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Thinking Clearly about Multistakeholder Internet Governance

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Introduction: Internet Governance as a Shared Global Political Concern

Questions about the Internet's security and stability have emerged as a crucial international political concern on par with more longstanding collective action problems such as environmental protection, human rights, and basic infrastructural systems of finance, water, and energy. These shared global issues transcend national borders and sovereignty. No nation acting alone can address these issues *in toto*; yet local actions within national borders can have significant network externalities that reach across the globe.¹

21st century economic and social structures are dependent on Internet infrastructure for basic functioning. The ongoing stability and growth of this infrastructure is not preordained but something that has to be facilitated. Both the Internet's architecture and its governance are constantly changing. The content and computing devices to which end users are exposed constitute only the surface of a massive underlying infrastructure of networks, services, and institutions that keep the Internet operational. Most of this material and virtual architecture is comprised of private information intermediaries such as network operators, exchange points, search engines, hosting services, e-commerce platforms, and social media providers. Despite the privatized and somewhat autonomous nature of these network components, global coordination is necessary to keep the overall Internet operational. For example, global technical standardization ensures interoperability; cybersecurity governance maintains stability and authentication; and centralized coordination ensures that each Internet name and number is globally unique. These, and other, tasks necessary to keep the Internet operational, as well as the substantive public policy issues that arise around these functions, are collectively referred to as "global Internet governance."

Efforts to study and practice Internet governance start, virtually without exception, from the premise that the Internet is governed by an innovative, unusual (perhaps unique) 'multistakeholder' model.

¹ While these issues are comparable in scale and significance, we do not take the position that the Internet itself is a commons. Given its non-rivalrous and excludable nature, it is more accurately thought of as a set of nested club goods. For a more detailed presentation of this argument, see Mark Raymond, "Puncturing the Myth of the Internet as a Commons," *Georgetown Journal of International Affairs* (forthcoming).

Preserving that model is a primary goal for the broader Internet community as well as for many governments, though not for all. Viewing multistakeholderism as a teleological goal for Internet governance creates several problems. First, multistakeholderism is often elevated as a value in itself rather than as a possible approach to meeting more salient public interest objectives such as preserving Internet interoperability, stability, security, and openness. Second, multistakeholder governance may not be appropriate in every functional area of Internet governance. Keeping the Internet operational requires numerous coordinating and policymaking tasks. This administration is not a monolithic practice but rather a multilayered series of distinct tasks of which some are appropriately relegated to the private sector, some the purview of traditional sovereign nation-state governance or international treaty negotiations, and some more appropriately multistakeholder. It is a misnomer to speak not only of *multistakeholder* governance but also of *Internet governance* as a single thing. Various different bodies exert authority over related but distinct aspects of governing the Internet's technical architecture.

The concept of multistakeholderism can also serve as a proxy for broader political struggles or be deployed as an impediment to the types of Internet coordination necessary to promote conditions of responsible governance. For example, governments with repressive information policies can advocate for top-down and formalized multistakeholderism to gain additional power in areas in which they have traditionally not had jurisdiction. These types of efforts can result in multilateral rather than multistakeholder approaches with non-governmental actors limited from participating in formal deliberations and lacking any meaningful voting power. Alternatively, companies and other actors with vested interests in current governance arrangements can deploy multistakeholderism in a manner either meant to exclude new entrants (whether public or private) with incommensurate interests and values or to preserve incumbent market advantage.

The primary thesis of this paper is that multistakeholderism should not be viewed as a value in itself to be applied homogeneously to all Internet governance functions. Rather, the appropriate approach to responsible and efficacious Internet governance requires determining what types of administration are optimal for promoting a balance of interoperability, innovation, free expression and operational stability in any *particular* functional and political context. Doing so requires conceptual and theoretical tools that have not yet been developed. Accordingly, the paper proceeds in three parts. First, it presents a more granular taxonomy and understanding of Internet governance functions – differentiating between, for example, cybersecurity governance, Internet standards setting, and the policymaking function of private information intermediaries. Second, it performs the same task of disaggregation with respect to multistakeholderism. It presents distinct varieties of multistakeholder Internet governance (which differ according to the varieties of actors involved and the nature of authority relations, if any, between them) and sets these arrangements in a broader context of modalities for accomplishing global governance in other issue areas. The paper also highlights the potential for gains from the study of multistakeholder governance as a class across issue-areas. Such an approach contributes both to the study and practice of Internet governance, and to scholarship in International Relations and global governance. The paper concludes by identifying these contributions, including areas for further research.

Disaggregating “Internet Governance”

The United States House of Representatives 2012 hearing on “International Proposals to Regulate the Internet” addressed concerns about a possible takeover of Internet governance by the United Nations, and

specifically its specialized information and communication technology agency known as the International Telecommunication Union (ITU).² The expressed position of the United States government is to preserve the fundamental multistakeholder model of governance. The United Nations, the ITU, and dominant multinational Internet companies have all espoused similar valorizations of multistakeholderism. Discourse around “multistakeholderism” reflects longstanding international tensions about administrative control of the Internet. Most of this concern has centered on tensions over the historic relationship between the United States Department of Commerce, specifically the National Telecommunications and Information Administration (NTIA), and control of a narrow but important set of Internet governance functions including oversight of the Internet’s root zone file that definitively tracks the list of names and IP addresses of all the authoritative servers for top-level domains (e.g. .com, .edu., .uk). The symbolic and practical implications of this American oversight have created pressure for greater internationalization of this narrow function and have more generally created tension in Internet governance debates. Concerns about United States surveillance practices – such as the National Security Agency’s PRISM data mining program – have drawn even further attention to the geopolitics of Internet governance.

The historic legitimacy contest³ between United States control versus some form of international control represents a real, if quite narrow, power struggle, but misrepresents how Internet governance happens in practice. It focuses on a small (though important) subset of administrative responsibilities around critical Internet resources, the globally unique domain names and binary numbers necessary for using the Internet. In practice, the majority of Internet governance is carried out by the private sector and by new global institutions designed to oversee some aspect of Internet administration. A question such as “who should control the Internet: the United States, the United Nations, or some other entity,” is incongruous because it inherently assumes that Internet governance is a singular system, and also completely discounts the highly privatized nature of Internet administration.

There is no unitary system that oversees and coordinates the Internet. Some administrative tasks and policies are carried out by private industry operating as part of markets; some tasks are overseen by relatively new institutions such as the Internet Corporation for Assigned Names and Numbers (ICANN), and some administrative jurisdiction resides with sovereign nation states or multilateral governmental coordination. Explanations of the various components of Internet governance have filled entire volumes and there are many possible taxonomies for describing these functions.⁴ One way to understand the Internet governance ecosystem is to divide its main functions into six areas: (i) control of “critical Internet resources,” (ii) setting Internet standards, (iii) access and interconnection coordination, (iv) cybersecurity governance, (v) the policy role of information intermediaries, and (vi) architecture-based intellectual property rights enforcement.

² House Energy and Commerce Committee hearing, “International Proposals to Regulate the Internet,” May 31, 2012.

³ On legitimacy contests, see Mlada Bukovansky, *Legitimacy and Power Politics: The American and French Revolutions in International Political Culture*, Princeton University Press 2002.

⁴ See, for example, Laura DeNardis, *The Global War for Internet Governance*, Yale University Press 2014; John Mathiason, *Internet Governance: The New Frontier of Global Institutions*, Routledge 2008; Milton Mueller, *Networks and States: The Global Politics of Internet Governance*, MIT Press 2010; Lee A. Bygrave and Jon Bing, eds., *Internet Governance: Infrastructure and Institutions*, Oxford University Press 2009; Eric Brousseau, Meryem Marzouki, Cécile Méadel, eds., *Governance, Regulation, and Powers on the Internet*, Cambridge University Press 2012.

Critical Internet resources are the globally unique virtual identifiers – including domain names, Internet Protocol (IP) addresses, and Autonomous System Numbers (ASNs) – necessary for the day-to-day operation of the Internet, as well as the Domain Name System (DNS), a distributed set of servers that translates domain names into associated IP addresses for routing information to its destination. Internet standards are the common rules, or protocols, that computing devices follow to ensure global interoperability (e.g. TCP/IP, VoIP). Access and interconnection coordination addresses how various networks conjoin to collectively form the global Internet. Cybersecurity governance encompasses the challenge of securing the essential shared infrastructures of Internet governance, including routing, authentication systems, and the DNS, as well as responding to Internet security problems like worms and Distributed Denial of Service Attacks (DDoS). The policy role of private information intermediaries (e.g. Google, Facebook) includes functions such as the formulation of subscriber privacy rules or responding to government censorship and lawful intercept requests. Architecture-based intellectual property rights enforcement addresses the turn to infrastructure for copyright enforcement as well as intellectual property rights embedded within Internet governance infrastructure, such as the adjudication of domain name trademark disputes.

Table 1 disaggregates Internet governance into these six functional areas and then further into 44 specific tasks of administrative responsibility. The table also lists the primary, although often not exclusive, institutional actor historically responsible for executing each task. For example, under the functional area of Internet standardization, one critical task is the establishment of standards for the web, such as HTML and XML, primarily carried out institutionally by the World Wide Web Consortium (W3C).

Table 1: Disaggregated Internet Governance Taxonomy

DISAGGREGATED INTERNET GOVERNANCE TAXONOMY

<i>Functional Area</i>	<i>Tasks</i>	<i>Primary Institutional Actor</i>
I. Control of "Critical Internet Resources"	Central Oversight of Names and Numbers	ICANN, IANA, US DoC
	Technical Design of IP Addresses	IETF
	New Top-Level Domain Approval	ICANN
	Domain Name Assignment	Internet Registrars
	Oversight of Root Zone File	US DoC/NTIA
	IP Address Distribution (allocation/assignment)	IANA, RIRs, LIRs, NIRs, ISPs
	Management of Root Zone File	IANA
	Autonomous System Number Distribution	IANA, Regional Internet Registries
	Operating Internet Root Servers	VeriSign, Cogent, others
	Resolving DNS Queries (Billions per Day)	Registry Operators (VeriSign, others)
II. Setting Internet Standards	Protocol Number Assignment	IANA
	Designing Core Internet Standards	IETF
	Designing Core Web Standards	W3C
	Establishing Other Communication Standards	ITU, IEEE, MPEG, JPEG, ISO, others
III. Access and Interconnection Coordination	Facilitating Multilateral Network Interconnection	Internet Exchange Point Operators
	Peering and Transit Agreements to Interconnect	Private Network Operators, Content Networks, CDNs

	Setting Standards for Interconnection (e.g. BGP)	IETF
	Network Management (Quality of Service)	Private Network Operators
	Setting End User Access and Usage Policies	Private Network Operators
	Regulating Access (e.g. Net Neutrality)	National Governments/Agencies
IV. Cybersecurity Governance	Securing Network Infrastructure	ISPs, Network Operators, Private End User Networks
	Designing Encryption Standards	Standards-Setting Organizations
	Cybersecurity Regulation/Enforcement	National Statutes/Multilateral Agreements
	Correcting Software Security Vulnerabilities	Software Companies
	Software Patch Management	Private End Users
	Securing Routing, Addressing, DNS	Network Operators, IETF, Registries
	Responding to Security Problems	CERTs/CSIRTs
	Trust Intermediaries Authenticating Web Sites	Certificate Authorities (CAs)
V. Information Intermediation	Commercial Transaction Facilitation	E-Commerce Sites, Financial Intermediaries
	Mediating Government Content Removal Requests (Discretionary Censorship)	Search Engines, Social Media Companies, Content Aggregation Sites
	App Mediation (Guidelines, Enforcement)	Smartphone Providers (e.g. Apple)
	Establishing Privacy Policies (via End User Agreements and Contracts)	Social Media, Advertising Intermediaries, Email Providers, Network Operators
	Responding to Cyberbullying and Defamation	Content Intermediaries
	Regulating Privacy, Reputation, Speech	Statutory and Constitutional Law
	Mediating Govt. Requests for Personal Data	Content Intermediaries, Network Operators
VI. Architecture-Based Intellectual Property Rights Enforcement	Domain Name Trademark Dispute Resolution	ICANN UDRP, Registrars, Accredited Dispute Resolution Providers
	Removal of Copyright Infringing Content	Content Intermediaries
	Algorithmic Enforcement (e.g. Search Rankings)	Search Engine Companies
	Blocking Access to Infringing Users	Network Operators/ISPs
	Domain Name System IPR Enforcement	Registries/Registrars
	Regulating Online IPR Enforcement	National Statutes, International Treaties
	Standards-Based Patent Policies	Standards-Setting Organizations
	Enacting Trade Secrecy in Content Intermediation	Search Engines, Reputation Engines

The table captures several features of how Internet governance actually works. Most obviously, Internet governance is not a singular enterprise; the coordination and administration of the Internet involves many layers of distinct tasks. Equally evident, the Internet does not just autonomously “work” but remains operational via considerable, and sometimes costly, administrative coordination. This reality sits uneasily with some parts of the Internet community that embrace what can be thought of as cyberlibertarianism; this view is encapsulated in the conviction that “legal concepts of property, expression, identity, movement, and context do not apply [online]...they are all based on matter, and there is no matter here.”⁵ Whether one likes

⁵ John Perry Barlow, “A Declaration of the Independence of Cyberspace,” Davos Switzerland, February 8, 1996. Accessed at <https://projects.eff.org/~barlow/Declaration-Final.html>.

it or not, there actually is matter: buildings, power supplies, switches, fiber optic equipment, routers, and undersea cables. Many scholarly approaches from law, economics, and communication inherently focus on content, applications, or usage and do not reach into many of the material and virtual technological functions of Internet governance. Many coordinating tasks are not visible to general Internet users and many of the organizations that carry out these tasks are also not visible. This disaggregation also illustrates how private companies, or private not-for profit corporations, play a considerable role in keeping the Internet operational. Private Internet registries like VeriSign oversee generic top-level domains. Individuals working for private companies contribute to standards-setting processes like the Internet Engineering Task Force (IETF), which has established the bulk of core Internet protocols, and the Institute for Electrical and Electronics Engineers (IEEE), which developed the Wi-Fi family of standards, among others. Network operators carry out network management tasks and respond to security problems on their private networks. Telecommunications carriers enter private contractual agreements to interconnect. Social media policies set privacy policies to which users must agree before using these services. This privatization of oversight is a dominant feature of how Internet governance has evolved in practice.

A disaggregated Internet governance taxonomy also helps illustrate a connection between functional technological governance areas and direct public policy formulation. For example, graduated response approaches designed to block access to users who have repeatedly downloaded copyrighted material have accompanying implications for freedom of expression, access, and due process.⁶ Similarly, private industry mediation of government content removal requests, and the decision to comply with or reject these requests, establishes conditions of what counts as free expression in the digital public sphere.⁷ These connections between technical coordination and public policy and the reality of highly privatized governance raise questions about what counts as adequate conditions of accountability, transparency, and oversight for non-governmental actors to make and carry out such public policy.

Even such an extensive and disaggregated taxonomy misses part of how Internet governance works. Contextual factors like technological constraints, economic conditions, and social and cultural forces all shape the nature of this governance. For example, civic engagement (as well as corporate engagement) influenced the fall of the Stop Online Piracy Act (SOPA) and PROTECT IP Act in the United States Congress.

The privatized and contextually shaped nature of this governance, along with tensions between nation-state jurisdiction and non-territorial technological modes of communication, help explain the well founded concern over what counts as “multistakeholder governance” in each layer of Internet governance.

A Critique of “Multistakeholderism”

Thus far we have argued that there are rational reasons to disaggregate Internet governance as practiced into specific functions. These functions are performed by different types of actors. They also involve a variety of distinct activities such as contracting, deliberating, legislating, standard setting, regulating, adjudicating and enforcing. For the majority of its history, the Internet has been governed in a piecemeal fashion by a variety of standard-setting and other technical bodies and by private companies performing key roles as network operators and information intermediaries. It is thus an excellent example of the power of epistemic

⁶ See William H. Dutton et al., “Freedom of Connection-Freedom of Expression: The Changing Legal and Regulatory Ecology Shaping the Internet,” Paris: UNESCO, 2011. Accessed at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1654464.

⁷ See Jack M. Balkin, “The Future of Free Expression in a Digital Age,” *Pepperdine Law Review*, Vol. 36, 2008. Accessed at <http://ssrn.com/abstract=1335055>

communities to shape governance.⁸ This legacy has generated two predominant characteristics of Internet governance arrangements. First, states have been either generally uninvolved or involved only as participants without superordinate decision-making authority.⁹ Second, decision-making for Internet governance has typically been driven by technical and market considerations. In terms of institutionalist international relations scholarship, coordination problems have been more common than cooperation problems.¹⁰ These features, and especially the lack of an authoritative role for states, have led both scholars and practitioners to conclude that the Internet provides an example (perhaps the only example) of multistakeholder governance.¹¹

Because Internet governance has sometimes been viewed as a monolithic system, policy deliberations and scholarship examining multistakeholderism have analogously sought a uniform definition of what counts as participatory and diverse governance. Various definitions also reflect historically specific power struggles and stakeholder interests. The definition of Internet governance emerging from the aftermath of the 2003 World Summit on the Information Society (WSIS) in Geneva, Switzerland serves as an exemplar of such homogeneity and politicization. Kofi Annan, then-Secretary-General of the United Nations, established a Working Group on Internet Governance (WGIG) as a response to open issues over control of the Internet left unresolved at WSIS.¹² The working group, which included 40 participants from governments, private sector, and “civil society,” was charged with developing a definition of Internet governance, which it devised as follows:

“Internet governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet.”¹³

The context from which this arose was politically charged and historically specific. There was mounting political concern over the unique and enduring role of the United States Commerce Department in contracting with ICANN to perform the global administration of Internet names and numbers. The nations represented in the WSIS/WGIG process were primarily concerned with what they perceived as unilateral United States control of the Internet. The International Telecommunication Union (ITU), the United Nations specialized agency for information and communication technologies, was also increasingly stressing its intergovernmental “legitimacy” as a rationale for attempting to take a greater role in both names and numbers administration and Internet standards governance, versus the prevailing administrative role of

⁸ On epistemic communities, see Peter M. Haas, “Introduction: Epistemic Communities and International Policy Coordination,” *International Organization* 46.1 (1992): 1-35.

⁹ This feature encapsulates part of what has been referred to as networked governance. See Milton L. Mueller, Andreas Schmidt and Brenden Kuerbis, “Internet Security and Networked Governance in International Relations,” *International Studies Review*, 15.1 (2013): 86-104.

¹⁰ On the different implications of these styles of games, see Lisa L. Martin and Beth A. Simmons, “Theories and Empirical Studies of International Institutions,” *International Organization* 52.4 (1998): 729-57.

¹¹ For a practitioner view, see the statements of the current ICANN CEO, Fadi Chehade, available at <http://www.internetgovernance.org/2012/10/15/icanns-new-ceo-talks-about-balance-of-power/>. For scholarly uses of the term multistakeholder governance, see Vint Cerf, Patrick Ryan and Max Senges, “Internet Governance is Our Shared Responsibility,” *I/S: A Journal of Law and Policy* 10.x (2014, forthcoming); Mueller?; others?

¹² For background about the WSIS process, see Daniel Stauffacher and Wolfgang Kleinwachter, *The World Summit on the Information Society*, United Nations Publications, January 2005.

¹³ Report of the Working Group on Internet Governance (WGIG), Chateau de Bossey, June 2005. Accessed at <http://www.wgig.org/docs/WGIGREPORT.pdf>.

ICANN and predominantly private industry contributions in various standards-setting entities including the IETF. Within this context, the WGIG definition conveyed some strong normative positions. The definition assigned an Internet governance role to “Governments,” commensurate with global interest in greater multilateral administration and potentially a unique role for intergovernmental entities such as the United Nations in Internet oversight.

In historical context, it is also significant to note that the composition of the WGIG did not represent key constituencies with a stake in the outcome of the definition or those with responsibility for Internet governance in practice. The United Nations group did not include the input of large Internet users (e.g. corporations relying on the Internet for financial and business transactions and basic operations); private sector companies involved in provisioning Internet products or providing infrastructure; or any representatives from the leading standards-setting and administrative entities operationally responsible for the security and stability of the Internet. The United States chose not to participate in the working group. Of the forty members, the majority of participants were high-level governmental officials involved in national technology policy. Many of these officials represented countries (e.g. Saudi Arabia, Pakistan, Cuba, China, Egypt, Tunisia, Russia, Iran) with notoriously repressive Internet policies.¹⁴

Although sometimes lost in the long global trajectory of political deliberations over Internet control, the formulation of an international definition of multistakeholderism was arguably not a multistakeholder effort. Also sometimes lost is that the convocation of the United Nations Internet Governance Forum (IGF), first held in Athens, Greece in 2006, was a compromise emanating from an impasse over United Nations and governmental calls for a diminishment of United States coordination of certain Internet administrative functions and American resistance to these recommendations. The IGF was formed to create an international space for multistakeholder dialog about Internet policy. These multistakeholder gatherings have been distinct from the actual *practice* of Internet governance but rather are *deliberations* about Internet policy. International gatherings, as “talk shops”, potentially have an agenda-setting and framing function but realistically have limited influence over policymaking in practice.¹⁵

This distinction between Internet governance *discourse* versus *praxis* highlights a prevailing feature of scholarship on multistakeholderism. Many examinations interrogate the question of who can contribute to *discussions* about Internet governance, particularly in the WSIS/WGIG/IGF context, rather than who can contribute to the actual *practice* of Internet governance.¹⁶ Although this question about multistakeholder dialogue is valuable *sui generis*, it does not directly address the question of how Internet coordination does or should occur in practice. Another larger body of Internet governance scholarship focuses specifically on the governance functions over critical Internet resources enacted by ICANN and the form of multistakeholderism that has arisen in ICANN.¹⁷ In areas of centralized control, such as the management of critical Internet resources, multistakeholderism seems appropriate. The technical design decision requiring globally unique names and numbers to use the Internet has brought about an accompanying need for some form of centralized control to ensure that each name and number is globally unique. The combination of this

¹⁴ Ibid.

¹⁵ William H. Dutton, John Palfrey, and Malcolm Peltu, “Deciphering the Codes of Internet Governance: Understanding the Hard Issues at Stake,” *Oxford Internet Institute and e-Horizons Institute*, Forum Discussion Paper No. 8, January 2007

¹⁶ See, for example, Jeremy Malcolm, *Multi-Stakeholder Governance and the Internet Governance Forum*, Terminus Press 2008; Dmitry Epstein, “The Making of Institutions of Information Governance: The Case of the Internet Governance Forum,” *Journal of Information Technology* 28, 137-149, 2013.

¹⁷ See, e.g., Slavka Antonova, *Powerscape of Internet Governance - How was Global Multistakeholderism Invented in ICANN?*, VDM Verlag 2008; Milton Mueller, *Ruling the Root: Internet Governance and the Taming of Cyberspace*, MIT Press 2004.

requirement for centralized control, the fact that there is a finite pool of these resources, and the criticality of these resources for the ability to use the Internet, has over time shaped a certain form of multistakeholder coordination. As explained in the previous section, this coordinating function represents only one layer of technical coordination necessary for the Internet's operation.

The phrase multistakeholderism is too often employed uniformly and even uncritically, and risks becoming a mere shibboleth. Many layers of Internet governance involve private sector administrative decisions or contracts among private entities, such as the agreement to interconnect or design decisions about how to route packets over the Internet. Bringing in additional actors, such as governments or even direct civic engagement, could have unintended consequences for innovation and the growth of the Internet. In contrast, multilateral treaties about intellectual property rights enforcement or national regulations over local electromagnetic spectrum allocations might seem appropriately relegated to the state. Just as it is a misnomer to speak of Internet governance as a single practice, it is a misnomer to speak of *the* multistakeholder model (for Internet governance or for any other issue area). The following section therefore disaggregates multistakeholderism in the same way the previous section disaggregated Internet governance.

Forms of Multistakeholder Governance

There are many possible types of multistakeholder governance, produced by variation on at least two dimensions: (1) the types of actors involved; and (2) the nature of authority relations between actors. In order to qualify as multistakeholder governance, we argue that at least two classes of actors must be involved, if not directly in carrying out a coordinating function, indirectly in regulating or technologically constraining such a function. In specifying classes of actors, we follow general conventions in international relations theory; on this basis, we suggest that there are four basic classes. States, formal intergovernmental organizations (IGOs) and firms are relatively straightforward. The fourth class of actors we identify includes nongovernmental organizations (NGOs), civil society groups or movements and individuals acting on their own behalf. While this admittedly combines a wide variety of actors, we opted for this specification on the basis of avoiding an unmanageably complicated typology. Further, these kinds of actors are often (though not exclusively) involved in what have been called transnational advocacy networks (TANs), distinguished in part by the importance of principled ideas in motivating their behavior.¹⁸

Existing Internet governance arrangements vary in the classes of actors involved, and not all clearly meet the first criterion of multistakeholder governance provided above. Several specific functions of Internet governance are not multistakeholder because they involve a single actor or single class of actor. One such example of mono-stakeholder authority is the oversight of changes to the Internet's root zone file by an agency of the United States Department of Commerce known as the National Telecommunications and Information Administration. Similarly, many Internet governance functions have traditionally been governed solely by the corporate players involved. An example of mono-stakeholder private sector Internet governance involves the private contractual arrangements among private network operators to conjoin their networks at bilateral interconnection points or shared Internet Exchange Points (IXPs). These are clear instances of how some Internet governance in practice does not currently meet our first criterion for multistakeholder governance.

¹⁸ Margaret E. Keck and Kathryn Sikkink, *Activists Beyond Borders* (Ithaca: Cornell University Press, 1998).

Perhaps the most clear cut example of governance involving multiple types of stakeholders is ICANN, which involves participants from corporations, civil society and governments. Even this relatively clear example of multistakeholder governance has been subject to criticisms ranging from insufficient civil society participation; insufficient government authority; too much government oversight; questions about legitimacy; and concerns about its contractual relationship with the United States government. The IETF is, in many ways, more open, but less formally multistakeholder than ICANN. In theory, anyone is open to participate in standards development in an individual capacity but, in practice, these individuals often represent the interests of a corporation, government, or – less frequently – civil society.¹⁹ Despite the institutional norm of participants acting in their personal capacity, we include it as a type of multistakeholder governance because many of the IETF’s participants do in fact have other institutional affiliations with governments, NGOs and with corporations.

Even these most “clear” examples of multistakeholderism have many caveats, and the overall Internet governance framework could benefit from a more granular typography of the types of multistakeholder governance that are possible. Based on four classes of actors, and the limiting condition that multistakeholder governance must involve at least two of the four classes, there are eleven possible combinations of actor types: a single combination of all four classes, four combinations of three classes and six combinations of two classes.

However, governance arrangements can also vary according to the authority relations between actors. Here, we specify four ideal-typical possibilities: hierarchy, homogeneous polyarchy, heterogeneous polyarchy, and anarchy. Hierarchy entails relations of super- and subordination, where one is entitled to command and others have a duty to obey. Polyarchy entails situations where authority is distributed among a number of actors.²⁰ This kind of distribution can be done in a homogeneous manner, where actors have similar formal powers (such as individual voters in a democracy where each citizen receives an equal vote). It can also be done in a heterogeneous manner in which distinct actors (or classes of actors) possess different formal powers but where each has authority over some aspect of governance (such as the division of authority between branches of government). As these examples make clear, actual systems of governance may blend elements of these ideal types.

The final possibility is anarchy, a situation where no authority relations exist. Though anarchy has been at the foundation of international relations as an academic discipline,²¹ we discard the possibility of anarchic relations between actors (or classes of actors) engaged in a common governance enterprise. We do so on the basis of recent scholarship showing the presence of varying kinds and degrees of authority in international history,²² as well as on the basis that international relations theory has erred in typically attributing authority solely to actors. Rules can also possess authority. In order for a common governance enterprise to be successful, it is necessary that actors mutually accept the authority of a set of rules (however limited) that

¹⁹ See Internet Engineering Task Force, “A Mission Statement for the IETF,” RFC3935 (2004), available at <http://www.ietf.org/rfc/rfc3935.txt>.

²⁰ See Robert A. Dahl, *A Preface to Democratic Theory* (Chicago: University of Chicago Press, 1956); and Robert A. Dahl, *Polyarchy: Participation and Opposition* (New Haven: Yale University Press, 1972). For a review of Dahl’s scholarship in broader context, see Richard W. Krouse, “Polyarchy and Participation: The Changing Democratic Theory of Robert Dahl,” *Polity* 14.3 (1982): 441-63.

²¹ See, for example: Kenneth N. Waltz, *Theory of International Politics* (Boston: McGraw-Hill, 1979); Hedley Bull, *The Anarchical Society: A Study of Order in World Politics*, 3rd ed. (New York: Columbia University Press, 2002).

²² See, for example: Jason C. Sharman, “International Hierarchies and Contemporary Imperial Governance: A Tale of Three Kingdoms,” *European Journal of International Relations* 19.2 (2013): 189-207; Edward Keene, “A Case Study of the Construction of International Hierarchy: British Treaty-Making against the Slave Trade in the Early Nineteenth Century,” *International Organization* 61.2 (2007): 311-39; and John M. Hobson and Jason C. Sharman, “The Enduring Place of Hierarchy in World Politics: Tracing the Social Logics of Hierarchy and Political Change,” *European Journal of International Relations* 11.1 (2005): 63-98.

establishes the scope of the common governance enterprise, the kinds of actors entitled to participate in governance, and the terms of that participation – including the way disputes about the application of general rules to particular cases will be handled. The wider implications of this argument for anarchy-based international relations theories are beyond the scope of this article; for now, we merely note that anarchy drops out of our typology of multistakeholder governance.

The three remaining types of authority relations are identifiable within the Internet governance issue area. The International Telecommunication Union (ITU) does not play a direct role in governing the Internet; however, because Internet data travels over a diverse range of communication media, regulations set out by the ITU can have a direct influence over most network operators. For example, it plays a facilitating role in the development of mobile communications networks that are increasingly important to Internet connectivity, especially in the developing world where wireless penetration is surpassing fixed broadband. The ITU also administers the International Telecommunication Regulations (ITRs), a formal international treaty comprising binding rules that parties are obligated to comply with under international law.²³ The ITU is hierarchical in that companies, NGOs, and academic institutions can become ‘sector members’ but are not accorded the voting rights given to the ITU’s member states.

Internet standard-setting bodies such as the IETF and the W3C can most accurately be classified as homogeneous polyarchies. Whereas IETF members participate in their individual capacities despite often having institutional affiliations, membership in the W3C is typically held by organizations – including companies, NGOs and units of governments, such as the Australian Government Information Management Office (AGIMO). Each member has one Advisory Committee Representative. Both the IETF and the W3C adopt proposed standards according to public commentary processes that are open to participation. Although particular individuals may wield greater or lesser influence in practice (typically according to technical expertise and/or reputation), this influence does not stem from procedural rules vesting authority in a particular office-holder.

Finally, ICANN can be classified as a heterogeneous polyarchy. The organization has a Chief Executive Officer and a Board, each of which have particular authorities within the organization. In addition, ICANN has three Supporting Organizations and a number of advisory committees, including the Governmental Advisory Committee (GAC), the Security and Stability Advisory Committee (SSAC) and the At-Large Advisory Committee (ALAC). While each of these entities is empowered by ICANN’s procedural rules to do certain things, their formal roles differ. The GAC is especially noteworthy; it is unique among ICANN’s component units in that when it issues formal advice to the ICANN Board, the Board is required either to adopt the GAC’s advice or to formally justify its refusal to do so, in writing, to the GAC. This provides the GAC (and thus its member governments) with a degree of authority over ICANN operations. In addition, ICANN (via the Internet Assigned Numbers Authority, or IANA) continues to manage the Internet’s root on the basis of an agreement with the United States National Telecommunications and Information Administration (NTIA), a unit of the Department of Commerce.

In total, this two-dimensional schema produces 33 possible forms of multistakeholder governance. The typology serves three purposes. First, it is a mechanism for identifying and classifying key features of actual cases. Second, we expect it will also be useful in identifying (and ideally explaining) clusters and gaps in the distribution of actual governance institutions and processes. Third, with further research on the effectiveness of various governance modalities for specific kinds of issue areas and governance functions, the typology

²³ Note that this is not to say international law is always obeyed; all rules, authoritative or not, can be broken.

presented here could assist in improving governance effectiveness by more appropriately matching governance functions with particular governance processes, mechanisms and institutions.²⁴

Table 2: Types of Multistakeholder Governance

Stakeholder Types	Nature of Authority Relations			
	Hierarchy	Polyarchy		Anarchy
		Homogeneous	Heterogeneous	
States, IGOs, Firms, NGOs	ITU		ICANN	NA
States, IGOs, Firms		IOSCO		NA
IGOs, Firms, NGOs			Global Compact	NA
States, IGOs, NGOs				NA
States, Firms, NGOs		IETF, W3C		NA
States, IGOs				NA
States, Firms				NA
States, NGOs				NA
IGOs, Firms				NA
IGOs, NGOs				NA
Firms, NGOs				NA

While we illustrate our argument primarily with examples drawn from Internet governance, it is important to note that multistakeholder governance exists in other issue areas as well. One of our aims in this paper is thus to alert scholars to what we believe are ample opportunities for broader comparative study of an increasingly important yet often misunderstood phenomenon. These opportunities are important for scholars of global governance and international organization in their attempts to grapple with the impact of the Internet on world politics, and important for scholars of Internet governance who have sometimes seen the Internet as *sui generis* or who have not always been broadly exposed to work in international relations.

A full survey of the major issue areas relying at least in part on variants of multistakeholder governance is beyond the scope of this article, but we hope that a handful of illustrative examples may serve to demonstrate the potential utility of comparative research on multistakeholderism. One important cluster of cases cuts across a wide variety of issue areas: those involving states and IGOs. These are among the most familiar cases to students of international relations, and can be reasonably expected to number among the most common types in practice, but they are not typically thought of as cases of multistakeholder

²⁴ Expectations for such improvements should remain modest, however, given path dependency and the general inefficiency of institutional change. For arguments along these lines, see: James G. March and Johan P. Olsen, "The Institutional Dynamics of International Political Orders," *International Organization* 52.4 (1998): 943-69; and Alexander Wendt, "Driving with the Rearview Mirror," *International Organization* 55.4 (2001): 1019-49.

governance. Recent scholarship has studied these relationships in terms of principal-agent theory.²⁵ However, insofar as these agents exhibit *de facto* independence from their principals, it may be more productive to approach some such cases as instances of multistakeholder governance. Dispute resolution in the World Trade Organization is one potential candidate for such treatment. At minimum, there are parallels between multistakeholder governance and principal-agent relationships that should be explored in greater depth.

Other examples include a range of cases involving states and firms. These include various kinds of self-regulatory mechanisms where private firms and associations of firms play governance roles.²⁶ While such privatization of governance has occurred in a range of industry sectors, it has perhaps been most consequential in the global financial system, where it arguably compromised the effectiveness and legitimacy of the system and involved a high degree of regulatory capture.²⁷ Some aspects of global financial governance also involve international organizations such as the Bank for International Settlements, the Financial Stability Board and the International Organization of Securities Commissions (IOSCO). IOSCO is notable because self-regulatory organizations can become full voting members if they are the primary securities regulator for a particular jurisdiction; this is a rare instance of formal procedural equality between state and private actors and an instance of multistakeholder governance.²⁸

The United Nations' Global Compact is a case of multistakeholder governance involving an IGO, firms and NGOs. While the Global Compact primarily entails firms committing to principles of corporate social responsibility, these commitments are supplemented by the work of more than 100 local networks that conduct "learning exchanges, information sharing, working groups" and "partnerships and dialogues that tackle issues specific to local contexts." The UN reports that these networks include "continued engagement by a diverse group of stakeholders, including academic institutions, business enterprises, NGOs and government entities."²⁹ The Global Compact Board is "a multi-stakeholder advisory body that meets annually... to provide ongoing strategic and policy advice for the initiative as a whole and make recommendations to the Global Compact Office, participants and other stakeholders." It "is comprised of four constituency groups – business, civil society, labour and the United Nations – with differentiated roles and responsibilities apart from their overall advisory function."³⁰ Thus, the Global Compact has explicitly adopted the language of multistakeholder governance, and it has instantiated the concept in a heterogeneous way, with differentiation of roles and responsibilities.

There is clearly variation among different instances of multistakeholder governance; these multistakeholder institutions and organizations also differ from their non-multistakeholder equivalents.

²⁵ See, for example, Darren G. Hawkins, David A. Lake, Daniel L. Nielson and Michael J. Tierney, eds., *Delegation and Agency in International Organizations* (Cambridge: Cambridge University Press, 2006). This conception of the relationship between states and international organizations is similar to the notion of delegation elaborated in Kenneth Abbott, Robert O. Keohane, Andrew Moravcsik, Anne-Marie Slaughter and Duncan Snidal, "The Concept of Legalization," *International Organization* 54.3 (2000): 401-19.

²⁶ On industry self-regulation, see Virginia Haufler, *A Public Role for the Private Sector: Industry Self-Regulation in a Global Economy* (Washington DC: Carnegie Endowment for International Peace, 2001).

²⁷ On the involvement of private firms and associations of firms in global financial governance, see: Geoffrey R.D. Underhill and Xiaoke Zhang, "Setting the Rules: Private Power, Political Underpinnings, and Legitimacy in Global Monetary and Financial Governance," *International Affairs* 84.3 (2008): 535-54; Andrew Baker, "Restraining Regulatory Capture? Anglo-America, Crisis Politics and Trajectories of Change in Global Financial Governance," *International Affairs* 86.3 (2010): 647-63; and Eric Helleiner, Stefano Pagliari and Hubert Zimmermann, eds., *Global Finance in Crisis: The Politics of International Regulatory Change* (New York: Routledge, 2010).

²⁸ For information on IOSCO membership rules, see <http://www.iosco.org/about/index.cfm?section=membership>. The authors thank David Kempthorne for suggesting this example.

²⁹ United Nations Global Compact Office, *Global Compact Local Network Report 2012* (New York: United Nations, 2012), p. 6. Available at http://unglobalcompact.org/docs/publications/LN_Report_2012.pdf.

³⁰ http://www.unglobalcompact.org/AboutTheGC/stages_of_development.html.

Variations are also possible within both multistakeholder and non-multistakeholder governance types. All three kinds of variation are produced by the procedural rules constituting particular governance institutions, mechanisms and processes. These rules govern eligibility for various kinds of membership and the distribution of various decision-making capacities among members (including voting rules). They also establish standards for evaluating and responding to proposals, interpretations and arguments presented by other actors.³¹ They therefore simultaneously empower and constrain actors, to the point of determining whether and how they are entitled to participate in a particular governance process. The nature of authority relations between actors in a given social context is thus a product of these procedural rules. Classifying a particular governance institution or organization as hierarchic or (homogeneously or heterogeneously) polyarchic is a matter of inductively identifying procedural rules. Further, two institutions or organizations that fall into the same broad classificatory category may also employ slightly different procedural rules; and the same institution or organization may undergo change in its procedural rules over time, which may or may not require that it be reclassified in the schema proposed above. Finally, this means that if an attempt is to be made to make an institution more or less multistakeholder in nature, or if an attempt is to be made to change the form of multistakeholderism employed in a particular organization, accomplishing such goals requires changes to its procedural rules. These changes must be such that different classes or combinations of classes of actors will be relatively enabled and constrained in exercising control over the institution or organization in question. In the absence of mutually agreed-upon procedural rules for rule-making, interpretation and application, creation of new governance mechanisms is unlikely. Discussions and negotiations are likely to founder on procedural grounds. Disagreement over procedural rules complicates not only the creation of new governance mechanisms, but also the operation of existing ones. This is because the social reproduction of these rules, institutions and processes occurs through the continued application of general rules to particular cases, which in turn depends on mutually accepted procedures for rule-making, interpretation and application.

Such disagreements on legitimate procedures for rule-making are evident in the Internet governance issue area; at least five partially overlapping sets of procedural rules are identifiable. The first might usefully be called an OECD view, since it is held primarily by member states of the Organization for Economic Cooperation and Development (OECD). It consists of commitment to the rule of law (domestically and internationally), even to the point of considering a conditional view of sovereignty, along with acceptance of multilateral cooperation among states and the relatively routine consultation of stakeholders. This consultation of stakeholders has begun, primarily over the past twenty years, to take the form of increased reliance on industry self-regulation not only in the Internet field but also in financial governance of various kinds and other areas involving technical standard-setting. Within the Internet governance area broadly conceived, this procedural approach to rule-making is evident in the 1988 International Telecommunication Regulations treaty and in the World Intellectual Property Organization.

The second set of procedural rules can be summarized as the Shanghai Cooperation Organization (SCO) view. It emphasizes great power privilege in the operation of the international system and entails a strong rather than conditional interpretation of sovereignty. It is based on hierarchical state-society relations and limited or nonexistent stakeholder consultation. This view is held primarily by China and Russia, but bears some similarities to the procedural views of the remaining BRICS. Because this approach to rule-making is held by states that have lacked dominant influence both over the Internet and over world politics since the

³¹ Mark Raymond, "Social Change in World Politics: Secondary Rules and Institutional Politics," Ph.D. diss., University of Toronto, 2011.

Internet's commercialization, institutionalized examples of such procedures are difficult to identify within the Internet governance issue-area. These views, however, inform the opposition of these states to legacy mechanisms of Internet governance given their connections to the United States; they also inform suspicion of, and opposition to, the multistakeholder model.

The third set of procedural rules is held by the primarily postcolonial members of the G-77. While this is the most diverse of the five sets of procedural rules, some commonalities can be identified. First, like the SCO view, the G-77 view of procedural legitimacy emphasizes a robust conception of sovereignty. This insistence on sovereignty stems at least in part from the challenges faced by weak states emerging from colonization.³² In addition, these states struggle to varying extents with issues of expertise and capacity; these inequalities have contributed to preferences that privilege existing multilateral institutions with which states have extensive experience over innovative forms of international and multistakeholder cooperation. The global administration of the International Telecommunications Regulations by the International Telecommunication Union, and the preference among many developing world states for a broader ITU role in Internet governance, is an example of this preference for existing multilateral institutions with voting rules based on sovereign equality.

The first three sets of procedural rules are endemic to international relations, but the fourth and fifth are not. The epistemic community of technologists has a distinct view of how to legitimately make and interpret rules, which is perhaps best exemplified by the IETF's Request for Comments (RFC) process. In this process, "the basic ground rules were that anyone could say anything and that nothing was official."³³ The IETF mission statement continues to reflect this ethos, with its affirmation of the organization's commitment to "rough consensus and running code".³⁴ Though individual bodies have their own processes, the Internet technical community tends to adopt horizontal, distributed and voluntaristic rule-making procedures reflective of its members' values.

Fifth, and finally, corporate stakeholders that have driven the development of the commercial Internet also have distinct views on rule-making and interpretation. These views are rooted in voting by corporate boards subject to shareholder accountability, hierarchical chains of accountability within the firm, and external relationships based on private contracts. Though some technology companies make conscious efforts to embody the spirit of the technical community, norms of corporate governance also affect their behaviour; this is especially true of companies that pursue public stock offerings. ICANN's contractual model of delegating to Regional Internet Registries and to generic Top-Level Domain (gTLD) registries is one example of Internet governance done on the basis of corporate procedural rules; interconnection between network operators is another.

The increasing importance of the Internet to everyday life has begun to generate new entrants into the governance process. Corporate actors were the first non-technical players, but the current trend is increased interest on the part of both industrial and non-industrial states. The Internet's growing integration with a range of public and private activities is also creating new interests and making additional social values salient for existing governance participants. Resolving the attendant conflicts and tradeoffs is complicated by the

³² Robert H. Jackson, *Quasi-States: Sovereignty, International Relations and the Third World* (Cambridge: Cambridge University Press, 1990).

³³ For information on the history of the Request for Comments process, see J. Reynolds and J. Postel, "The Request for Comments Reference Guide," RFC1000 (1987), available at <http://www.ietf.org/rfc/rfc1000.txt>.

³⁴ Internet Engineering Task Force, "A Mission Statement for the IETF," RFC3935 (2004), available at <http://www.ietf.org/rfc/rfc3935.txt>.

diversity of views on appropriate procedures for making, interpreting and applying rules. Without a procedural *modus vivendi*, it is unlikely that distributional questions will be effectively addressed.³⁵

Conclusion: Studying and Practicing Multistakeholder Governance

We believe there are meaningful gains available to scholars and policymakers from a more nuanced study of multistakeholder governance as a class of phenomena across multiple issue-areas. In the concluding section of this paper, we summarize these potential gains and indicate areas for further research.

For scholars and practitioners of Internet governance, the issue-area in which this concept is most fully and consistently articulated, the argument we have advanced here is valuable in that it calls into question the article of faith that the Internet is governed in a unique, multistakeholder manner increasingly threatened by the encroachment of sovereign states. Multistakeholder governance is identifiable in other issue-areas such as financial governance and corporate social responsibility. Equally, some important Internet governance functions are performed in ways that are clearly not instances of multistakeholderism; still more such functions are performed in ways that are formally, but not substantively, multistakeholder. Perhaps the most striking conclusion of our work for the study and practice of Internet governance is to call into question the extent to which Internet governance actually lives up to the talk about multistakeholderism. Across a number of crucial governance functions, the reality is perhaps closer to industry self-regulation than to genuine multistakeholderism.

Our argument is also valuable in highlighting a set of more prescriptive questions about Internet governance that are impossible without nuanced conceptions of Internet governance and of multistakeholderism like the ones we present here. One such question is whether there is a need for more multistakeholderism in particular functional areas of Internet governance, or whether there are more effective and more appropriate means of instantiating democratic values in areas of policy likely to engage important public values and interests. Another question made possible by a more sophisticated conceptual framework is whether particular governance functions are matched with appropriate forms of multistakeholder governance – or, more fundamentally, whether particular functions are better accomplished through means other than multistakeholderism.

Definitively answering such questions requires a great deal of further research on the connections between issue characteristics and the properties of rule-sets and organizations, on the one hand, and the effectiveness and legitimacy of governance on the other hand. It is especially important to adopt a broad comparative strategy that looks for insights from other related areas. Given the global nature of the Internet, literatures in International Relations and global governance are promising sources. However, scholars in these fields remain in the early stages both of understanding issues of institutional performance and design,³⁶ and studying forms of governance where the state is (at least under some conditions) merely one actor among many.

³⁵ International relations theory has, with a small number of exceptions, taken insufficient notice of the empirical importance of justice considerations (whether procedural or distributive) in explaining outcomes. On these questions, see: David A. Welch, *Justice and the Genesis of War* (Cambridge: Cambridge University Press, 1993); Cecilia Albin, *Justice and Fairness in International Negotiation* (Cambridge: Cambridge University Press, 2001).

³⁶ For one notable effort, see Barbara Koremenos, Charles Lipson and Duncan Snidal, "The Rational Design of International Institutions," *International Organization* 55.4 (2001): 761-99. See also the other articles in this special issue; on shortcomings with this scholarship, see the critical piece by Alexander Wendt cited above.

For these reasons, the comparative study of multistakeholder governance as a class of phenomena offers substantial benefits to scholars of International Relations and global governance. First, it provides additional cases in which to study the role of private actors in governance. Second, it offers the potential to extend understanding of what kinds of institutions perform most effectively and enjoy greater legitimacy in dealing with novel, complex, technical and transnational issues of increasing political salience. It does so by extending the types of institutions studied in the literatures on institutional effectiveness and design. Third, it furnishes additional evidence of the presence and complexity of authority relations in international politics. The primary contribution in this regard is to demonstrate the existence of authority relations in world politics in which the state is either absent or is embroiled in heterogeneously polyarchic relations with nonstate actors of various kinds.

Finally, the argument presented here is relevant both to scholars of Internet governance and of International Relations because it demonstrates the importance of procedural rules. Such rules are critical to producing variation in institutional and organizational forms, both among and within the types elaborated in this paper, as well as between multistakeholder and non-multistakeholder forms of governance. As such, procedural rules are also of vital practical importance; institutions and organizations that depend on illegitimate procedures are unlikely to enjoy broad acceptance (and thus effectiveness). Further, the fact that major actors in Internet governance endorse diverse views of procedural legitimacy helps explain the rising tension in this issue-area and also suggests that actors should attempt to forge a procedural *modus vivendi* prior to attempting to resolve substantive issues.

ABBREVIATIONS

AGIMO	Australian Government Information Management Office
ALAC	At-Large Advisory Committee (of ICANN)
ASN	Autonomous System Number
BGP	Border Gateway Protocol
CA	Certificate Authority
CDN	Content Distribution Network
CERT	Computer Emergency Response Team
CIRs	critical Internet resources
CSIRT	Computer Security Incident Response Team
DNS	Domain Name System
DoC	Department of Commerce (United States)
GAC	Governmental Advisory Committee (of ICANN)
HTML	HyperText Markup Language
IANA	Internet Assigned Numbers Authority
ICANN	Internet Corporation for Assigned Names and Numbers
IEEE	Institute of Electrical and Electronics Engineers
IETF	Internet Engineering Task Force
IGO	Inter-Governmental Organization
IP	Internet Protocol
IOSCO	International Organization of Securities Commissions
IPR	Intellectual Property Rights

ISO	International Organization for Standardization
ISP	Internet Service Provider
ITU	International Telecommunication Union
IXP	Internet Exchange Point
JPEG	Joint Photographic Experts Group
LIR	Local Internet Registry
MPEG	Moving Picture Experts Group
NGO	Non-Governmental Organization
NIR	National Internet Registry
NTIA	National Telecommunications and Information Administration (United States)
RFC	Request for Comments
RIRs	Regional Internet Registries
SSAC	Security and Stability Advisory Committee
UDRP	Uniform Domain-Name Dispute-Resolution Policy
TCP/IP	Transmission Control Protocol/Internet Protocol
VoIP	Voice over Internet Protocol
W3C	World Wide Web Consortium
WGIG	Working Group on Internet Governance
WSIS	World Summit on the Information Society
XML	Extensible Markup Language

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