency to confuse the sometimes inequitable distributional effects of existing trade agreements with "free trade" per se. What was put into place in the 1990s was an institutional regime that was biased in many respects in its distributional effects. But this does not mean that free trade itself should be rejected. It simply means that we should pay closer attention to how it is implemented and the distributional effects of any given implementation.

As an example, the Indian NGO IT4Change asserts that “ITU’s asymmetric telephone inter-connection regime worked in favor of developing countries, while the present ‘self-regulated’ Internet inter-connection regime works in favor of developed countries.” But this is plainly false. The pre-WTO telephone interconnection regime executed a static wealth transfer from telephone companies in developed countries to telephone monopolies in developing countries. One must not gloss over the exact nature of the transfer by assuming that monopoly profits for national PTTs automatically produce growing wealth, access and affordability in that country. As the institutional theory suggests, one must focus on the actual distributional effects that occur in a regime. Pouring monopoly profits from a stunted, overtaxed service into a state-owned telephone company does not necessarily mean a richer population or a more developed telecom infrastructure. Usually, in fact, it meant quite the opposite. The old settlement regime heavily taxed business and domestic callers into (and often out of) the country. The actual effect of this policy was to massively reduce the amount of telecommunication that took place, and to stunt the development of telephone services and many business services that rely on cheap telecommunications. Moreover, it had no demonstrable positive effect on infrastructure development, despite the monopolies’ claim to the contrary. As an OECD Report has documented, the period of most rapid growth in telecommunication in developing countries has coincided with the decline of these settlement payments. (OECD, 2006) The rise of competition and liberalized market access, not static wealth transfers, has promoted development more than any other set of policies. To be sure, mistakes and missteps have occurred along the way, e.g. when monopolies were privatized without the requisite institutional arrangements for properly regulating them. But overall, there is little doubt about the correlation between improved telecom access and affordability and the advance of liberalization and competition in developing countries such as India, China, and even Africa (where the more competitive wireless industry’s penetration has long exceeded the penetration level of the more regulated and monopolistic fixed line services). Thus it is important to make sure that economic policies applied to internet at the global level are focused on the objective of efficiency and growth, as opposed to static redistribution of wealth. Whatever interconnection principles for the Internet are worked out must be focused on arrangements that facilitate competition and open entry, and sustainable, efficient, cost-based delivery of internet services, not some kind of an attempt to get rich countries to pay the bills of poor countries.

The Fourth Protocol of the General Agreement on Trade in Services (GATS), better known as the Basic Telecommunications Agreement, contains a Reference Paper (RP) defining regulatory principles for liberalizing telecommunication services. This is a classic example of how when the powerful define rules designed to serve their own interests they often create principles that can be later used against them. US scholars will recognize in the RP the distilled regulatory wisdom of American telecommunication policy in the mid-1990s. In writing and promoting the RP, US trade negotiators sought to export its own regulatory experience in breaking up and liberalizing dominant telecom monopolies. In the US, the enemy was the old AT&T monopoly; in the rest of the world, the RP was considered a weapon to be used against the PTT monopolies of other countries.

Thus, with respect to interconnection, the RP says, “Interconnection with a major supplier will be ensured at any technically feasible point in the network. Such interconnection is provided (a) under non-discriminatory terms, conditions (including technical standards and specifications) and rates and of a quality no less favourable than that provided for its own like services or for like services of non-affiliated service suppliers or for its subsidiaries or other affiliates...”

If the major Internet Backbone providers are “major suppliers” (defined as “a supplier which has the ability to materially affect the terms of participation (having regard to price and supply)

in the relevant market for basic telecommunications services”), and *if* the interconnection principles articulated by the RP can be considered pro-trade, efficient, and thus development-oriented in nature, then it is possible that the rest of the world might take up the WTO BTA Reference Paper principles and start applying them to Internet interconnection, in a way that was never intended by the RP’s authors. Those are two big “ifs,” of course, and the situation needs to be explored carefully. But it is worth looking into.

References

- [Knight 1993] Jack Knight, Institutions and Social Conflict. Cambridge University Press, 1993.
- [Mueller 1997] Milton Mueller, Universal Service: Interconnection, Competition and Monopoly in the Making of the American Telephone System. MIT Press: 1997.
- [OECD 2006] Sam Paltridge, INTERNET TRAFFIC EXCHANGE: MARKET DEVELOPMENTS AND MEASUREMENT OF GROWTH. Paris: OECD Working Party on Telecommunication and Information Services Policies, 05-April 2006.
- [UNECA 2004.] Economic Report on Africa, 2004: Unlocking Africa’s Trade Potential, UN Economic Commission on Africa, 2004. <http://www.uneca.org/era2004/>

Contribution to the Oxford Internet Institute Workshop 'Internet Governance for Development'

Sam Paltridge

OECD*
www.oecd.org/sti/ict

The OECD welcomes the establishment of the Internet Governance Forum (IGF) stemming from the World Summit on the Information Society (WSIS). The OECD has been working for many years on a range of policy issues associated with the information society. These include infrastructure and services, consumer protection, privacy and security through to broader issues surrounding ICT and economic growth (Refer Annex 1).

We view the IGF as an opportunity to further understanding in these areas and build international consensus, among all stakeholders, on effective ways forward.

The OECD has participated in the preparatory meetings for the IGF including the Advisory Group meetings. We have offered to organise a workshop on the OECD's Anti-spam Toolkit. OECD staff have also been invited to participate in IGF events organised and proposed by other entities. Decisions on the final acceptance of workshop proposal, and so forth, will be made by the Advisory Group at its 7-8 September 2006 meeting following which the OECD will finalise its participation.

The Athens meeting of the Internet Governance Forum will be organised around the topics of openness, security, diversity and access. Which, if any of these four issues do you consider most important and why?

Member countries discussed the OECD's contribution to the IGF at the March 2006 meeting of the Committee for Information Computer and Communications Policy (ICCP). The consensus was to offer support on any of the issues chosen by the IGF within the OECD's competence, from existing or ongoing work, which furthers the development of the information society. Given the availability of resources member countries did, however, rank the OECD's Anti-spam toolkit, as a priority. Several factors were mentioned during the discussion including:

- the direct mention of the OECD's work on spam in the Tunis Agenda and request for international multi-stakeholder co-operation

* The views expressed in the following are those of the author and may or may not represent those of OECD Member countries

- the timeliness of the launch of the anti-spam tool kit and an OECD Council Recommendation on cross-border co-operation in the enforcement of laws against spam in terms of the 2006 IGF.
- the scope for the Anti-spam tool kit to be used for capacity building and international co-operation
- the work on spam related directly to one of the IGF's chosen topics: **Security - Creating trust and confidence through collaboration.**

Member countries also concluded the OECD could make a contribution to the IGF topic of **Access - Internet Connectivity: Policy and Cost** based on work in this area over many years. The OECD's Working Party on Communication Infrastructures and Information Services Policy (CISP) has long dealt with issues surrounding interconnection between communication networks. In respect to the exchange of traffic between networks using the Internet protocol, the OECD has been active since the mid 1990s through a series of workshops (Dublin 1996, Osaka 1997, Venice 1999 and Berlin 2001) and reports (Internet Traffic Exchange: Developments and Policy, 1998, Internet traffic exchange and the development of end-to-end international telecommunication competition, 2002 and Internet Traffic Exchange and Measurement of Growth, 2006).

What precisely is difficult to resolve about these issues (politically, technically, culturally or otherwise) such that they deserve the attention of the IGF?

In order for electronic communication platforms, applications and services to contribute to economic and social development, they must be reliable, efficient and trustworthy. Today, however, e-mail and other electronic communication tools, and consequently users' trust and confidence in these tools, may be threatened by unsolicited, unwanted, and harmful electronic messages, commonly known as spam.

Spam has evolved into a vehicle for viruses, worms and other malware, threatening development of electronic communications and the Internet as a whole. As ICTs and the Internet have evolved into significant drivers for social and economic development, spam and related threats have the potential to undermine these benefits, and to have particularly damaging effects in countries that have a lower amount of technical, financial and knowledge resources.

The Anti-spam toolkit reflects several years of work by governments, the private sector and civil society to find solutions, and a more comprehensive and effective approach to the problem of spam. The Toolkit adopts a multi-pronged approach aimed at providing recommendations and resources to improve consumer and business education; to develop appropriate legislation and empower law-enforcement authorities; to increase private sector commitment in the development of technical and self-regulatory measures and best practices; and to encourage international cooperation, ensuring contact between stakeholders from different countries. As such, the Toolkit constitutes an important existing and timely resource, which could provide a base for capacity building and international co-operation.

The first meeting of the IGF represents a unique occasion to reap the benefits of work conducted up to now and to discuss different approaches in an open, inclusive and multi-stakeholder environment. Enabling experience sharing and information exchange may favour the adoption of common best practices and the development of harmonised anti-spam strategies.

In terms of the topic of **Access: Internet Connectivity: Policy and Cost** the potential subject matter is broad and, at the time of writing the proposals for workshops and the issues which will be examined are still outstanding. Interconnection between networks has always been at the forefront of issues considered at communications policy and regulatory forums and it is likely that this will also be the case for the IGF.

This is particularly the case for those countries with less developed infrastructures for Internet access. The IGF can play an important role by highlighting international experience and successful development models. Many of the concerns expressed by some governments in developing countries, regarding Internet traffic exchange, mirror those of OECD governments prior to liberalisation. The lack of competitively available infrastructure (and co-operative infrastructure such as Internet Exchange Points) is a barrier to the benefits the Internet can bring for economic and social development.

In the OECD's experience, concerns raised in respect to Internet traffic exchange were overcome when commercial solutions, enabled by liberalisation of telecommunication markets, have been applied. The recent OECD report -- "Internet Traffic Exchange: Market Developments and Measurement of Growth" -- notes the tremendous development of communication access which has followed regulatory reform in a growing number of countries outside the OECD area. It also concludes there is a pressing need to develop human capital, particularly inter-networking skills. Governments and industry need to support capacity building among the Internet's technical community in developing countries.

Historically the issue of Internet traffic exchange arose, with the emergence of the commercial internet in the mid-1990s, in the transition from monopolies (and limited availability of infrastructure based on monopoly frameworks) to competitive markets. In OECD countries players adapted to transition and commercial solutions were adopted (e.g. IXPs, end to end infrastructure). Allowing full infrastructure and services competition was a fundamental step in meeting concerns and enabling commercial solutions. Commercial negotiations between industry players proved the best way to structure a very diverse market. Today more than 20 000 networks with independent routing policies provide connectivity for themselves and many millions of their customers' networks supporting close to a billion users. The international backbone market between OECD countries is highly competitive and it is relatively easy to bypass any player or set of players. For many developing countries, however, it is largely a "Development Issue" albeit some look to a replacement for settlement revenue – hence ongoing discussions at ITU, WSIS and at the first IGF.

The Tunis Agenda provides some good pointers/recommendations toward meeting concerns including the creation and development of regional ICT backbones and IXPs to reduce interconnection cost and broaden network access. There is also a strong need for capacity building particular internetworking skills and this should be the focus of the IGF.

What other issues should the forum go on to address in the future?

The IGF has a mandate for five years. The OECD will provide support on any of the issues chosen by the IGF within our competence, from existing or ongoing work, which further the development of the information society. Following the first Consultation Meeting on Convening the IGF, the IGF Secretariat posted a short synthesis of possible topics (www.intgovforum.org/brief.htm). This may provide one indication issues that will be taken up at successive IGF's if they are not included in the inaugural IGF. Annex 1 contains a summary of OECD work for some of these topics.

- A. Spam

- B. Multilingualism
- C. Cybercrime
- D. Cybersecurity
- E. Privacy and Data Protection
- F. Freedom of Expression and Human Rights
- G. International Interconnection Costs
- H. Bridging the Digital Divide: Access and Policies
- I. Bridging the Digital Divide: Financing
- J. Rules for e-commerce, e-business and consumer protection.

Annex 1: OECD work relevant to the IGF

Following the first Consultation Meeting on Convening the IGF, the IGF Secretariat posted a short synthesis of proposed topics (www.intgovforum.org/brief.htm). The following presents a brief and non-exhaustive summary of OECD work relevant to the IGF under some of the topics identified by the IGF Secretariat updated to 1st August 2006.⁴⁰

A. Spam

The [OECD Task Force on Spam](http://www.oecd-antispam.org) (2004) was set up to bring together policy-makers and industry experts to develop a framework aimed at tackling the problem of spam using a broad multi-disciplinary range of solutions. The Task Force launched the Anti-Spam “Toolkit” (www.oecd-antispam.org) as an instrument to help governments, regulators and industry players orient their policies relating to spam solutions, support the development of national anti-spam strategies and improve cross-border co-operation between enforcement agencies. The Toolkit also includes a series of Best Practices developed by the private sector in its annexes, and an OECD Council Recommendation on cross-border co-operation in the enforcement of laws against spam. The Toolkit is available at www.oecd-antispam.org

C. Cybercrime

Although the OECD does not directly work on cybercrime per say, several work threads cited in this summary contain relevant advice on policies and measures to address internal and external threats such as cyber-terrorism, computer viruses or hacking, in particular:

- *The Council Recommendation on cross-border co-operation in the enforcement of laws against spam (2006).*

⁴⁰ An earlier summary of OECD work related to internet governance is available at www.oecd.org/internetgovernance

- The OECD's *Scoping Study on the Measurement of Trust in the Online Environment* (2005) reviewed data available from official, semi-official and private sources on security, cybercrime and trust.
- The OECD *Guidelines for Protecting Consumers from Fraudulent and Deceptive Commercial Practices Across Borders*, (2003).
- The [OECD Guidelines for the Security of Information Systems and Networks](#) (2002), the report's promotion and the work on promoting a "Culture of Security", all of which are detailed in paragraph D.

D. Cybersecurity

The OECD Working Party on Information Security and Privacy (WPISP, www.oecd.org/sti/security-privacy) promotes a global, coordinated policy approach to building trust and confidence in the use of ICTs, to ensure the security and reliability of systems and networks, services and transactions, as well as to protect privacy and personal data (see under item E). It develops international guidelines and tools for various facets of Information and Communication Technology policy, which are inherently global in nature and include:

- The [OECD Cryptography Guidelines](#) (1997) promote the use of cryptography to foster confidence in information and communication infrastructures, networks and systems, and their use.
- The [Use of Authentication Across Borders in OECD Countries](#) (2005) analyses the current cross-border uses of electronic authentication methods and methodologies in OECD member countries and the factors fostering or impeding the national use of authentication technologies and digital signatures.
- The [OECD Guidelines for the Security of Information Systems and Networks: Towards a Culture of Security](#) (2002) aim to develop a "global culture of security" through advice on policies and measures to address internal and external threats such as cyber-terrorism, computer viruses or hacking in a globally interconnected society, while preserving important societal values such as privacy and individual freedom.
- The *OECD global "Culture of Security" Web site* collates national and international initiatives to implement the OECD Security Guidelines. It also serves as a portal for collective efforts the world over to develop a global "culture of security".
- The [Promotion of a Culture of Security in OECD Member Countries](#) (2005) is a major information resource on governments' effective efforts to foster a shift in culture as called for in the OECD Security Guidelines. It includes a detailed inventory of initiatives to implement the Guidelines in 18 OECD member countries and highlights main findings based on an analysis of common current trends in those countries and progress made since the adoption of the Guidelines.

E. Online Privacy

- The OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data (1980) represent an international consensus on basic principles to protect personal information and privacy on global networks.

- The *OECD Privacy Statement Generator* is an interactive tool available on the OECD Web site. It offers guidance on compliance with the Privacy Guidelines and helps organisations develop privacy policies and statements for display on their Web sites.
- The *OECD Privacy Online: Guidance on Policy and Practice* (2003) is based on the work achieved to fulfil the 1998 Ministerial Declaration on the Protection of Privacy on Global Networks. Addressed to OECD member countries, business and other organisations, individual users and consumers, the report reflects the ministerial high-level objective to build bridges between different national approaches in order to ensure both effective protection of privacy and continued transborder flow of personal data on global networks. It highlights the importance of the OECD Privacy Guidelines in the development and implementation of a mix of solutions for ensuring global privacy (www.oecd.org/sti/security-privacy)

G. International Interconnection Costs

The work of the OECD Working Party on Communications and Information Services Policy (CISP) has long dealt with issues surrounding [interconnection](#) between communication networks.⁴¹ In respect to the exchange of traffic between networks using the Internet protocol, the OECD has been active since the mid 1990s through a series of workshops (Dublin 1996, Osaka 1997, Venice 1999 and Berlin 2001) and reports ([Internet Traffic Exchange: Developments and Policy](#), 1998, *Internet traffic exchange and the development of end-to-end international telecommunication competition*, 2002 and *Internet Traffic Exchange and Measurement of Growth*, 2006 for which the URL is www.oecd.org/dataoecd/25/54/36462170.pdf).

H. Bridging the Digital Divide: Access and Policies

OECD work in these areas include work on [Regulatory Reform as a Tool for Bridging the Digital Divide](#) (2005), on [Universal Access Funds with Minimum-Subsidy Auctions - Leveraging Telecommunications Policies for Pro-Poor Growth](#) (2004) and on [The Development of Broadband in Rural and Remote Areas](#) (2004). Further OECD reports on developments in communication infrastructure and services, including on regulatory reform aimed at developing access, are available at (www.oecd.org/sti/telecom).

Work has been undertaken on other aspects of the digital divide (see OECD Information Technology Outlook 2002, Chapter 6), and work is currently being undertaken on ICT skills and employment issues (www.oecd.org/sti/ICT-employment), and ICT-related offshoring (www.oecd.org/sti/offshoring), both of which address various aspects of digital divide access and policies. The OECD's Working Party on Indicators for the Information Society has agreed on a number of statistical standards for measuring ICT. These standards, along with information on other efforts to measure the information society, have been brought together in the *Guide to Measuring the Information Society* (2005).

41 CISP was formerly called TISP until March 2006.

I. Bridging the Digital Divide: Financing

The Development Assistance Committee (DAC) is the channel through which donors coordinate, establish best practices, and collectively quantify their development programs. The OECD DAC [Report to the UN Task Force on Financial Mechanisms for ICT for Development \(TFFM\), "Financing ICTs for Development - Efforts of DAC Members"](#) (2005), reviewed trends of official development assistance (ODA) with regards to ICT. Building on previous OECD work "Donor ICT Strategies Matrix" (www.oecd.org/dac/ict), it provides policy-oriented analysis of donor support for ICT for development, with particular attention to recent trends in bilateral Official Development Assistance (ODA) commitments for ICT infrastructure, as well as other donor ICT assistance.

J. Rules for e-commerce, e-business and consumer protection.

The OECD has worked on public policy issues that bear on Internet in the course of the work of the Consumer Policy Committee on electronic commerce and consumer protection (www.oecd.org/sti/consumer-policy) and of the OECD Committee on Fiscal Affairs in the course of its work on electronic commerce and taxation. Guidelines include the *OECD Guidelines for Protecting Consumers from Fraudulent and Deceptive Commercial Practices Across Borders* (2003) and the *OECD Guidelines on the Protection of Privacy and Transborder Flows of Personal Data* (2003). OECD analytical work on e-business is summarised in the *Information Technology Outlook 2004*, Chapter 3, which drew conclusions on the uptake and impacts of e-business.

Names and meaning: requirements for internet progress

Norman Paskin

Tertius Ltd⁴²
n.paskin@tertius.ltd.uk

Introduction

In the previous OII governance forum I discussed⁴³ the need for managing material as semantically meaningful objects with identifiers. As 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). In this paper I discuss the need for such names to be capable of expression in forms that do not present artificial barriers (facilitating openness, security, and diversity) and describe current work that enables this.

The fundamental characteristic of digital information is that it is processable data, enabling re-use and hence new forms of electronic commerce, creativity and social benefit. Managing these units of digital information, the “citizens” in the network, requires that they have unique *names* denoting a specific referent. Equally, these names have to have some agreed *meaning* so that one computer system knows what the names and attributes from another computer system denote. Naming is a prerequisite for management of digital information entities: as a means of storing, accessing, disseminating and exchanging them. Meaning is a prerequisite for enabling them to interact: as a means of interoperability (their use in services outside the direct control of the issuing assigner) including digital policy management. Both have seen substantial progress:

Several existing and emerging applications have successfully named and managed information in the form of digital objects, which are stored, accessed, disseminated and managed. A digital object is a data structure whose principal components are digital material, or data, plus a unique identifier (name) for this material.

Meaning has been tackled through semantic interoperability in a series of developments building on the indecs (interoperability of data in e-commerce systems) project, resulting in successful deployment of a system for semantic interoperability.

⁴² This paper reflects personal views and is based on my experience in managing the International DOI® Foundation, a system of standard persistent interoperable identifiers for the intellectual property communities, and working with the Corporation for National Research Initiatives (CNRI) on digital object architecture, including the Handle System® and repository technology.

⁴³ Paskin, Norman (2005): Two practical examples of issues in internet governance. Internet Governance Forum, Oxford Internet Institute, May 2005. <http://www.oii.ox.ac.uk>

1. Names

The name assigned to an item of digital media we wish to manage should be a first class name (one that has an identity independent of any other item). This allows the name to persist when its attributes change, and other items to claim relationships with the item. Internet naming conventions for such items currently include:

- URL: *not* a first class name, but an attribute: a location of a file on the WWW, based on the DNS (Domain Name System). If the content, but not location, of the file is changed, a user may not know this; if the content of the file is moved, the URL link won't find it ("404 not found", or manual redirection, or automated redirection which may not persist). All URLs at one location have to be ultimately managed by the same domain name owner: the owner of the domain name has final control over all the URLs beginning with that name, which makes URLs especially brittle for any piece of content which could possibly change owners.
- URN: a DNS-based naming convention for the content of files on the WWW. However there are no widely standardised ways of using this: you can't type URNs into browsers except in certain special circumstances.
- URI: the collective name for URN and URL schemes.
- Handle: a name for content which (a) can be used with the DNS, but is not DNS-based; (b) can redirect to a URL and is managed to be persistent even if the URL moves; (c) can have additional features of granularity of management, structured metadata, scalability, reliability, etc
- The Digital Object Identifier System[®]: a Handle implementation with additional features designed for the management of intellectual property entities in digital networks.

The most common mechanism for *resolution*⁴⁴ of names on the internet is the Domain Name System (DNS). The DNS administrative model has disadvantages as a general-purpose name system: DNS administration requires a network administrator, and has no provision for administration per name by anyone else. DNS also has well-recognised problems of security and updating which suggest that it will not be sufficient to assume that existing DNS technology should be adapted to deal with new requirements, rather than inventing something new: peer-to-peer networks already presage this. In DNS, URLs are grouped by domain name and then by some sort of hierarchical structure, originally based on file trees, now possibly unconnected from that but still a hierarchy. The view that we have to accept an admittedly imperfect DNS as the only solution to naming (as seems implicit in some views⁴⁵) seems unnecessarily pessimistic and untenable – akin to Hilaire Belloc's "always keep a-hold of Nurse, For fear of finding something worse". Handles offer a more finely grained approach to naming where each name stands on its own, unconnected to any DNS or other hierarchy. This offers beneficial flexibility, especially over time, as the document origins reflected in that hierarchy lose meaning, such as a change in ownership reflected in DNS.

⁴⁴ the process in which an identifier is the input request to a network service to receive in return a specific output of one or more pieces of current state information state related to the identified entity, e.g. a location (URL).

⁴⁵ Internet Society: Names and Naming for the DNS (contribution for the first meeting of the IGF; preliminary version May 2006) http://www.intgovforum.org/Substantive_1st_IGF/namesandnaming-prelim.pdf

1.1 Names and Digital Object Architecture: Handles

A Digital Object Architecture provides a means of managing digital information in a network environment, by viewing a digital object as a machine-independent and platform-independent structure that allows it to be identified, accessed and protected, as appropriate. The most widely cited Digital Object Architecture Project, at the Corporation for National Research Initiatives (CNRI)⁴⁶, is based on the fundamental work of Kahn and Wilensky⁴⁷. It describes an infrastructure of services that provide access to distributed and secure digital objects: networked objects that are instantiated by an infrastructure service.

The Handle System^{®48} is part of this architecture: a general purpose distributed information system used to assign, manage, and resolve persistent identifiers, known as "handles," for digital objects and other resources on the Internet. It offers general purpose efficient, extensible, and secure identifier and resolution services. A handle may be a long-lasting reference to digital material that can be used to locate the material even when it changes location or owner. It can also be used to return metadata related to the material. Over 600 million digital objects are managed today through a globally distributed set of handle service sites (one application is Digital Object Identifier names⁴⁹ as an internet-based approach for the naming of intellectual property digital objects and their management based on the Handle System).

The Handle System was developed by CNRI under the overall direction of Dr. Robert Kahn, the co-inventor of the TCP/IP protocols, and the originator of the DARPA program which developed the Internet. It is described in a series of informational RFCs^{50 51 52}. The Handle System 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. Users of the Handle System include the content industries and related sectors through the Digital Object Identifier System (DOI[®]) system, the Library of Congress, the U.S. Defense Technical Information Center, MIT's DSpace digital library

⁴⁶ Corporation for National Research Initiatives web site: <http://www.cnri.reston.va.us/>

⁴⁷ Kahn, Robert & Wilensky, Robert (1995): "A framework for distributed digital object services": Technical Report tn95-01, Corporation for National Research Initiatives, 1995 <http://www.cnri.reston.va.us/k-w.html> (re-published, with an additional introduction by the authors, as the keynote paper in a special issue on "Complex Digital Objects": International Journal on Digital Libraries (2006) 6(2): 115-123. <http://dx.doi.org/10.1007/s00799-005-0128-x>

⁴⁸ Handle System web site: www.handle.net

⁴⁹ Digital Object Identifier System: <http://www.doi.org>.

⁵⁰ Sun, Sam; Larry Lannom, Brian Boesch, "Handle System Overview". Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3650, November 2003 <ftp://ftp.rfc-editor.org/in-notes/pdf/rfc3650.txt.pdf>

⁵¹ Sun, Sam; Sean Reilly, Larry Lannom, "Handle System Namespace and Service Definition". Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3651, November 2003 <ftp://ftp.rfc-editor.org/in-notes/pdf/rfc3651.txt.pdf>

⁵² Sun, Sam; Sean Reilly, Larry Lannom, Jason Petrone, "Handle System Protocol (ver 2.1) Specification". Internet Engineering Task Force (IETF) Request for Comments (RFC), RFC 3652, November 2003. <ftp://ftp.rfc-editor.org/in-notes/pdf/rfc3652.txt.pdf>

system, the Globus Alliance (which produces a leading open source toolkit for building computational grids), the Advanced Distributed Learning (ADL) CORDRA project for federating learning object repositories, and CNNIC (China Internet Network Information Center: see below).

1.2 Internationalised Domain Names: Handle-DNS integration

The Handle System has been documented in Chinese^{53 54 55}. Given the likely importance of China in future digital media, it is relevant to note that the handle namespace offers full international support for non-Roman character scripts. Handles may consist of any printable characters from the Universal Character Set (UCS-2) of ISO/IEC 10646, which is the character set defined by Unicode v3.0. The UCS-2 character set encompasses most characters used in every major language written today. To allow compatibility with most of the existing systems and to prevent ambiguity among different encodings, the Handle System protocol mandates UTF-8 to be the only encoding used for handles. The UTF-8 encoding preserves any ASCII encoded names so as to allow maximum compatibility with existing systems without causing naming conflict.

CNRI have collaborated with China Internet Network Information Center (CNNIC), China's domain name registry as operator and administrator of the ".CN" country code top level domain (ccTLD) and Chinese Domain Name (CDN) system. A Handle-DNS integration system has been developed which will result in a deployment of integrated Handle-DNS through the .cn domain. Similar implementations would be possible in any language. The CNNIC/CNRI collaboration⁵⁶ takes advantage of the Handle System to provide a security service for the DNS namespace, including secured DNS resolution (whenever needed), discretionary administration & dynamic update, access control & privacy protection, delegation & real-time credential validation. This service may co-exist with the existing DNS operation: there is no need to change the DNS client.

The abstract Handle System is specified in RFCs 3650,3651,3652. CNRI have developed, and distribute, a Java implementation of the specification, available through open source distribution. CNNIC developed a Handle Server in a new implementation in C/C++ (server/client) integrated with BIND 9.3.0 standard distribution, and additional modules offering improved performance. A prototype application offers secured DNS resolution via a Handle protocol interface. Further work will package the Handle-DNS software for public release; deploy the Handle-DNS server in ".cn" TLD registry and its subsidiaries; and establish an ENUM service and client software based on the Handle-DNS interface.

⁵³ Mao Wei, Sam Sun, Feng Wang (2003): Introduction to the Handle System.
<http://www.cnnic.net.cn/download/2003/11/27/173300.pdf>

⁵⁴ Online course on the Handle System, Shanghai Science and Technology Center (2001):
<http://www.stcsm.gov.cn/learning/lesson/xinxi/20010613-1/20010613.asp>

⁵⁵ Handle System Specification (based on Handle System RFC3650, RFC5651, RFC3652) (from the Chinese Digital Library project)
<http://cdls.nstl.gov.cn/mt/blogs/2nd/archives/docs/%ca%fd%d7%d6%d7%ca%d4%b4%ce%a8%d2%bb%b1%ea%ca%b6%b7%fb%bd%e2%ce%f6%cf%b5%cd%b3%d3%a6%d3%c3%b9%e6%b7%b6.pdf>

⁵⁶ Sun, Sam (2006): Experiences Securing DNS through the Handle System
<http://middleware.internet2.edu/pki06/proceedings/>

The DNS/Handle integration enables an identifier service for any digital resource over the Internet, with a distributed, scalable service infrastructure similar to DNS with additional features:

- Efficient name-resolution and administration, UTF-8 encoding, supporting both TCP and UDP.
- Built-in security options for both name resolution and administration.
- Discretionary namespace and identifier attribute administration, independent from host-admin, which allows creation, deletion, and modification of identifier and/or identifier attributes (this level of granularity is a requirement for any truly sophisticated extensible management of digital media objects)
- Standard access control model per individual identifier attribute (essential for privacy protection applications).
- A mechanism for credential validation per individual handle attribute.

1.3 Names and internet governance issues

Issues here include both (1) use of non-Roman characters in a name, and language concerns in translated meaning of the name; and (2) control of the naming system (both DNS and beyond).

(1) A recent story⁵⁷ on internationalised domain names states: “the internet is a global revolution in communication - as long as you use letters from the western alphabet. [There is] growing pressure for a net that recognises Asian, Arabic and Hindi characters, too”. The Multilingual Internet Names Consortium (www.minc.org) is a key player in the pressure on ICANN for change. Given the UTF-8 encoding possibilities of Handle, and CNRI’s work with China Internet Network Information Center (CNNIC) on a Chinese solution of this problem, there is a possibility of promoting handle to MINC, ICANN and others as a solution.

(2) The Handle RFCs contain an IESG Note: “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 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”. Internet naming standards do not yet specify a satisfactory approach for naming objects consistently⁵⁸. Handles are capable of being used in any specification that is finally be endorsed. Until a clear consensus is reached in the internet communities on which approach is to be preferred, handle applications remain agnostic as to formal registration as a generic scheme such as URI or URN, but useable and widely implemented for millions of objects. Ongoing debates about the nature of URIs, URNs, and URLs (which sometimes

⁵⁷ McCarthy, Kieren: “Divided by a common language”
<http://technology.guardian.co.uk/weekly/story/0,,1830481,00.html>

⁵⁸ International DOI Foundation Factsheet: “DOI and Internet Identifier Specifications”
(<http://www.doi.org/factsheets/DOIIdentifierSpecs.html>)

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.

There is a danger that 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 and at appropriate levels of administrative granularity) may be problematic in introducing complementary alternative naming mechanisms. That some internet applications do not rely on DNS (e.g. peer-to-peer)⁵⁹ demonstrates that DNS cannot be a necessary required component of any future development; the internet is not DNS but the global information system that is logically linked by a globally unique address space and communications using the Transmission Control Protocol/Internet Protocol (TCP/IP) suites and provides high level services layered on these (or successors)⁶⁰. The Domain Name System and its disputes as to governance through recent WSIS summits have overshadowed the real issues of efficient naming here. Ironically, DNS is receding in real importance at the same time as governance discussions increasingly look at DNS as the thing to govern.

2. Meaning: Semantic interoperability

The key to potential use of identified entities in meaningful management of intellectual property in digital media is not the assignment of an identifier per se, but the definition and assignment of corresponding metadata which defines what that identifier references. This can then enable interoperability⁶¹: without this secure binding, any use of the identifier itself will be fragile. If A says “owner” and B says “owner”, are they referring to the same thing? If A says “released” and B says “disseminated”, do they mean different things? Are two identifiers from different schemes actually denoting the same referent⁶²? To answer such questions, terms (and relationships between terms) must be logically defined; if two terms are from different sources, a logical agreed definition for mapping must be bilaterally agreed, so that A or B (or anyone else) can make use of one another’s metadata with confidence and in a highly automated way⁶³. The only way of unambiguously deciding if one term means the same as another, irrespective of what it is called, is by sharing a single frame of reference: a structured ontology (an explicit formal specification of how to represent the entities that are assumed to exist in some area of interest and the relationships that hold among them) with an underlying model that allows the generation of consistent new relationships, and a method of recording

⁵⁹ P2P, at its core, does not use DNS. There are probably entry point web sites for most services, some of which may be obvious and some of which may not, but e.g. your Skype identity is not based on a domain name, and that’s not how Skype finds you.

⁶⁰ Kahn, Robert E. & Cerf, Vinton G. (1999): “What is the Internet (And What makes it Work)?”. Internet Policy Institute, December 1999. http://www.cnri.reston.va.us/what_is_internet.html

⁶¹ the use of identifiers in services outside the direct control of the issuing assigner (“persistence” can be seen as a subset of this requirement: interoperability with future systems).

⁶² Paskin, Norman (2003): “On making and identifying a “copy””. D-Lib Magazine, Jan 2003 <http://www.dlib.org/dlib/january03/paskin/01paskin.html>

⁶³ Paskin, Norman (2002): “Towards a Rights Data Dictionary - Identifiers and Semantics at work on the net.” imi insights, June 2002 <http://www.epsltd.com/>

the agreement between the parties whose terms are included in it. The indecs project⁶⁴. developed an analysis of the requirements⁶⁵ for metadata for e-commerce in intellectual property in the network environment, and received widespread support. The indecs *Model of Making*⁶⁶ has been further developed into applications using logical definition of terms in an contextual ontology-based dictionary which allows relationships to be denoted: terms can be "mapped" to other terms⁶⁷. The development of this approach has been advanced by, and has in turn influenced, a number of other metadata and identifier schemes and projects, including the bibliographic initiative FRBR⁶⁸, ABC-Harmony⁶⁹, and has similarities with the museum/archive community's CIDOC Content Reference Model (CRM)⁷⁰. Initiatives adopting this standards-based ontology approach include:

The MPEG-21 Data Dictionary (ISO/IEC 21000-6). The Moving Picture Experts Group (MPEG)⁷¹ is best known for compression standards for audio; MPEG now includes the MPEG-21 "Multimedia Framework", which includes several components of digital rights management technology standardisation. One component is a Rights Data Dictionary⁷² to support activities such as the MPEG Rights Expression Language.

Interoperability across the family of ISO TC46/SC9 identifiers (better known as the ISBN and related identifiers)⁷³; this will need a registry for metadata semantics for all its content identifiers, which would add considerable value.

Digital Object Identifier names mapped through an ontology-based Data Dictionary (it includes as a subset the ISO MPEG 21 Rights Data Dictionary ISO/IEC 21000-6)

The ONIX family of standards⁷⁴, a tool for electronic commerce in the book and serials sectors.

DDEX⁷⁵, the Digital Data Exchange infrastructure for the music industry value chain to enable the development of automated transaction processing in a music e-commerce environment, through integrated standards for identification and description of releases, sound recordings, musical works and licences.

⁶⁴ <indecs> project home page: <http://www.indecs.org>.

⁶⁵

⁶⁶ Rust, Godfrey (2005): "The Model of Making in indecs and RDD" ISO/IEC JTC1/SC29/WG11, document M12159

⁶⁷ International DOI Foundation Factsheet: "DOI and Data Dictionaries"
<http://www.doi.org/factsheets/DOIDataDictionaries.html>

⁶⁸ IFLA (1998): "Functional Requirements for Bibliographic Records", IFLA Study Group on the Functional Requirements for Bibliographic Records, 1998 <http://www.ifla.org/VII/s13/frbr/frbr.htm>

⁶⁹ ABC Harmony Data Model Version 2 <http://www.metadata.net/harmony/ABCV2.htm>

⁷⁰ The CIDOC Conceptual Reference Model <http://cidoc.ics.forth.gr/>

⁷¹ MPEG Home page: <http://www.chiariglione.org/mpeg/>.

⁷² ISO/IEC Information technology - Multimedia framework (MPEG-21) - Part 6: Rights Data Dictionary, ISO/IEC 21000-6. <http://iso21000-6.net/>

⁷³ Paskin, Norman (2006): "Identifier Interoperability: A Report on Two Recent ISO Activities" D-Lib Magazine, April 2006 <http://www.dlib.org/dlib/april06/paskin/04paskin.html>

⁷⁴ Editeur Home Page: <http://www.editeur.org>.

⁷⁵ Digital Data Exchange Home page: <http://ddex.net/>

2.1 Semantic interoperability and language

English is the operational language of the dictionaries built on the basis of indecs to date. It is possible to map a schema in another language into the dictionary. A set of terms in another language would be mapped just as with any other namespace: through bilaterally, mutually agreed mapping of terms into the underlying ontology - so that "what I call *book* is what you call *livre*" is not a simple convention but an agreed analytic ontology definition. Mapping into Chinese and other non-Romance languages is possible (though requires character encoding). The social interaction difficulty of agreeing a mapping might be significant, but is not impossible. Mapped operational definitions are just that: they do not imply more than the pragmatic operational use of the term in the ontology context, and so they avoid, for that particular purpose, the philosophical problem of "indeterminacy of translation"⁷⁶ (pithily put by Wittgenstein: "If a lion could talk, we would not understand him"⁷⁷). Indeed the successful mapping of two languages or two metadata schemas via a common ontology in this way is a practical demonstration of the "myth of the framework" (the fallacy that rational and fruitful discussion is only possible if we adopt a single framework or language)⁷⁸.

2.2. Meaning, digital policy enforcement and governance issues

Mapping terms in an ontology to a legal namespace, representing a specific legislature, is logically similar to mapping to another language namespace. Terms with the same common name do not necessarily correspond with their use in a legal namespace, though they may do in a namespace that considers this purpose. There is a need for digital rights management infrastructure, as a tool for content management (both commercial and non-commercial). But digital rights management, even in the limited context of the management of "content" on the network, is not a legal framework: it has at least four different components⁷⁹:

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); this layer may or may not have some reference to legislation;

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;

⁷⁶ Quine, Willard Van Orman (1960, 1977): "Word and Object" (1960); "Ontological Relativism" (1977).

⁷⁷ Wittgenstein Ludwig (1953): "Philosophical Investigations", II, xi, p. 223

⁷⁸ Popper, K.R. (ed M.A. Notturmo) (1994) "The Myth of the Framework" Routledge, London

⁷⁹ Bide, Mark (2004) "Digital Rights Management: preventing or enabling access?" Serials 17:2 [http://uksg.metapress.com/\(f14cboawwef5mpuwk4qkxbbq\)/app/home/contribution.asp?referrer=parent&backto=iss ue,7,17;journal,6,34;linkingpublicationresults,1:107730,1](http://uksg.metapress.com/(f14cboawwef5mpuwk4qkxbbq)/app/home/contribution.asp?referrer=parent&backto=iss ue,7,17;journal,6,34;linkingpublicationresults,1:107730,1)

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 have application far beyond content protection; identification of users and licences raises issues of privacy and governance. 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 motion picture industry concerns over piracy). The same layers apply also to rights of 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. One of the practical elements of a trusted infrastructure is the structured description of entities, allowing the analysis of meaning. The significant progress in technical means of contextual analysis of meaning described here offer great promise for development. 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.

3. Conclusions

The Athens meeting of the Internet Governance Forum will be organised around the topics of openness, security, diversity and access. Internet governance and development should facilitate each of the following:

- Names assigned to items of digital media we wish to manage as first class names, to facilitate *openness* and *security*.
- The names should be expressible in non-Roman characters if required, to encourage *diversity*.
- The names should be capable of appropriate administration granularity such as a change in ownership or control, independent of DNS, to facilitate *security*
- DNS cannot be a necessary required component of any future naming development; DNS is receding in real importance though will no doubt remain a core tool.
- The referent denoted by the name should be described in a way capable of expression for purposes of semantic interoperability to facilitate *diversity* and *openness*.

Interoperability as a Matter of Access

Mary Rundle

Fellow at the Berkman Center for Internet and Society at Harvard Law School and a Non-Resident Fellow at the Center for Internet and Society at Stanford Law School.
Email [mrundle \[at\] cyber.law.harvard.edu](mailto:mrundle@cyber.law.harvard.edu)

Issue

This paper argues that interoperability is an issue that falls under the mandate of the Internet Governance Forum (IGF) because (i) the issue has serious implications for development, (ii) the issue cuts across several international organizations, and (iii) there is a need for coherence in different organizations' policy approaches.

Framing the Issue

As defined in Wikipedia, "Interoperability is the ability of products, systems, or business processes to work together to accomplish a common task...."⁸⁰ For simplicity, this paper uses the short-form "products" to refer to products, systems, or business processes, though in practice these three different forms can be quite complex and layered. "Components" are here construed as being the parts that work together to make up the whole.

The paper very briefly sets out how interoperability has a direct impact on access to information and communication technology (ICT) and as such affects development. The focus then shifts to why this subject rightly warrants IGF attention.

The Access Dimension in a Nutshell

At the heart of the access dimension of interoperability is the notion that there are serious economic differentials between systems that are interoperable and systems that are not. These differentials stem in large part because interoperability allows discreet components of products to be substituted or added on, whereas a lack of interoperability results in a sort of pre-packaged, lock-in of components.

⁸⁰ <http://en.wikipedia.org/wiki/Interoperability> as viewed on 25 August 2006.

To help understand these dynamics, it is useful to think of comparative economic systems, wherein one entails a market economy with efficient clearing of supply and demand, and the other entails a command economy that tries to dictate the allocation of resources. The clearing mechanism of the market economy affords flexibility and spurs competition and exchanges, whereas the top-down structure of the command economy shields preferred players from competition, and so results in less activity and innovation.

The same sorts of dynamics apply to the structure of ICT products: Where products are interoperable, the consumer enjoys competitive and efficient options as components can be tested and selected for effectiveness, and mixed and matched according to specific purposes. By contrast, where products lack interoperability, the consumer wields much less choice in the selection of components.

So, for example, if electronic commerce (e-commerce) required an electronic signature (e-signature), interoperable systems might allow parties to complete a transaction regardless of the device and system that the purchaser was using: The buyer could use his web-enabled mobile phone to provide his signature and make the purchase, or he could use a desk-top computer connected to the Internet to do so. By allowing different choices, interoperability has augmented this particular consumer's access. Aside from benefiting just the individual, this interoperability carries other positive effects economically: As individual cases add up, consumer demand spurs further development of devices that work together, thereby boosting available ICT resources; in turn, the additional avenues for e-commerce offer more means for buyers and sellers to transact, with an added boon to the overall economy.

Despite this logic, there may be obstacles to interoperability. Although theoretically less attractive, non-interoperable products can sometimes withstand competition by new entrants if they boast of an already sizeable market share whose players are committed through previous investments. In this situation, competing components will not be cost-effective substitutes because switching will entail a discarding or setting aside of the rest of the product that is not compatible with the new component, and a new investment in enough other components to complete the new, interoperable product. Having already paid out the cost of initial investment in the non-interoperable package, the customer is not likely to opt to incur the expense of change just for the sake of one new component. Hence, the restrictiveness of products that lack interoperability may prevent competitors from entering the market. The direct effect is dampened innovation in the ICT sector, and the indirect effect, given the importance of ICT for the general economic infrastructure, is a weighted-down economy with missed opportunities.

In terms of access, then, a lack of interoperability causes costs for ICT products to be unnecessarily high and not as useful as interoperable versions might otherwise be. People who are unable to afford these pricier products become further marginalized – with people in developing countries arguably hurt the most.

On the flip side, by spurring competition among components, interoperability offers the hope of lower costs for ICT. By offering cheaper access, it helps open up participation in the economy and in the Information Society as a whole.

Interoperability as a Horizontal Policy Issue

Though sometimes overlooked, interoperability is a serious matter for world policymakers. It affects the market structure for ICT products and directly influences whether inputs for the information infrastructure are economical. Because these products are fundamental to a

country's ability to participate in the global economy, policies that make them affordable are crucial for development.

With "Internet Governance for Development" chosen as the overarching theme for the first meeting of the IGF, and with "access" one of four major topics slated for discussion, it is fitting that attention should turn to interoperability. Still, there is the basic question as to whether the IGF has authority to treat this issue according to the mandate it received in the *Tunis Agenda for the Information Society (Tunis Agenda)*. Among other things, the IGF has been tasked to "[f]acilitate discourse between bodies dealing with different cross-cutting international public policies regarding the Internet and discuss issues that do not fall within the scope of any existing body".⁸¹

As examples below demonstrate, ICT interoperability constitutes a horizontal issue with development aspects spanning across several intergovernmental organizations. To name a few that are not typically thought of as dealing with technical standards:

The World Trade Organization (WTO) – The WTO's *Annex on Telecommunications* states that "conditions for access to and use of public telecommunications transport networks and services may include ... requirements, where necessary, for the inter-operability of such services."⁸² Speaking to the overlapping competencies of different organizations to deal with this area, the *Annex* continues: "Members recognize the importance of international standards for global compatibility in inter-operability of telecommunication networks and services and undertake to promote such standards through the work of relevant international bodies, including the International Telecommunication Union and the International Organization for Standardization."⁸³

The WTO's *Declaration on Global Electronic Commerce* subsequently called for an examination of all trade-related issues pertaining to global electronic commerce, with this work to "take into account the economic, financial, and development needs of developing countries..." The scope of this work includes the telecommunications interoperability provisions.⁸⁴

The World Intellectual Property Organization (WIPO) – In WIPO issues of interoperability arise in connection with intellectual property rights (IP rights, or IPR). As explained in An Overview of WIPO's Information and Communication Technology (ICT) Strategic Planning Process,⁸⁵ "WIPO is building an ICT capacity that will focus on the business needs and requirements of the IP community; capitalize on Internet-based technologies and open standards; and recognize the importance of system inter-operability and electronic data exchange between Member States and users of the IP system."⁸⁶

In describing the supporting infrastructure, the document notes: "Although the application of a Strategic Plan based on principles of interoperability and system flexibility is expected to bring some economies of scale, the dynamic nature of the global IP and technology environment

⁸¹ *Tunis Agenda for the Information Society*, given at the Tunis Phase of the World Summit on the Information Society, 15 November 2005, Document: WSIS-05/TUNIS/DOC/6(Rev.1)-E, para. 72(b).

⁸² Agreement Establishing the World Trade Organization, Annex 1B: General Agreement on Trade in Services, Annex on Telecommunications (1994), para. 5(f)(iii).

⁸³ *Id.*, para. 7(a).

⁸⁴ Work Programme on Electronic Commerce, adopted by the General Council on 25 September 1998.

⁸⁵ World Intellectual Property Organization, Standing Committee on Information Technologies, Plenary, Seventh Session, Geneva, June 10-14, 2002, Document SCIT/7/11, prepared by the Secretariat.

⁸⁶ *Id.*, para. 8.

may require an ongoing investment to ensure that the underlying infrastructure is able to perform at the expected levels in all respects. However, any investments in ICT systems and infrastructure will need to be justified in the context of the Strategic Plan and be based on clear and justified business requirements. These requirements will be led by industry when existing technologies are no longer supported and by WIPO when new requirements emerge.”⁸⁷

The United Nations Conference on Trade and Development (UNCTAD) – In looking at interoperability as a trade and development issue, the background paper for UNCTAD’s 2004 meeting noted: “The digital divide, characterized by highly unequal access to and use of ICT, manifests itself both at the international and domestic levels and therefore needs to be addressed by national policy makers as well as the international community. The adoption of ICT by companies requires a business environment encouraging open competition, trust and security, interoperability and standardization, and the availability of finance for ICT. This requires the implementation of sustainable measures to improve access to the Internet and telecommunications and increase IT literacy at large, as well as development of local Internet content.”⁸⁸

Interoperability was a major theme in a report on Competition Policy and the Exercise of Intellectual Property Rights, prepared for a meeting of UNCTAD’s Intergovernmental Group of Experts on Competition Law and Policy.⁸⁹ As noted in the Executive Summary: “There is concern about cartel-like restraints, exclusionary conduct and monopoly leveraging by dominant firms, refusals to license IPRs or to sell IPR-protected products, practices or mergers which may chill technological innovation (including those relevant to proprietary de facto standards, interoperability, access to essential facilities and network effects) and the effects of over-broad grants of IPRs.”

The Organisation for Economic Co-operation and Development (OECD) – The OECD has also underscored interoperability as a priority. In its contribution⁹⁰ to the United Nations Working Group on Internet Governance, whose work fed into the Tunis Phase of the World Summit on the Information Society, the OECD touted interoperability. Commenting on the success of the Internet (and, specifically, the decentralized and collaborative process of underlying technological development and core resource management), the report notes: “Co-ordination and co-operation across a broad range of stake-holders has enabled the current open network in which different components of the Internet can interoperate.”⁹¹ The report also acclaims the open, non-proprietary nature of the core Internet standards, explaining: “Most of the protocols at the core of the Internet are protocols based on open standards that are efficient, trusted, and open to global implementation with little or no licensing restrictions. The protocol specifications are available to anyone, at no cost, thus considerably reducing barriers to entry, and enabling interoperability...”⁹² The report then elaborates these points and calls for appropriate respect for interoperability in policymaking for the Internet.

⁸⁷ *Id.*, para. 14.

⁸⁸ “ICT as an Enabler for Growth, Competitiveness and Development: Implications for National and International Policies and Actions,” Interactive Thematic Session, Summary prepared by the UNCTAD Secretariat, June 2004, Document TD/L.388, para. 3.

⁸⁹ Trade and Development Board - Commission on Investment, Technology and Related Financial Issues - Intergovernmental Group of Experts on Competition Law and Policy, Geneva, July 3-5, 2002, Document TD/B/COM.2/CLP/22/Rev.1.

⁹⁰ Directorate For Science, Technology and Industry - Committee for Information, Computer and Communications Policy, “OECD Input to the United Nations Working Group on the Information Society (WGIG),” Document DSTI/ICCP(2005)4/FINAL.

⁹¹ *Id.*, p. 6.

⁹² *Id.*, p. 7.

This simple listing points to just a small collection of the international organizations that are not primarily engaged in setting standards but that nonetheless assert a connection between their work and interoperability. As such, the listing lends a sense of the overlapping competencies of organizations whose work has a nexus to this horizontal issue. While by no means exhaustive, the presentation here highlights the need for policy coherence among the different bodies – and the key role that the IGF has to play here.

Conclusion

The sampling of work by the international organizations noted above suggests that the international system is treating interoperability not just as a matter for technical standards bodies. Rather, the issue is understood as directly relating to user access to ICT, e-commerce, intellectual property rights, the digital divide, competition policy, and more. With so many bodies dealing with different aspects of the same core issue, the possibility for conflicting policies is real.

Given its multi-stakeholder approach, the IGF is well situated to shed light on these overlapping relationships and to help policymakers see which aspects are most appropriately handled by intergovernmental bodies, and which might better be left to the private sector and civil society to influence. In particular, for those areas warranting treatment by governments, an IGF examination could study the appropriateness of action to mandate standards, consider IPR provisions permitting reverse engineering, subsidize the development of open standards, require disclosure of certain technology, and influence market structure through procurement requirements.

Considering the fundamental importance of interoperability for ICT access and development, the IGF arguably has an imperative to take up this challenge.



Public Policy Issues for the First Meeting of the Internet Governance Forum

Matthew Shears

ISOC

The Internet Society is pleased to respond to the Internet Governance Forum Chair's request for input on public policy issues to be discussed at the meeting of the Forum in Athens in October 2006.

In the Internet Society's contribution to the Internet Governance Forum consultation dated 17 February 2006, we outlined some initial thoughts on the purpose of the public policy discussion, the process to be used and the policy areas we felt the Forum should address⁹³. We build upon those key points in the following.

Purpose of the public policy dialogue

The Internet Society believes that the purpose of such a public policy dialogue should be to build issue awareness through a case-study approach emphasizing best practice and expertise sharing. Building this awareness across stakeholders and geographies can be done by:

- Understanding who is doing what in the issue space
- Compiling, socializing and disseminating commonly accepted best practices
- Encouraging participation in the key organisations in the issue areas
- Discussing best practices implementation, etc.

⁹³ "The Internet Society recommends that the Internet Governance Forum begins the case-study approach with a limited set of issues (one or two) that are "cross-cutting" and "do not fall within the scope of any existing body" (paragraph 72 b), and also build on the WSIS achievements and contribute to reaching the Millennium Development Goals. The Forum should draw heavily on existing bodies of work, and institutional and individual expertise – highlighting the work already being done to address the issues – and then focus on concrete proposals of how governments, the UN, the World Bank, the private sector, and the key Internet governance organizations, etc., can work together to ensure that the best available expertise and resources are brought to bear. These case-studies should include areas such as interconnection arrangements and connectivity (paragraph 50), ICT education and training (paragraph 51), spam (paragraph 41), and multilingualism (internationalizing the Internet) (paragraph 53), all of which were core to the WSIS discussions and require further development. The Internet Society notes that it will be important that the Forum focus on "workable" issue areas, and not on those subject to clearly entrenched views that would make discussion unproductive."

The Forum's success will be determined by the degree to which it engages with those organizations and individuals that are actively addressing the issue areas, the degree to which it promotes greater awareness of who is doing what in the Internet governance space, and the degree to which it encourages and brings about greater participation, particularly from developing nations, in the range of organizations that play a role in the administration, management, development and evolution of the Internet.

The Forum has the potential to spur national governments, international organizations, organizations involved in Internet governance, and other organizations to strengthen the dozens of organizations currently involved in shaping the evolution of the Internet and to make their work and their decisions more accessible. For instance, governments might commit funds to support Internet experts in their country who wish to participate in Internet standards bodies or Internet policy discussions, thereby contributing to national ICT-related capacity building. Standards bodies and policy organizations might also make more of their documents available free of charge online and use the Internet to better enable online participation.

Proposed public policy case study areas

In order to determine how best to strengthen existing Internet governance efforts, the Internet Society recommends the Forum focus on two or three specific issues at a time. Possible topics that the Forum might examine during its mandate include:

- **Spam (Tunis Agenda for the Information Society paragraph 41)**
- **Interconnection arrangements and connectivity (paragraph 50)**
- **ICT education and training (paragraph 51), and**
- **Multilingualism (paragraph 53).**

Other topics might also be examined. The Internet Society has proposed a number of guiding principles in its submissions and interventions with regard to the choice of case studies. They are as follows:

- The issues should be cross-cutting
- The issues should not fall within the scope of any existing body
- The issues should be material to harnessing the power of ICTs for development and to promoting access to and the availability of the Internet
- The issues should be drawn from those that were core to the WSIS discussions and clearly warranted further discussion
- The issues should not be subject to entrenched views that would make discussion unproductive
- The issues should be those for which dialogue in the Forum can be seen to be adding value.

While each of the above is important, we would draw attention to the last one in particular. Given the personnel, financial and time related constraints that all interested parties are subject to, the Forum must show quickly that it is adding value to the Internet governance discussion at a global level in order to ensure the continued commitment of all stakeholders

Whatever issues the Forum chooses to focus on, in order to make the discussion productive it will need to consider the following for each of the issue areas:

- Why is the issue important?
- What are the key considerations?
- Who are the key players?
- What are the recognized initiatives (possible best practices)?

As an illustration, a discussion on **spam** in the IGF would likely consider, inter alia, the following:

Why is the issue important?

- Developing and developed countries see an increasing level of spam
- Viruses and malware use spam-techniques, and spam for the purpose of identity theft is becoming more prevalent
- For developing countries there are concerns related to the loss of confidence in the Internet as a communications medium, as well as costs of spam over limited bandwidth
- Spam is a global problem; therefore increased discussion at the international level should be advantageous, etc.

What are the key considerations?

- Spam is a truly cross-cutting issue: it is generally recognized that spam cannot be solved by any one stakeholder in isolation but requires a multi-stakeholder approach, one that incorporates regulation, technology, law enforcement, international agreements, users, etc.
- Spam has many forms, some of which are considered legitimate business traffic in some countries, some of which is criminal solicitation intended to perpetrate fraud, and some of which is virus and other malware intended attack the receiver's system.

Who are the key players?

- International organizations such as the OECD, the ITU
- Standards development organisations such as the IETF
- E-mail infrastructure, anti-spam and mail certification companies
- Internet service providers
- Non-profit organizations such as Spamhaus
- And many more....

What are the recognized initiatives (possible best practices)?

- OECD anti-spam toolkit
http://www.oecd.org/document/26/0,2340,en_2649_22555297_34804568_1_1_1_1,00.html
- London Action Plan <http://www.londonactionplan.org/>
- The IETF's Domain Keys Identified Mail Working Group
<http://www.ietf.org/html.charters/dkim-charter.html> etc.

Through addressing each of the issues in this way the following will become evident: 1) the degree to which work is already underway in the issue area, 2) the players and how they are addressing the issues, and 3) the recognised initiatives and possible best practices. Such a process will lead to a better understanding of the public policy areas in question and to addressing whatever related concerns stakeholders may have. Furthermore, each case study will help spur discussion of how more representatives of developing countries and underrepresented stakeholders can play a larger role in Internet governance efforts currently underway.

We would note that getting the right players to the table will be critical to the Forum's success. The Forum needs to exercise caution in terms of how it positions itself vis-à-vis those entities that are already involved or are recognized experts in the issue areas. The Forum should not be seen to be more than "a forum for multi-stakeholder policy dialogue" and a "neutral, non-duplicative and non-binding process" as specified by those who very carefully negotiated the Tunis Agenda.

Conclusion

The Internet Governance Forum has a unique opportunity to provide major, long-term benefits to current—and potential—Internet users around the world through strengthening and enhancing the participation of stakeholders, particularly from developing nations, in Internet governance mechanisms. But the Forum must stay focused on this goal and avoid the pressure to discuss new organizations, draft bold new declarations or treaties, or duplicate work already being done elsewhere. If this is done, we believe the Forum has the potential to build on the World Summit on the Information Society, contribute to achieving the Millennium Development Goals and spur ICT development.

March 2006

Further comments

More generally, in terms of expectations, I would say that one of my interests now is to ensure that there are truly practical take-aways from the Athens event and that it does not become just another "talking shop". The theme is Internet governance for development and therefore the focus should be on understanding and discussing, through information and best practices sharing, some of the very real difficulties faced by the developing world in the 4 chosen subject areas. The event should also contribute to reinforcing an appreciation for the incredible benefits that the Internet and other communications means can bring developing

nations, locally, regionally and internationally. Finally, I would hope that all those who participate in IGF Athens will come away from it with a greater understanding of how the Internet works, how it develops and how it is managed and administered and, importantly, how one can participate therein.