

Governance of Critical Internet Resources

What Does “Governance” Mean? What Are “Critical Internet Resources”?

**Prepared by the Center for Democracy & Technology*
for the Second Internet Governance Forum in Rio de Janeiro, Brazil**

November 14, 2007 v.2

Since the inception of the World Summit on the Information Society (WSIS) in 2003, the debate over “governance” of “critical Internet resources” (CIR) has escalated. Although WSIS produced a consensus agreement that did not call for major changes to the structure of international Internet governance, criticism of the current arrangements has continued, and governance of CIR has become a central theme of the Rio Internet Governance Forum (IGF).

The IGF emerged out of WSIS as a forum where government, corporate and civil society stakeholders and the Internet community from around the world could gather to address the challenges to continued Internet development. The disposition of critical Internet resources is an important aspect of that discussion. However, confusion over both the concept of “governance” and the definition of “critical Internet resources” threatens to produce some undesirable results.

It is the purpose of this paper to describe “governance” and “critical Internet resources” in the context of a vision of the Internet as a medium uniquely suited to foster economic growth, human development, and democratization. Secondly, while we argue for a broad definition of CIR, we stress that the definition matters less than the principle that human rights -- most importantly freedom of expression, which is foundational -- must be central to all aspects of Internet governance. Third, it is our intent to show that different institutions and different processes -- some national, some global, some governmental, some non-governmental -- can effectively “govern” different aspects of CIR. Finally, we stress the responsibility of national governments for overcoming many of the barriers to Internet development. In particular, we want to warn against disproportionate focus on

* The Center for Democracy & Technology is a Washington-based nonprofit organization that works to promote human rights in the digital age. CDT works with other public interest groups, technology companies, individuals, regulators and lawmakers to develop and advance policies that preserve and enhance the open, democratizing nature of the Internet.

CDT has played an active role in the Internet governance discussion from the outset, beginning with the process in the 1990’s that led to the establishment of the Internet Corporation for Assigned Names and Numbers. Advocating for inclusiveness and transparency at all levels of Internet governance, CDT’s overarching goal is to support the continued development of local, national and international governance structures that foster the openness, freedom and interconnectivity that are at the core of the Internet’s global value.

the crucial but comparatively small aspect of CIR overseen by the Internet Corporation for Assigned Names and Numbers (ICANN).

What is Governance?

Governance is any method or manner of governing an institution or function. Some form of governance, formal or informal, can be found in all modes of human interaction – in families, corporations, universities, cities, and within and between nation states. Some governance takes the form of laws or treaties, but private contracts govern many interactions without direct government involvement. Customs and tradition provide an informal form of governance. On the Internet, technical standards express a form of governance, setting rules for communication among participating end user devices.

With respect to Internet governance, three things should be clear:

-- Governance ≠ Government

There are many effective forms of governance that exist with little direct governmental involvement. Government may enforce private governance structures, such as through laws enforcing contracts, but the contracts themselves are written by private parties. Also, government may specify how governance processes are to be conducted, without having any actual involvement in the decision-making process. For example, the governance process by which shareholder corporations make decisions may be defined by law, and the aid of the courts may be invoked if rules of procedure are ignored, but the government has no role in deciding what is a wise decision. For centuries, dating back at least to the guilds if not earlier, private standards-setting bodies have governed aspects of commerce, including communications. Some of the most important functions of the Internet are very well governed by voluntary adherence to standards adopted by open, voluntary, non-governmental bodies, including most notably the Internet Engineering Task Force.

-- Not Every Proponent of Governance Supports Democracy, and Pure Democracy May Not Protect Human Rights

Some forms of governance are democratic, and others, while not involving voting, allow for public participation, but not all forms of governance are open to public participation, nor does democratic participation necessarily yield outcomes consistent with human rights. Indeed, key human rights values protect minority views and minority groups against the less inclusive tendencies of democracy.

-- More Governance ≠ Better Governance

Some important values – innovation, freedom of expression – could be stifled by more governance.

What Kind of Internet Do We Want?

The kind of Internet governance one considers optimal should flow from an express understanding of what kind of Internet one wants to achieve, for different forms of governance are likely to produce different Internets. In CDT's view, the Internet that will promote economic growth, human development and democratization within a framework of human rights will be an Internet that is:

- Widely accessible
- Affordable
- Open
 - Devices can be connected at the edges without permission of network operators
 - A wide range of applications can be supported
 - Any user can reach any content on a non-discriminatory basis
 - Any device at the edge can connect to any other device on a non-discriminatory basis
- Innovative
- Trusted – privacy protected
- Secure
- Supporting free expression

Despite all its limitations, the current Internet has come remarkably far along in achieving these goals. It has done so based on a flexible set of protocols whose acceptance never required the approval of any government and an end-to-end principle that places a lot of control in the hands of individual users at the edges of the network, with relatively few and relatively weak gatekeepers at its center. All this was subject to “governance,” at various levels, exercised by a variety of institutions and individual users.

Those wishing to change the current governance structure for the Internet – and CDT has its own, relatively narrow proposals for improvement of ICANN -- have the burden of showing how a different governance structure would do a better job of achieving these or other articulated goals. Conversely, in judging any governance proposal, it is important to ask what kind of Internet is it likely to foster?

What Are Critical Internet Resources?

Once a vision of the Internet has been defined, it is possible to consider what type of governance structure – or mix of governance structures -- can best support that goal. In our view, the following can be considered critical to achieving the vision of a widely accessible, affordable, open, and user controlled Internet:

- Sufficient IP addressing numbers
- Affordable, easily obtained domain names
 - Including IDN - domain names in non-Latin characters
- Reliable root name servers

- Stable but extensible protocols and standards
- Bandwidth
 - Backbone
 - Accessible IXP services
 - Last mile (PSTN, Cable, Wireless, BOP)
- Policies supporting trust
 - Privacy
 - Security
 - Freedom of expression
 - Anti-fraud, anti-crime
- Affordable end-point access devices (hardware – computers but also mobile phones)
 - Includes public access points
- Know how – human capacity
- Electricity

This broad list covers factors ranging from those that are unique to the Internet (IP addresses) to those that are not (privacy laws and electricity). It also ranges from those that are global in nature (domain names) to those that are largely local in nature (electricity). Others share global and local aspects (anti-fraud). But it should be apparent that where one stands on the definition of what is a “critical” Internet resource depends to a large degree on where one lives (geographically). To many in Africa, for example, bandwidth and electrical power, while neither unique to the Internet nor globally regulated, **are** critical, overshadowing concerns about, for example, new top level domain names.

Defining CIR broadly runs the risk of diluting and confusing the discussion over Internet governance and development. On the other hand, defining CIR as narrowly confined to IP addresses and domain names could divert attention from the key barriers to Internet development in many countries, including still-monopolized communications infrastructures, burdensome licensing schemes, outdated regulatory systems, limits on spectrum use, and repression of speech, as well as more mundane concerns like hardware and electricity. Moreover, defining CIR as IP addresses and domain names could lead to the misimpression that ICANN and the addressing registries are the sole repositories of Internet governance and bear the responsibility for addressing the full range of barriers to Internet development. Perhaps of greatest concern, broad criticism of the current structure of Internet governance, based on the continuation of the contract between the U.S. Department of Commerce and ICANN, could amplify the claims of those countries that seek far-reaching changes in Internet governance to justify and facilitate repression of free speech and limits on democratic participation.

What is “Good” Governance?

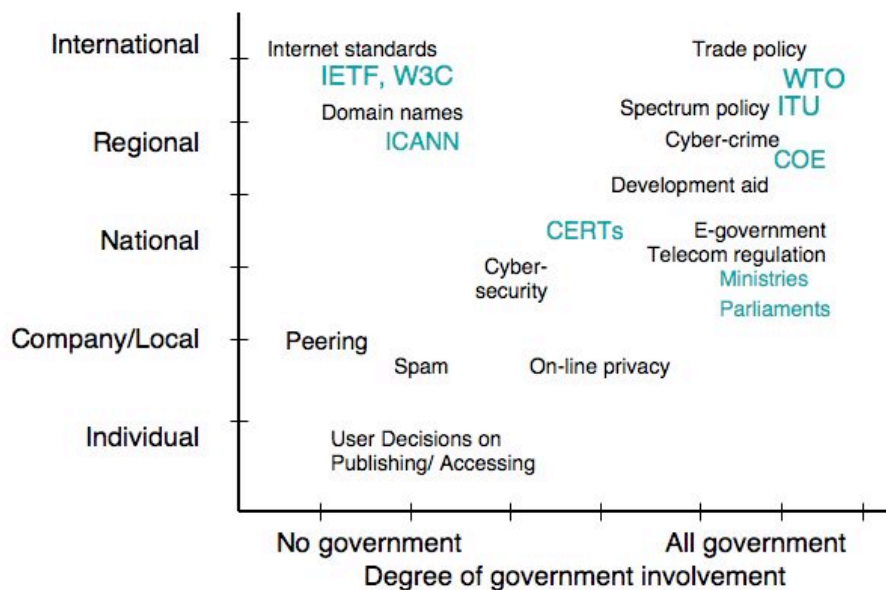
Finally, it is useful to consider what do we want from governance. Within the human rights and development context, good governance has the following features:

- Representative
- Participatory – open to all stakeholders
- Transparent
- Accountable
- Predictable
- Efficient

Note that good governance by these criteria can exist without governments, and, conversely, not all governments meet these criteria of good governance.

What is the Current Structure of Internet Governance?

Given this framework, it is possible to assess the status of Internet governance. Since its inception, the Internet has been governed. This governance has been exercised by users, who choose and create content to a degree not possible in traditional media; by corporations, through peering agreements and other contractual arrangements for exchange of traffic; by national governments through their state owned or regulated communications infrastructures; by international treaty organizations like the WTO, which regulates various aspects of trade in communications services, and WIPO, which sets rules for intellectual property; and by non-governmental standards bodies that develop the protocols and other technical standards, which often embody policy choices affecting individual interests. One way to map Internet governance is as follows, using axes representing the degree of governmental involvement and the spectrum between individual choices and international institutions:



Looking at the critical Internet resources identified above, we see a range of governance bodies:

- Addressing numbers – IANA and RIRs
- Domain names – ICANN, TLD registries, including ccTLD registries
- Protocols – IETF, W3C
- Standards – ITU, national standards agencies
- Bandwidth – national governments
 - Exception – backbone – largely private contract
- Policies supporting trust – national governments
 - International norms – EU, OECD, APEC
- Access devices – national governments
- Electricity – national governments

What is notable about this list is that some of the critical Internet resources currently posing the greatest barriers to Internet development, such as bandwidth, are governed by national governments, while some of the most successful forms of Internet governance, such as the development and maintenance of the TCP/IP suite of protocols, are exercised by a non-governmental, unregulated, voluntary entity.

The Domain Name System

ICANN was created in 1998 in order to take what had been a set of functions controlled exclusively by the U.S. government and privatize them, internationalize them, and open them to competition. It was an unprecedented, forward-thinking decision and represented a new form of governance, based on multi-stakeholder participation and bottom-up decision-making. After nine years, it is clear that ICANN, despite its flaws, has been an effective steward of the Domain Name System (DNS).

However, ICANN stills falls short in terms of transparency, representativeness and lack of a clear, narrow charter. It has been too slow in implementing domain names in non-Latin scripts. And the U.S. government continues to retain a level of control over ICANN. These problems are the source of legitimate concern. CDT has been active over the years in defining some of these problems and urging their resolution. See “Response to the National Telecommunications and Information Administration's Notice of Inquiry on the Management of the Domain Name and Addressing System” (2006) <http://www.cdt.org/standards/20060707noiresponse.pdf> and “ICANN and Internet Governance: Getting Back to Basics” (July 2004) http://www.cdt.org/dns/icann/20040713_cdt.pdf.¹ Nevertheless, these problems do not

¹ CDT was an early and prominent proponent of global representation and participation in ICANN. We urged ICANN to select some of its Board members by elections broadly open to Internet user worldwide. CDT actively encouraged citizens of the world to participate in the ICANN's 2000 elections and operated a website to provide information and facilitate participation. Afterwards, CDT coordinated the NGO and Academic ICANN Study (NAIS), a diverse group of public interest representatives from around the world, which issued in August

justify abandoning or radically changing what has been a successful framework for governance.

Initially, the U.S. Government intended to maintain its special oversight role over ICANN for the first two years of the organization's existence – this was supposed to be long enough for the fledgling nonprofit company to establish stable control over the DNS and to develop a robust and transparent decision-making process that represented the needs of all Internet users. However, the contract has been repeatedly renewed, most recently in 2006 for up to five years.

Although ICANN has an internationally representative board, some participants in the WSIS and IGF process are still concerned with internationalization. In particular, there is strong dissatisfaction that the U.S. government has retained veto power over some ICANN decisions (a power the U.S. government has never used). Little consensus has developed around alternatives. The idea of bringing ICANN under international governmental control, as part of the UN's International Telecommunications Union or a similar body, is particularly unattractive, posing a high risk of injecting greater bureaucracy and government control into a process that has thrived in the relative absence of government intervention.

Other, more limited proposals center around reforms in ICANN's procedures, many of which CDT supports. Perhaps the most intensely-felt issue concerns the U.S. Government's ongoing contractual control over certain ICANN functions. Severing the tie poses a dilemma: Under the current, imperfect structure, ICANN's contractual bond with the U.S. Government protects ICANN from capture by other governments or interests. It remains unclear how an autonomous ICANN would fare upon dissolution of its agreement with the U.S. Would the international community be certain to exercise as little control as the U.S. government has? It is prudent, before cutting the ties to the U.S., to develop mechanisms to ensure that the U.S. government's "control" will not be replaced with more restrictive ties.

CDT has repeatedly said that legitimate concerns about ICANN must be addressed promptly by reforms within ICANN itself, or else they may fuel calls for more radical proposals.

2001 a major report, "ICANN, Legitimacy, and the Public Voice: Making Global Participation and Representation Work" <http://www.naisproject.org/report/final/>. More recently, CDT has stressed the need for ICANN to stay confined to its narrow mission. Our 2003 white paper offered concrete benchmarks for assessing ICANN and recommendations for improving representation and responsiveness to the public interest. "Assessing ICANN: Towards Civil Society Metrics to Evaluate the ICANN Experiment," July 2003 <http://www.cdt.org/dns/icann/030731assessingicann.pdf>. In 2006, CDT filed extensive comments on ICANN's proposal for transparency and accountability management. <http://www.cdt.org/standards/20061101icanncomments.pdf>. CDT has vigorously opposed U.S. intervention in ICANN decision making. Letter Opposing Commerce's Department's Comments on .xxx gTLD Proposal (Sept 2005) <http://www.cdt.org/dns/20050930xxxletter.pdf>.

Finally, critics of ICANN should make it clear: the U.S. government can be said to “control” the Internet only in the most narrow sense, and many of the most serious challenges faced by the Internet are subject to “governance” by nation states and institutions outside of ICANN. We now consider a few of these.

Communications Infrastructure

Perhaps the biggest barriers to Internet development are posed by limitations in the underlying communications backbone over which all Internet communication is transmitted. Robust, affordable and open communications networks and a flourishing ISP industry are prerequisites to taking advantage of the Internet's full value as a tool for commerce, speech and organization. Although some authority over the communications backbone rests with the ITU, national policies have the most direct impact on capacity and accessibility. Governments have multiple ways of empowering, or alternatively discouraging, the ability of the private sector to offer services related to exploiting the Internet, the most basic of which is affordable and available access.

A vital step to promoting the development of Internet backbone lies in creating the economic conditions favorable to investment. It has been shown repeatedly that the breaking up of monopolies and the introduction of competition can attract investment, spur infrastructure development and drive down prices for consumers. At the same time, it is clear that privatization alone has not been sufficient, and further work needs to be done to bolster national regulatory authorities with the tools and skills to properly regulate competition to promote growth. With so many nations involved at different phases of liberalizing their communications policies to foster greater development, this is a natural topic for IGF, where governments, companies and users can benefit from their peers' experiences, learn from others' mistakes and seek assistance from those who have achieved successes.

Wireless Spectrum

The allocation and utilization of radio spectrum has become increasingly critical, both for fixed wireless and mobile access. In many nations, innovative use of wireless could far outpace traditional wire-line developments. The future will bring ever-greater need for effective spectrum policy.

International spectrum issues are handled by sovereign nations participating in the ITU, but, as with traditional telecommunications policy, some of the most critical decision-making occurs at a national level. Because spectrum is a finite resource for which demand is ever growing, wise spectrum policy is essential to fostering innovation access and development.

Hardware Availability

Another essential component to fostering broader Internet access is the availability of hardware, in the form of public access points, personal computers, and mobile Internet devices. Clearly, policy can only go so far in this space. In nations where food and basic medical supplies are scarce, there is a legitimate question as to whether providing greater access to computer hardware can or should be made a priority. Still, there are policy triggers (trade policy, import rules, etc.) that impact the point of the hardware that is available to citizens and civic groups. Furthermore creative policy and development initiatives can get more people online by focusing on bolstering the availability of cheaper alternatives, like cyber cafes and mobile Internet devices.

Conclusion

There is a danger that the relatively narrow concerns with the practical operations of ICANN will overshadow other areas in which progress can be made to foster Internet development. A narrow discussion of “critical Internet resources” can contribute to a misconception about where control of “the Internet” rests and how it is exercised. The DNS constitutes a vital, but comparatively small portion of critical Internet resources. Worse, broad-brush criticism of ICANN could lend support to the arguments of those governments who seek new forms of “governance” over the Internet to stifle freedom of expression and the Internet’s democratizing potential. The vast majority of critical Internet resources are regulated by national governments. In too many cases, national governments have failed to use their regulatory authorities and policies concerning CIR to promote Internet growth. Worse, national governments have stifled innovation and expansion by protecting monopolies, infringing on privacy, and restricting the free flow of information.

The IGF can be of great benefit as a unique forum to share the principles and best practices that can be used at the national level to foster Internet growth within a framework of human rights and development.

For more information: Jim Dempsey, Policy Director, Center for Democracy and Technology - jdempsey@cdt.org