ICANN PRIMER

PRIMER ON THE INTERNET CORPORATION
FOR ASSIGNED NAMES AND NUMBERS

October 13, 2013

GOVLAB

Introduction and Objectives

This Primer describes the role of the Internet Corporation for Assigned Names and Numbers (ICANN) in coordinating the Internet's system of unique identifiers, the way ICANN is structured, and how it functions. This Primer also identifies some recent decisions ICANN has made and current challenges that ICANN faces and the steps that the organization is taking to address these issues as it develops a strategic plan for the future.

The Governance Lab (GovLab) has prepared this Primer to help refine our understanding of ICANN's mission, its unique role in Internet governance, and its decision-making processes. This Primer also serves as a briefing document for ICANN and the GovLab to use with others we engage in our work. In particular, it has been prepared to aid the Strategy Panel on Multistakeholder Innovation, whose focus is to:[1]

> *"Propose new models for international engagement, consensus-based policymaking and institutional structures to support such enhanced functions; and*
>
> *"Design processes, tools and platforms that enable the global ICANN community to engage in these new forms of participatory decision-making."*

A clear understanding of ICANN's functions will be essential if the Strategy Panel is to address several key issues facing ICANN today. First, ICANN's stated mission is to maintain the stability and security of the Internet's system of unique identifiers, which is essentially a technical function. Yet the boundaries and implications of this role go beyond purely technical work; the role involves international policy-making and has been scrutinized by the Internet community. Next, because of the global expansion of Internet usage, ICANN has recognized that it can and should broaden its global presence so that it operates as a truly transnational organization. Finally, as technologies for collaboration become increasingly prevalent and sophisticated, opportunities exist for ICANN to harness these 21st-century technologies to enhance the legitimacy and efficacy of its decision-making processes. It is our hope that a clear and concise explanation of these issues with suggestions for further reading will prove useful to the Panel and accelerate its work.

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1   *"ICANN Strategy Panels Launched." ICANN News and Announcements. (July 15, 2013).*
     Retrieved from http://www.icann.org/en/news/announcements/announcement-15jul13-en.htm.

The Internet Governance Ecosystem

No single entity runs the Internet. International organizations, national governments, private companies, and civil society organizations all play different roles in Internet governance. Together, they develop and apply principles, norms, rules, decision-making processes, and programs that shape the evolution and use of the Internet.[2] Some of the key players in this Internet governance ecosystem are:

STANDARDS BODIES

‣ The **Internet Society (ISOC)** is an international non-profit organization that engages in a wide spectrum of Internet issues. By offering grants and awards, organizing events, and engaging in policy advocacy, it conducts a range of activities within Internet policy, governance, technology, and development.[3] ISOC is the parent company for the Public Interest Registry, which manages the .org top-level domain. ISOC also provides financial and organizational support to a range of relevant Internet bodies:

- The **Internet Engineering Task Force (IETF)** develops and promotes Internet standards through working groups that are organized by topic. It is an open standards organization with no formal membership. The IETF develops Internet protocols and writes technical documents that influence the way people design, use and manage the Internet. The IETF works closely with the Internet Assigned Numbers Authority (IANA), now a department of ICANN.[4]

- The **Internet Architecture Board (IAB)** is a committee of the Internet Engineering Task Force (IETF) and is chartered by the Internet Society (ISOC). It oversees and may comment on the technical and engineering development of the Internet. It also confirms the IETF chair and selects the Internet Research Task Force (IRTF) chair, advises ISOC on technical, architectural, procedural, and policy matters, and acts as external liaison for the IETF.[5]

- The **Internet Research Task Force (IRTF)** focuses on long-term research issues related to the Internet by creating Research Groups to study topics related to Internet protocols, applications, architecture and technology. It is sponsored by ISOC and the IETF.[6]

- The **Internet Engineering Steering Group (IESG)** is responsible for the technical management of IETF activities and is directly responsible for the actions associated with "entry into and movement along the Internet 'standards track,' including final approval of specifications as Internet Standards."[7]

‣ The **World Wide Web Consortium (W3C)** is the main international standards organization for the World Wide Web and develops protocols and technical specifications such as HTTP, XML, and CSS. It coordinates the development of standards with other standards bodies to ensure accessibility and interoperability on the Web.[8]

‣ The **International Organization for Standardization (ISO)** is an international standard-setting body composed of representatives from various national standards organizations.[9] ISO publishes technical reports and technical specifications. For example, ISO 3166 MA standardizes names and postal codes of countries, from which country code top-level domains are derived.[10]

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2   V. Cerf, P. Ryan and M. Senges. "Internet Governance is Our Shared Responsibility." 10 ISJLP ___ (2014) (www.is-journal.org) (publication forthcoming).

3   "Who We Are." Internet Society. Retrieved from http://www.internetsociety.org/who-we-are.

4   "Mission." IETF. Retrieved from http://www.ietf.org/about/mission.html; see also Ray Pelletier. "IETF Oversight of the IANA Protocol Parameter Function." (April 3 2012). Retrieved from http://www.iab.org/wp-content/IAB-uploads/2012/04/IETF-IANA-Oversight.pdf.

5   "Overview." Internet Architecture Board. Retrieved from http://www.iab.org/about/iab-overview/.

6   "Internet Research Task Force (IRTF)." IRTF. Retrieved from http://irtf.org/.

7   "The IESG." IETF. Retrieved from http://www.ietf.org/iesg/.

8   Ian Jacobs. "Presentazione Generale del W3C" at slide 2 ("What does WC3 do"). WC3. Retrieved from http://www.w3.org/2000/Talks/PalazzoChigi-20000208/slide2-0.html.

9   ISO.org. Retrieved from http://www.iso.org/iso/home.html.

10   "Country Codes – ISO 3166." ISO. Retrieved from http://www.iso.org/iso/home/standards/country_codes.htm.

▸ The **European Telecommunications Standards Institute (ETSI)** is responsible for the standardization of ICTs within Europe. ETSI develops the standards for fixed, mobile, radio, converged, broadcast and Internet technologies.[11]

UNITED NATIONS BODIES

▸ The **Internet Governance Forum (IGF)** was established by the United Nations to be an open and inclusive multistakeholder forum for policy dialogue on Internet governance issues. Its creation was proposed by the Working Group on Internet Governance (WGIG), which was established during the 2003 World Summit on the Information Society (WSIS). The IGF's mandate is contained in the 2005 WSIS Tunis Agenda.[12]

▸ The **International Telecommunications Union (ITU)** is a United Nations specialized agency for information and communications technologies (ICTs).[13] It allocates radio spectrum and satellite orbits,[14] produces telecommunications standards,[15] engages in development and expansion of access to ICTs,[16] and organizes events for the global ICT community. The ITU was the lead organizing agency for the WSIS.[17]

What ICANN Does

Within this ecosystem, ICANN plays a limited, though unique and critical role: it coordinates the Internet's unique identifier system.[18]

ICANN's mission is stated in Article I, Section 1 of its Bylaws: ICANN is to "coordinate, at the overall level, the global Internet's systems of unique identifiers, and in particular to ensure the stable and secure operation of the Internet's unique identifier systems."[19]

To do this, ICANN coordinates the allocation and assignment of three sets of unique identifiers for the Internet:

▸ **Internet Protocol (IP) addresses** – the numerical ID given to every computer or device connected to the Internet (IP addresses are what computers use to locate and reach other computers online), and **autonomous system numbers (ASNs)** – the numerical ID that uniquely identifies a specific network on the Internet[20];

▸ **Protocol port and parameter numbers** – the numbers that, when added to an IP address, signify the unique destination location needed to reach a specific process or application running on a computer[21]; and

▸ **Domain names** – the human-memorable IDs for IP addresses. Domain Names are part of the Domain Name System (DNS), is a hierarchical and distributed system that associates a domain name (e.g., *icann.org*) with the correlating numerical IP address (e.g., "192.0.34.163").

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11   *"About." ETSI. Retrieved from www.etsi.org/about.*

12   *"About the Internet Governance Forum." IGF. Retrieved from http://www.intgovforum.org/cms/aboutigf.*

13   *ITU.int. Retrieved from http://www.itu.int/en/Pages/default.aspx.*

14   *"ITU Radiocommunication Sector." ITU. Retrieved from http://www.itu.int/en/ITU-R/Pages/default.aspx.*

15   *"ITU Telecommunication Standardization Sector." ITU. Retrieved from http://www.itu.int/en/ITU-T/Pages/default.aspx.*

16   *"ITU Telecommunication Development Sector." ITU. Retrieved from http://www.itu.int/en/ITU-D/Pages/default.aspx.*

17   *"World Summit on the Information Society." ITU. Retrieved from http://www.itu.int/wsis/index.html.*

18   *For a comprehensive description of ICANN's work as it relates to Internet technologies and key business operation players on the Internet, see "Understanding the Technical and Business Functions of the Internet Corporation for Assigned Names and Numbers (ICANN)." The GovLab. (October 2013).*

19   *ICANN Bylaws: Art. 1. Sec.1. Retrieved from http://www.icann.org/en/about/governance/bylaws.*

20   *For example, New York University operates a network (an autonomous system) and thus has a unique ASN, which is used to help express routing policies within the NYU network.*

21   *As an analogy, if an IP address is like a telephone number, the protocol port and parameter number is like an extension.*

Regarding IP addresses and ASNs, ICANN coordinates policies determined by five regional Internet registries (RIRs) for allocating and assigning these unique numerical identifiers needed to make the Internet's addressing system work. Regarding, protocol port and parameter numbers, ICANN administers over two thousand registries for protocol parameters, working closely with the Internet Engineering Task Force (IETF).

Regarding domain names, ICANN's work involves:

▸ Approving the assignment of new top-level domains (i.e., .com, .org, etc.), including those incorporating non-Latin scripts.

▸ Coordinating policies that guide the expansion and/or the provision of services for:

- Country code top-level domain (ccTLD) delegations, such as .de or .fr for Germany and France[22]; and

- Generic top-level domains (gTLDs) such as .com and .org.

  » Included in the gTLD category are sponsored gTLDs (sTLDs), such as .aero, .cat, .coop, and .museum. A set number of sTLDs exist, each with a sponsor representing a specific community served by the sTLD.[23]

ICANN also coordinates the operation and evolution of the DNS root name server system. This means that ICANN performs the following functions:

▸ Maintaining and managing changes to the root zone file in accordance with the IANA Functions Contract.[24]

▸ Serving as operator for one of the core root name servers, the L-ROOT.[25]

▸ Contracting with gTLD domain name "registries"—organizations that operate TLDs and their correlating name servers and which maintain a registry of the domain names within the TLD. For example, Verisign, which operates the .com registry pursuant to an agreement with ICANN, maintains the registry of all domain names registered in .com, and also maintains agreements with the registrars through which .com domain names are sold.[26]

▸ Accrediting organizations to act as "registrars"—entities through which the public registers specific domain names in the gTLD registries.

▸ Contracting with gTLD registries and registrars to ensure that they maintain data on the names of websites, their numerical identifiers, and their owners in a publicly available database called Whois (like an address book).

Regarding ICANN's role coordinating policy development, this extends only to those issues "reasonably and appropriately related" to ICANN's above-described technically oriented functions.

As an analogy for ICANN's work coordinating the DNS, think of the addressing system in any city. Every city address (ideally) is unique, and is defined by the name of the owner or resident ("John Smith"), a unique street name ("Main St."), and a

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22 *Country code TLDs are directly handled by sponsoring organizations "entrusted with operating the domains in the public interest for the community the domain is designated to serve." See "Understanding the ccTLD Delegation and Redelegation Procedure." IANA. Retrieved from http://www.iana.org/domains/root/delegation-guide.*

23 *"Status Report on the sTLD Evaluation Process." ICANN. Retrieved from http://archive.icann.org/en/tlds/stld-apps-19mar04/stld-status-report.pdf.*

24 *When a computer looks up a domain name it has never seen before, its first stop when asking for the location of the domain will be a core root name server. Core root name servers sit at the top of the DNS hierarchy, and while they won't know the final address a computer is looking for, they look at all of the TLDs (the .com, .org, etc.) and will return a list of authoritative name servers who might have the final address. There are 12 organizations that operate these core root name servers. While these core root name servers all host identical versions of the master "address book" for the Internet, the organizations that manage them often do so by using redundant machines around the globe to provide distributed service; in fact, there are core root name servers in over 130 physical locations around the globe. "Root Servers." IANA. Retrieved from http://www.iana.org/domains/root/servers; K. Davies. "There are not 13 root servers." ICANN Blog. (November 2007). Retrieved from http://blog.icann.org/2007/11/there-are-not-13-root-servers/.*

25 *"L-ROOT." ICANN. Retrieved from http://dns.icann.org/.*

26 *ICANN requires each gTLD domain name registry to maintain a contract (a Registry/Registrar Agreement) with each of their registrars.*

unique numerical address ("123 Main St."). This addressing system is essential to navigation, postal delivery, transportation, and the workings of the city as a whole. Similarly, the DNS is essential to prevent disorder on the net and enable the work of search engines, links, and navigational tools that are central to the functioning of the Internet.

In performing the above functions, ICANN is guided by core values, detailed in full in the ICANN Bylaws.[27] In brief, these core values include:

▸ Preserving and enhancing the operational stability, reliability, security, and global interoperability of the Internet.

▸ Respecting Internet-enabled creativity, innovation and free flow of information by limiting ICANN's involvement to those activities requiring or which significantly benefit from global coordination.

▸ Seeking and supporting broad and informed participation.

▸ Promoting and sustaining consumer choice and competition, where appropriate.

▸ Employing open and transparent policy development processes to ensure well-informed decisions and input from those most affected.

▸ Applying documented policies neutrally and objectively, with integrity and fairness.

▸ Ensuring accountability, effectiveness and responsiveness to the needs of the Internet and to global Internet users.

▸ Remaining rooted in the private sector while recognizing and respecting the responsibility of governments and public authorities in public policy.

What ICANN Does Not Do

Many aspects of the Internet's operations are beyond ICANN's scope and mission. Specifically:

▸ ICANN has little to do with content that appears online or with any issues regarding spam, privacy, copyright, cyber crime or surveillance.[28]

▸ ICANN does not allocate or assign specific IP addresses. ICANN, through the performance of the IANA function (now a department of ICANN), allocates blocks of IP addresses to the five RIRs, located in different geographic regions of the world. These RIRs, in turn, allocate IP addresses to ISPs or others qualified for allocation, which then assign IP addresses to individual users and organizational networks.

▸ ICANN is not involved with the registration of individual second-level domain names, such as *mcdonalds.com* or *diet.com*. Individual domain name registrations are handled through registrars (such as Go Daddy and Network Solutions), and ICANN accredits the registrars.

▸ ICANN is not responsible for Internet access, which is handled by Internet Service Providers (ISPs), such as Comcast or Verizon in the United States or Afrihost in South Africa.

▸ ICANN does not mediate disputes about domain names. In 1999, ICANN established the Uniform Domain Name Dispute Resolution Policy (UDRP), which set out a process for resolving domain-name conflicts through international arbitration.[29] Several dispute resolution service providers have since been approved to handle UDRP disputes, such as the World Intellectual Property Organization (WIPO), the National Arbitration Forum (FORUM), and the Asian Domain Name Dispute Resolution Centre.

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27 ICANN Bylaws: Art. I. Sec. 2. Retrieved from *http://www.icann.org/en/about/governance/bylaws#I.*

28 "What ICANN Does and Doesn't Do." ICANN. (May 2011). Retrieved from *www.icann.org/en/about/welcome/what-icann-does-22jun12-en.pdf.*

29 "Domain Name Dispute Resolution." National Arbitration Forum. (2013). Retrieved from *http://domains.adrforum.com/.*

ICANN's Increasingly Transnational Structure

Since its creation over a decade ago, ICANN has operated as a multistakeholder, private, non-profit organization that is separate from government. In the Internet's early years, a small number of people, academic organizations, and U.S. government departments managed the technical functions of the Internet. Specifically, Jon Postel from the University of California, Los Angeles (UCLA), originally led coordination of the unique identifiers for machines connected to the Internet as IANA.[30]

Over time, however, the Internet grew and required a more formal organization and resources. In 1997, the US Department of Commerce called for the privatization of the domain name system in a manner that would allow for the development of competition and would facilitate global participation in the management of Internet names and addresses.[31] On November 25, 1998, the U.S. Department of Commerce entered into a Memorandum of Understanding with a newly formed organization — ICANN —to design, develop and test the mechanisms, methods, and procedures necessary to transfer domain name system management responsibilities to the private sector.[32] Subsequently the Department of Commerce has entered into other meaningful agreements with ICANN.[33]

Since its formation, ICANN has become the paradigmatic example of "international, bottom-up, multistakeholder governance" (see further below). Today, ICANN has headquarters in Marina Del Rey, California, and long-standing offices in Washington, D.C., and Brussels, Belgium. ICANN works with a number of other organizations and individuals to collectively manage key functions for the Internet.

Under current President and CEO Fadi Chehadé, ICANN continues to develop its global presence and grow its capacity to reach and consult with global stakeholders. Specifically:

▸ ICANN has opened hubs in Singapore and Istanbul, Turkey, as well as engagement centers in Beijing, China and Montevideo, Uruguay to begin to address insufficient engagement in those regions.[34]

▸ Country Code Internationalized top-level domain names (ccIDNs) — top-level domains in non-ASCII characters — are now operational, including ccIDNs in Chinese and Arabic.[35]

▸ ICANN is working to increase the number of accredited registrars in Africa from five to twenty-five, and is adding at leastone ICANN staffer in each of Africa's six major regions.[36]

▸ ICANN continues its commitment, under its Bylaws, to include at least one Board member from each ICANN Geographic Region.[37]

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30   "IANA Statement." Internet Society. Retrieved from www.isoc.org/postel/iana.shtml.

31   "Statement of Policy on the Management of Internet Names and Addresses." NTIA. (June 5, 1998).
     Retrieved from http://www.ntia.doc.gov/federal-register-notice/1998/statement-policy-management-internet-names-and-addresses.

32   "Memorandum of Understanding between ICANN and the U.S. DoC." ICANN. (November 25, 1998).
     Retrieved from http://www.icann.org/en/about/agreements/mou-jpa/icann-mou-25nov98-en.htm.

33   Specifically, ICANN contracts with the NTIA for performance of the Internet functions traditionally performed by IANA. These include: "(1) the coordination
     of the assignment of technical Internet protocol parameters; (2) the administration of certain responsibilities associated with Internet DNS root zone
     management; (3) the allocation of Internet numbering resources; and (4) other services related to the management of the .ARPA and .INT top-level
     domains." See "IANA Functions Contract." NTIA. Retrieved from http://www.ntia.doc.gov/page/iana-functions-purchase-order. Moreover, in 2009, ICANN
     and the U.S. Department of Commerce signed the "Affirmation of Commitments" (AoC), which replaced the MoU and affirmed ICANN's independence and
     ICANN's commitment to making decisions in the public interest. See "Affirmation of Commitments." ICANN. (Sept. 30, 2009).
     Retrieved from http://www.icann.org/en/about/agreements/aoc/affirmation-of-commitments-30sep09-en.htm.

34   R. Wanjiku. "ICANN leader shares vision for growth and a global Internet." PCWorld. (Jul. 20, 2013).
     Retrieved from http://www.pcworld.com/article/2044839/icann-leader-shares-vision-for-growth-and-a-global-internet.html.

35   "New Internet Name Rule Opens Door to Huge Changes." Voice of America. (June 19, 2011).
     Retrieved from http://www.voanews.com/content/new-internet-name-rule-opens-door-to-huge-changes-124180874/141045.html.

36   L. Esserts. "African domain-name registrars have mixed reaction to ICANN push." CIO. (Mar. 12, 2013).
     Retrieved from http://www.cio.com/article/730117/African_domain_name_registrars_have_mixed_reaction_to_ICANN_push.

37   ICANN Bylaws: Article VI: Section 2. ICANN. Retrieved from http://icannwiki.com/index.php/ICANN#History:_The_Beginning.

▸ ICANN continues to hold its three public meetings annually in different regions of the world, with a recent meeting held in South Africa, and upcoming meetings to be held in Argentina, Singapore, and the UK.[38] ICANN has also increased the number of meetings with regional focus, separate from the traditional public meetings.

How ICANN Makes Decisions

ICANN works through a "bottom-up, consensus-driven, multistakeholder model." It is "bottom-up" because members of the global Internet community can raise issues and bring them to ICANN's attention; "consensus-driven" because ICANN provides processes and meetings to encourage discussion of diverse perspectives; and "multistakeholder" because ICANN uses "an inclusive approach that treats the public sector, the private sector, and technical experts as peers."[39]

ICANN is an experiment in multistakeholder governance, which has been described as a form of decision-making "comprising different stakeholders who perceive the same resource management problem, realize their interdependence for solving it, and come together to agree on action strategies for solving the problem."[40] In this model, "stakeholders" are all those who have an interest in a particular decision, either as individuals or representatives of a group.

ICANN is neither a direct democracy nor a proxy voting system. Rather, ICANN's multistakeholder process is meant to give voices, not votes, to stakeholders.[41] Instead of having direct control, stakeholders influence the outcome through their input, discussion, and advocacy for their point of view. In ICANN, the Board of Directors makes final decisions based on input from stakeholders ranging from governments to Internet end-users to domain name registrars.

ICANN'S KEY STRUCTURES:

Board of Directors[42]

There are 16 international voting Directors on the ICANN Board:

▸ ICANN's President
▸ 8 Directors selected by a Nominating Committee[43]
▸ 6 Directors appointed by Supporting Organizations:
   • 2 from the Generic Names Supporting Organization
   • 2 from the Address Supporting Organization
   • 2 from the Country Code Names Supporting Organization
▸ 1 Director is selected by the At-Large Community

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38   "Upcoming Events." ICANN: Meetings. Retrieved from http://meetings.icann.org/.

39   "Welcome to ICANN." Retrieved from http://www.icann.org/en/about/welcome.

40   N. Steins and V. Edwards. "Platforms for Collective Action in Multiple-Use CPRs." (Paper Presented at Crossing Boundaries, the Seventh Biennial Conference of the International Association for the Study of Common Property, Vancouver, British Columbia, Canada.) (June 10-14, 1998). Retrieved from http://dlc.dlib.indiana.edu/dlc/handle/10535/115?show=full.

41   Id. at 10.

42   L. Kruger. "Internet Governance and the Domain Name System: Issues for Congress." Congressional Research Service. (April 23, 2013). Retrieved from http://www.fas.org/sgp/crs/misc/R42351.pdf.

43   "The Nominating Committee is selected by supporting organizations and other ICANN bodies." ICANN. Retrieved from http://nomcom.icann.org/.

There are also 5 non-voting liaisons to the Board selected by ICANN Advisory Committees and other Internet stakeholders. These members are appointed by:

▸ The Governmental Advisory Committee
▸ The Root Server System Advisory Committee
▸ The Security and Stability Advisory Committee
▸ The Technical Liaison Group
▸ The Internet Engineering Task Force
▸ Supporting Organizations

There are three ICANN Supporting Organizations, which are the structures that develop policy within ICANN:

▸ The **Address Supporting Organization (ASO)** reviews and develops recommendations for IP addressing policy.[44] Its role, responsibilities, and functions are fulfilled by the Number Resource Organization (NRO), which is the coordinating body for the five RIRs.[45]

▸ The **Generic Names Supporting Organization (GNSO)** brings together stakeholder groups (of gTLD registrars, registries, businesses, intellectual property interests, ISPs, communications-providers, and non-commercial users) to develop policies and make recommendations to the ICANN Board related to gTLDs.[46] The GNSO is made up of two voting "houses" — the Contracted Parties House (which holds Registries and Registrars Stakeholder Groups) and the Non-Contracted Parties House (which holds Commercial and Non-Commercial Stakeholder Groups).[47]

▸ The **County Code Names Supporting Organization (ccNSO)** is made up of the ccNSO Council and ccNSO members, which are the ccTLD registry operators. It coordinates policy development on ccTLD issues.[48]

ADVISORY COMMITTEES

The ICANN Bylaws require "at least" the following Advisory Committees, which provide advice on policy development to the ICANN Board[49]:

▸ **At-Large Advisory Committee (ALAC)**. A group representing the voices of geographically diverse individual Internet users and registrants.[50] The ALAC is made up of representatives from five Regional At-Large Organizations (RALOs),[51] which encompass a network of regionally self-organized At-Large Structures. The ALAC is responsible for considering and providing advice on the activities of ICANN as they relate to the interests of individual Internet users.[52]

▸ **Governmental Advisory Committee (GAC)**. While no government oversees ICANN, through the GAC, representatives from national governments, distinct economies, and global organizations such as the ITU, the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the World Intellectual Property Organization (WIPO),

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44   "What is the ASO." The Address Supporting Organization. Retrieved from http://aso.icann.org/.

45   "About ASO." Retrieved from http://aso.icann.org/about-the-aso/.

46   "ICANN Generic Names Supporting Organization." GNSO. Retrieved from http://gnso.icann.org/en/. For example, the Uniform Dispute Resolution Policy (UDRP) was approved through the GNSO in 1999. See "Uniform Domain-Name Dispute-Resolution Policy." ICANN. Retrieved from http://www.icann.org/en/help/dndr/udrp.

47   "GNSO Council." ICANN. Retrieved from http://gnso.icann.org/en/about/gnso-council.htm.

48   "About." Country Code Names Supporting Organization Retrieved from http://ccnso.icann.org/about.

49   ICANN Bylaws: Article XI: Section 2. ICANN-GAC. Retrieved from https://gacweb.icann.org/display/gacweb/ICANN+Bylaws.

50   "At-Large." ICANN. Retrieved from http://www.atlarge.icann.org/.

51   "ICANN At-Large Advisory Committee (ALAC)." ICANN. Retrieved from http://archive.icann.org/en/committees/alac/.

52   "ALAC." ICANN. Retrieved from http://atlarge.icann.org/alac.

and the Organisation for Economic Co-operation and Development (OECD), advise the ICANN Board on all policy development, especially in instances where ICANN's activities and policies interact with national laws, international agreements, and matters of public policy.[53]

▶ **Security & Stability Advisory Committee (SSAC)**. Advises the Board on the security and integrity of the Internet's naming and addressing system.[54]

▶ **Root Server System Advisory Committee (RSSAC)**. Advises the Board on operation, administration, security and integrity of the Internet's root server system.[55] This RSSAC is made up of representatives from all of the core root server operators.[56]

THE TECHNICAL LIAISON GROUP (TLG)

This group works to connect the Board with needed sources of technical advice through its liaison to the ICANN Board of Directors.[57] The TLG is comprised of the ETSI, the ITU's Telecommunications Standardization Sector (ITU-T), W3C, and the IAB.

WORKING GROUPS

These are issue-specific volunteer advisory groups that work to fulfill directives set by the President, the Board of Directors, or a Supporting Organization's Council during the policy-development process.

POLICY-DEVELOPMENT PROCESSES:

The above structures develop policy related to unique identifiers through a grassroots, bottom-up process. Notably, as ICANN's recent "Policy vs. Implementation Framework" has suggested, there are "multiple kinds of 'policy'" within ICANN and not all are subject to the same processes.[58]

As for ICANN's formal Policy Development Processes (PDP), there are distinct and complex procedures followed within each ICANN structure. The ICANN Bylaws set forth distinct PDPs to be used for developing policy within two of the Supporting Organizations, the GNSO and the ccNSO. ICANN also has a Memorandum of Understanding with the ASO, which sets out a third PDP to be followed there.

These processes are not uniform and are specific to the distinct remit of the supporting organization, as summarized below.[59]

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53 ICANN Bylaws: Article XI: Advisory Committees. ICANN-GAC. Retrieved from http://www.icann.org/en/about/governance/bylaws#XI; see also "Governmental Advisory Committee." GAC. Retrieved from https://gacweb.icann.org/display/gacweb/Governmental+Advisory+Committee.

54 "Security and Stability Advisory Committee (SSAC)." ICANN. Retrieved from http://www.icann.org/en/groups/ssac.

55 "DNS Root Server System Advisory Committee." ICANN. Retrieved from http://www.icann.org/en/groups/rssac.

56 Id.

57 "The ICANN TLG." ICANN. Retrieved from http://www.icann.org/en/groups/tlg.

58 Moreover, ICANN does not have a uniform process for making changes to policy recommendations already adopted by the Board of Directors. "Policy vs. Implementation Framework." ICANN. (March 2013). Retrieved from http://www.icann.org/en/news/public-comment/policy-implementation-31jan13-en.htm.

59 ICANN Bylaws: Articles III: Section 6. ICANN. Retrieved from http://www.icann.org/en/about/governance/bylaws#IX-6.

GNSO PDP	CCNSO PDP	ASO PDP
Remit: The GNSO's PDP is used for issues that relate to gTLDs, and for which the intended result is consensus policy, or that which will affect the contractual obligations of the gTLD registries and registrars.[60]	**Remit:** The ccNSO's PDP (ccPDP) applies when the issue for which policy will be developed on affects all ccTLDs.[61]	**Remit:** The ASO PDP applies to "Internet number resource policies that have the agreement of all RIRs according to their policy development processes and ICANN, and require specific actions or outcomes on the part of IANA or any other external ICANN-related body in order to be implemented."[62]

THE PROCESS

ISSUE IDENTIFICATION

An issue or problem is identified within the GNSO community and the ICANN Board, an Advisory Committee, or the GNSO Council requests an initial issue report. If requested by the GNSO Council, an immediate vote is held, which requires a low threshold of Council members to vote in favor of developing a "Preliminary Issue Report" (1/4 of each House or a majority of one house).	An Issue Report may be requested by the ccNSO Council (at least seven members present at any meeting or voting via email), the ICANN Board, one or more regional organization (representing ccTLDs in ICANN-recognized regions), another ICANN SO or AC, or by at least 10 members of the ccNSO (i.e. at least 10 ccTLD operators).	A proposed global policy can be submitted to any of the five RIRs or to the ASO Address Council. The global policy proposal is placed on the agenda for the next Address Council meeting. The proposer also has the duty of ensuring the proposed policy is on the agenda for the next open policy meeting in each region.

ISSUE SCOPING

Staff drafts a Preliminary Issue Report. The report documents issues that need to be explored in order to solve the problem as well as staff recommendations. This report is posted to the web for public comment and distributed through various list-serves and newsletters. Following the solicitation of public comment, the Preliminary Issue Report is refined and presented as a Final Issue Report to the GNSO Council.	A ccNSO Issue Manager (IM) is appointed by the Council. The IM may be an ICANN staff member. The IM creates an Issue Report. This report includes recommendations from the IM as to whether the ccNSO should move forward with the PDP. The IM's recommendations are required per the ICANN Bylaws to be informed by the opinion of the ICANN General Counsel regarding whether the issue raised is properly within the scope of both ICANN as well as the ccNSO. The General Counsel's opinion shall also consider whether the issue raised implicates existing ICANN policy and whether the issue will have "lasting value or applicability, albeit with the need for occasional updates."[63]	Each of the five RIRs then considers the proposal based on its own specific policy development methods.

GNSO PDP	CCNSO PDP	ASO PDP
OPTIONS SCRUTINY		
The Council votes on whether to start the formal "Policy Development Process." If the PDP is initiated, staff creates a drafting team to develop a Working Group charter. The GNSO Council again votes, this time on whether to adopt the charter, using the same thresholds that apply for initiating the PDP. A Working Group for the PDP is formed. Working Groups are open to anyone. Based on deliberations and the opinions received from stakeholder groups and possibly from other ICANN ACs and SOs, the Working Group drafts an Initial Report, which is then posted for public comment, reviewed, and then published as a Final Report.[64]	When 10 or more ccNSO Council members vote in favor of moving forward, the ccPDP is initiated. Council votes on whether to create a Task Force or a Working Group(s) and on whether to approve or amend the PDP timeline as set out in the Issue Report. Public notification of initiation of the ccPDP is required, followed by a comment period (usually 21-days long) on the Issue Report. The IM or other designated Council representative reviews the comments received, and includes them in a Comment Report. The Comment Report is used to inform either a Preliminary Task Force Report (if a Task Force has been created) or the revised Initial Report. This report, when complete, is often opened again to public comment. A Final Report is prepared following comment intake.	Once all 5 RIRs have adopted a global policy as per the NRO Executive Council, the proposal is forwarded to the ASO Council.
DELIBERATIONS		
The GNSO Council then deliberates and votes to approve or reject the Working Group's recommendations contained in the Final Report based on certain voting thresholds laid out in ICANN Bylaws. If recommendations are approved, the GNSO Council's Recommendations Report is submitted to the Board.	The Final Report is submitted to the ccNSO Chair of Council; the GAC Chair is invited to offer advice or opinion. The Council deliberates and then votes. Fourteen or more Councilors must vote in favor to progress. If the voting threshold is met, a Members Report is prepared by the IM for consideration by ccNSO members. If specific voting and attendance requirements are met, the ccNSO members vote on the Members Report. Adoption requires 66% votes cast in favor. If reached, a Board Report is prepared by the IM and approved by Council.	The ASO reviews the proposal based on processes used during each of the RIRs' PDPs; whether common agreement exists among RIRs on the meaning of the text; and whether there has been adequate consideration of viewpoints. If this review is successful, the proposal is sent to the ICANN Board.

GNSO PDP	CCNSO PDP	ASO PDP
DECISION-MAKING		
The ICANN Board meets to discuss and deliberate. Depending on the level of consensus reached throughout the process, the Board has different voting thresholds required in order to reject a PDP.	The ICANN Board meets to deliberate the ccNSO recommendations captured in the Board Report, considering the processes used in developing the report as part of its evaluation. The recommendations are adopted unless 66% of Board Members vote against the policy.	If this occurs, the ICANN Board reviews the proposal, may ask to consult with ASO Address Council and/or the RIRs (acting together as the NRO) as well as "other parties the Board considers appropriate." The ICANN Board then votes to either accept, reject, request a change or take no action on the proposed policy.
IMPLEMENTATION		
If the policy recommendations are passed, the Board directs the GNSO to create an Implementation Report for how to carry out the new policy, which will be done by ICANN staff.	The Board directs or authorizes ICANN staff to implement the policy.	If the Board accepts, implementation is performed by IANA.

Notably, the ICANN Bylaws[65] also set out criteria for engagement with ICANN's greater community during the various PDPs. For example:

▸ Where a policy may affect "the operation of the Internet or third parties, including the imposition of any fees or charges," public notice on the ICANN website is required at least 21-days prior to any action by the Board.

▸ Public comment phases must provide the public with a reasonable opportunity to comment on the proposed policy, see comments of others, and reply.

▸ Where the decision implicates the activities of ICANN as they relate to concerns of governments, the Board must notify the GAC and take into account its response.[66]

▸ Prior to Board action, and where "both practically feasible and consistent with the relevant policy development process," ICANN shall hold in-person public meetings to allow for discussion on proposed policies.

▸ The Board is also required to publish meeting minutes setting out the reasons for any action taken, the vote of each Director, and any separate statement a Director wants published.

60   "GNSO Policy Development Process (PDP)." GNSO. Retrieved from http://gnso.icann.org/en/node/31379/.

61   "ccNSO PDP Process in Graphics – icann." ICANN. Retrieved from ccnso.icann.org/policy/pdp-15jan13-en.pdf; see also ICANN Bylaws: Annex B: ccNSO Policy-Development Process (ccPDP). Retrieved from http://www.icann.org/en/about/governance/bylaws#AnnexA.

62   "ICANN Address Supporting Organization (ASO) MoU" at Annex A. ICANN. Retrieved from http://aso.icann.org/documents/memorandum-of-understanding/.

63   Notably, as per ICANN Bylaws, issues relating to revisions to the ccPDP or to the scope of the ccNSO will be sufficiently within scope to initiate the ccPDP.

64   Notably, one challenge identified in this process by ICANN staff is that often times, when advice, data or opinion is sought from other ICANN SOs and ACs, the response rate can be low and the response time may not align with the pace of progress in the GNSO.

65   ICANN Bylaws: Article III: Section 6. ICANN. Retrieved from http://www.icann.org/en/about/governance/bylaws#III-6.

66   Id. at 1.c.

Example ICANN Decisions

Some policies developed through formal ICANN PDPs are described in brief below:

▸ **Expanding the gTLD namespace.**[67] In 1998, there were eight gTLDs, including .com, .net, and .gov. In 2008, the ICANN Board adopted GNSO policy recommendations to allow for new gTLDs in order to enable competition and consumer choice, foster diversity and enhance the utility of the DNS. The application window opened on January 12, 2012, and ICANN has received 1,930 applications for new gTLDs.[68]

▸ **The Inter-Registrar Transfer Policy** provides a procedure for domain name holders to transfer their names from one registrar to another.[69] This policy aimed to make transfer processes standard, clear, and concise, in order to avoid confusion.[70] A Transfer Task Force made 29 policy recommendations, which were accepted by the GNSO Council; thereafter, the ICANN Board adopted the policy recommendations, which went into effect in November 2004.

▸ **The Add Grace Period (AGP) Limits Policy** limits the number of days following a gTLD registry operation in which the operation may be reversed and a credit may be issued to the Registrar.[71] The intention of the policy is to limit the behavior known as "domain tasting"–where a domain name is temporarily registered to see how much traffic the domain name generates (to evaluate its profitability), and then canceled for a full refund.[72] The ICANN Board directed the GNSO to initiate an issue report via a working group. The AGP Limits Policy was subsequently developed through the formal GNSO PDP and adopted by the Board in June 2008.

Some recent ICANN decisions made outside of formal PDPs, or as a result of implementation challenges raised following formal PDPs, are described in brief below73:

Expanding the TLD character-set from the Latin script that the original DNS was built upon **to permit characters from other scripts** (e.g., Chinese, Cyrillic, Arabic, etc.). The ICANN Board's decision came after forward-motion in this arena began; registering a domain name with non-ASCII (i.e. non-Latin) strings was already permissible when the Board voted in favor of extending the character set in Seoul, South Korea in October 2009.[74]

The "Fast-Track" internationalized ccTLD process. Also in Seoul, South Korea in October 2009, the ICANN Board approved the "IDN country code Top-Level Domain (ccTLD) Fast Track Process," which enabled countries to apply to ICANN for an internationalized version of their ccTLD (i.e., apply for non-Latin script versions of ccTLDs).[75] An expert panel convened by ICANN staff vetted the applications for the Fast Track Program.

▸ For example, Russia (with the ccTLD of .ru) applied for a Cyrillic version of .ru, which is: .РУ. Because these Cyrillic characters look similar to the Latin letters "P" and "Y" (constituting Paraguay's ccTLD of .py), the Russians opted instead for .РФ in Cyrillic for "Russian Federation." This application was approved as part of the Fast Track program.

67 "gTLD Applicant Guidebook." ICANN. (June 4, 2012). Retrieved from http://newgtlds.icann.org/en/applicants/agb/guidebook-full-04jun12-en.pdf.

68 "About new gTLDs." ICANN. Retrieved from http://newgtlds.icann.org/en/about/program.

69 "Domain Name Transfers." ICANN. Retrieved from http://www.icann.org/en/resources/registrars/transfers.

70 "Policy on Transfer of Registrations between Registrars." ICANN. (Effective June 1, 2012). Retrieved from http://www.icann.org/en/resources/registrars/transfers/policy.

71 "ICANN Add Grace Period Limits Policy." ICANN. (December 17, 2008). Retrieved from http://www.icann.org/en/resources/registries/agp/agp-policy-17dec08-en.htm.

72 Definition: "Domain Tasting." WhatIs.com. (March 2008). Retrieved from http://whatis.techtarget.com/definition/domain-tasting.

73 Author notes from Interview with Steve Crocker, the ICANN Board Chair. (Interview conducted September 18, 2013).

74 Choe Sang-Hun. "Net Addresses to Make Use of Non-Latin Scripts." The New York Times. (October 30, 2009).
Retrieved from http://www.nytimes.com/2009/10/31/technology/31net.html?_r=0.

75 "Updated Final Implementation Plan for the IDN ccTLD Fast Track Process." ICANN. (June 14, 2012).
Retrieved from http://www.icann.org/en/news/announcements/announcement-14jun12-en.htm.

▸ Notably, the "Fast Track" process is not complete; ICANN has not yet completed an official ccPDP establishing a procedure for granting internationalized ccTLDs going forward.

"Dot-less" TLDs. At an ICANN Board meeting on August 30, 2013, the ICANN Board New gTLD Program Committee (NGPC) adopted a resolution affirming the prohibition of "dotless domain names" (i.e. those that do not include the period preceding the string, e.g., "@google" or "google" rather than ".google"). This decision resulted from a public comment process and deliberations and reports submitted from the SSAC, the IAB and from Carve Systems. The ICANN Board's final decision embraced prohibiting "dot-less" TLDs contractually. That is, if Google is successful at getting the .google bTLD, it will be restricted via contract from using that TLD without its dot.[76]

Whether to allow ".home" and ".corp" strings in new gTLD applications. The strings ".corp" and ".home" have for many years been used as local anchors in enterprises. Because of this, ICANN has labeled these two strings "high risk" as it begins accepting and vetting new applications for gTLDs.[77]

Changes and Challenges Facing ICANN

The Internet itself is changing in ways that pose challenges to ICANN:

▸ Global Internet access is growing, especially in the developing world. The stakeholders in the ICANN process are thus becoming more numerous and more diverse, resulting in a debate about who has or should have oversight of the Internet domain name system space. In particular, the broad debate has been focused on whether and what the role of the United Nations (specifically the ITU) is in governing specific issues related to the Internet.[78]

▸ In the "Internet of things," cell phones, cars, smart refrigerators, and many other devices are now connected to the Web.[79] Additional technical resources and management will be required to accommodate the needs of these new devices.

▸ Some national governments and telecommunications companies have an interest in creating a "competing Internet" (e.g., by creating alternative DNS roots). This would fundamentally undermine the current state of the Internet as a single unified entity serving a global network.[80]

▸ The new gTLD program allows for "brand gTLDs", which may generate free brand domain names for individual websites. For example, Google may give away domains such as *myname.google* just as it gives away free email service. This may have a substantial impact on the way that ICANN manages and structures its organization.

The major challenges ICANN currently faces include:

▸ **Enhancing ICANN's multistakeholder model of governance**. Given the continued global growth of the Internet and the increasing number of stakeholders, ICANN recognizes that it must enhance its multistakeholder model of governance. While ICANN is committed to the multistakeholder decision-making process, ICANN recognizes that enhancing this model requires inclusivity in decision-making while also detecting ways to best identify and utilize needed expertise.

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76 "New gTLD Dotless Domains Prohibited." ICANN. (August 30, 2013). Retrieved from http://www.icann.org/en/news/announcements/announcement-30aug13-en.htm.

77 Kevin Murphy. "Is the .home new gTLD doomed? ICANN poses study of security risks." DomainIncite. (May 22, 2013).
    Retrieved from http://domainincite.com/13112-is-the-home-new-gtld-doomed-icann-poses-study-of-security-risks.

78 O. Nottebohm, J. Manyika, J. Bughin, M. Chui and A. Syed. "Online and upcoming: The Internet's impact on aspiring countries." McKinsey & Company.
    (January 2012). Retrieved from http://www.mckinsey.com/client_service/high_tech/latest_thinking/impact_of_the_internet_on_aspiring_countries.

79 J. Sciacca. "What to Do When the Stove Talks Back (and Other Problems with Smart Appliances)." Digital Trends. (2013).
    Retrieved from http://www.digitaltrends.com/lifestyle/get-ready-to-talk-to-your-refrigerator-and-your-washing-machine-dish-washer-and-garage-door-too/.

80 Retrieved from author notes on CITI Conference on the Future of Internet Governance After Dubai: Are we Heading to A Federated Internet. Columbia
    University, New York, New York (June 20, 2013).

Similarly, ICANN sees a need to formalize the actual policy-development process while maintaining an open, fluid approach to multistakeholder engagement.

▶ **Issues of legitimacy.** Despite its multistakeholder process, many often claim private and/or American interests control ICANN.[81] In response to internal and external criticism, ICANN has identified five kinds of improvements that are needed to increase its legitimacy: safeguarding against industry capture, accountability to outside stakeholders, global effectiveness, financial and organizational security, and maintaining focus.[82] In addition, many believe ICANN's mission is either too broad or too limited, and overlaps or competes with other international governance entities.

▶ **Improving transparency.** ICANN has often been criticized for what is seen as opaque decision-making.[83] In 2010, as part of the first "Accountability and Transparency Review" of ICANN, the Berkman Center for Internet and Society at Harvard University published an extensive report recommending that ICANN institute several changes, including transparency audits, better information disclosure, incorporating public input, and better transparency about Board decision-making.[84]

▶ **Improving accountability.** One of ICANN's commitments as set forth in the AoC is to ensure accountability, transparency, and the interests of global Internet users. ICANN has an Accountability and Transparency Review Team (ATRT) made up of representatives from governments and all of its Advisory Committees and Supporting Organizations. Its role is to look at how ICANN operates and to review ICANN's work for alignment with the responsibilities set forth in the AoC. However, there are no clear mechanisms or metrics for evaluating whether ICANN is accountable to the "global public."

▶ **Making ICANN a truly transnational organization.** The globalization of the Internet is bringing rapid changes that require constant reexamination of how the Internet operates, and makes it difficult to maintain a unified policy approach that will work worldwide.

▶ **Defining what it means to be part of ICANN.** As involvement in ICANN grows, ICANN is committed to finding the best ways to ensure that those with whom it works support ICANN's core mission and subscribe to similar principles.

▶ **Promoting the public interest.** ICANN has not fully articulated publicly the connection between how it governs the Internet and its impact on people's lives. While ICANN's decisions are largely technical, they have tremendous potential implications for realizing a vision for society characterized by open architectural principles of the Internet, including openness,[85] innovation, agility, collaboration and self-expression. Domain name registration policy could help to serve specific public interest goals but there has been an absence of proactive debate on how ICANN would measure its success in societal terms. How can ICANN play a role as the critical thought leader for the future of the Internet and for a society enabled by the Internet?

▶ **Managing the IPv6 system.** The IPv6 system, which added additional digits to IP addresses several years ago, has not yet completely supplanted the original IPv4 communications protocol in the DNS. The two protocols, however, are not interoperable without transition technologies. Thus, articulating what ICANN's role should be in promoting adoption of the IPv6 system requires ongoing attention.[86]

▶ **Opening the gTLD space.** Opening top-level domain names to private interests while remaining neutral to the influence of those interests poses a challenge. After years of policy development and initial steps taken in 2000 and 2004, in 2011,

81   M. Froomkin. "Almost Free: An Analysis of ICANN's 'Affirmation of Commitments'." Journal on Telecommunications and High Technology. (April 2011). Retrieved from http://www.law.nyu.edu/sites/default/files/ECM_PRO_067688.pdf.

82   "The Improving Institutional Confidence Process." ICANN. (February 2009). Retrieved from http://www.atlarge.icann.org/summit/briefing-note-iic-process-19feb09-en.htm.

83   K. McCarthy. "The Internet—cheap at twice the price." The Register. (July 2004). Retrieved from http://www.theregister.co.uk/2004/07/23/icann_round/; J. Weinberg. "ICANN and the Problem of Legitimacy." 50 Duke L.J. 187 at 187-260. (2000). Retrieved from http://faculty.law.wayne.edu/Weinberg/legitimacy.pdf.

84   "Accountability and Transparency at ICANN — An Independent Review." Berkman Center for Internet and Society. (October 2010). Retrieved from http://www.icann.org/en/reviews/affirmation/atrt-review-berkman-final-report-20oct10-en.pdf.

85   See, e.g., the recent work of an ICANN working group, which has proposed dissolving the current Whois system — a plan that some believe will improve accuracy of data and protect privacy — in order to replace it with a more centralized look-up system requiring authentication for access. See "Whois Privacy Plan Draws Fire." Krebson Security. (September 16, 2013). Retrieved from krebsonsecurity.com/2013/09/whois-privacy-plan-draws-fire/.

86   A. Durand, J. Ihren and P. Savola. "Operational Considerations and Issues with IPv6 DNS." IETF: Network Working Group. (April 2006). Retrieved from http://www.ietf.org/rfc/rfc4472.txt.

ICANN "opened the domain name space" to "democratize" the allocation of top-level domains. In addition to existing gTLDs like .com, ICANN invited applications for new domains (available for $185,000).[87] This brings in new players like Google and Amazon, who may have a significant impact on ICANN's work or influence over ICANN's agenda.

▸ **Clarifying ICANN's monitoring responsibilities.** The sale and management of new brand gTLDs raise policy questions that touch on trademark and copyright law, free speech protections, and other complex issues (e.g., who will operate controversial domain names such as .gay or .islam).[88] One concern is whether, how, and to what extent ICANN should or will police domain names in an attempt to prevent copyright and trademark infringement (e.g., if someone other than Coca-Cola Company attempts to register .coke). Earlier this year, ICANN announced that it had devised just such a monitoring procedure, which it considered the "last contractual hurdle" with regard to the expansion of the gTLD system.[89]

▸ **Risk of mission creep.** Many are now turning to ICANN to take on Internet issues including cyber security, the digital divide, and the balance between online privacy and government surveillance.[90] ICANN will need to decide whether tackling these issues is or should be within the scope of its work and, if so, how the organization can handle them.

TOP SUGGESTIONS FOR FURTHER READING ON ICANN

Accountability and Transparency at ICANN: An Independent Review. The Berkman Center for Internet & Society at Harvard University. (October 2010). Retrieved from *http://cyber.law.harvard.edu/pubrelease/icann/*. This report provides detail about present and passed issues facing ICANN regarding accountability and transparency, particularly those related to its multistakeholder processes.

V. Cerf, P. Ryan and M. Senges. **Internet Governance is Our Shared Responsibility.** 10 ISJLP ___ (2014) (*www.is-journal.org*) (publication forthcoming). This piece discusses the roles of various stakeholders (including ICANN) in Internet governance and frames a process for "enhanced collaboration" in international Internet policymaking.

L. DeNardis. **Internet Points of Control as Global Governance.** The Center for International Governance Innovation. (2013). Retrieved from *www.cigionline.org/publications/2013/8/internet-points-of-control-global-governance*. This report is part of a series on Internet governance, which explores what kind of Internet the world wants in 2020, explains how the Internet's core technical architecture is governed, and discusses how global public policy decisions are co-produced within this framework.

L. Kruger. **Internet Governance and the Domain Name System: Issues for Congress.** Congressional Research Service. (January 2013). Retrieved from *http://www.fas.org/sgp/crs/misc/R42351.pdf*. Written for non-experts in Congress, this report offers a digestible, well-researched piece explaining ICANN's structure and multistakeholder approach to governance.

N. S. Levinson. **The Multistakeholder Model in Global Technology Governance: A Cross-Cultural Perspective.** American University School of International Service, International Communications Program. (2013). Retrieved from *papers.ssrn.com/sol3/papers.cfm?abstract_id=2301231*. This paper examines the roles of culture and cross-culture communications processes and the broader framework of multistakeholderism in relation to global technology governance, and examines the variables to be found in the use of the term "multistakeholder."

87   D. Sarno. "ICANN to let thousands of domain names bloom." Los Angeles Times. (June 21, 2011).
     Retrieved from http://articles.latimes.com/2011/jun/21/business/la-fi-internet-domain-20110621.

88   H. Kelly. "Saudi Arabia objects to .gay and .islam domain names." CNN. (August 14, 2012).
     Retrieved from http://www.cnn.com/2012/08/14/tech/web/saudi-arabia-icann-disputes/index.html.

89   "Last Contractual Hurdle Cleared in the Introduction of New Domain Names." ICANN. (July 2013).
     Retrieved from http://www.icann.org/en/news/announcements/announcement-03jul13-en.htm. Another monitoring concern stems from the GAC's request
     that ICANN take on broader responsibilities for content (through the GAC's April 11, 2013 Beijing Communique, for example). See "Announcements." GAC.
     Retrieved from https://gacweb.icann.org/display/gacweb/Governmental+Advisory+Committee.

90   "Security and Stability Advisory Committee (SSAC)." ICANN. Retrieved from http://www.icann.org/en/groups/ssac.

M. Mueller. **Three Little ICANN Atrocities That Make the ITU Look Good by Comparison.** Internet Governance Project. (2012). Retrieved from *http://www.internetgovernance.org/2012/12/01/three-little-icann-atrocities-that-make-the-itu-look-good-by-comparison/*. Milton Mueller is a well-known scholar on Internet governance issues who has written a number of books on the topic. While at times seen as controversial given his opinions related to U.S. control and ICANN, his work is a resource for a Strategy Panel aimed at addressing the future of ICANN.

J. Negroponte, S. Palmisano, and A. Segal. **Defending and Open, Global, Secure, and Resilient Internet.** Independent Task Force Report No. 70. Council on Foreign Relations. (2013). Retrieved from *http://www.cfr.org/cybersecurity/defending-open-global-secure-resilient-internet/p30836*. This report discusses current threats raised by a "balkanized Internet beset by hostile cyber-related activities" and offers recommendations from the Council on Foreign Relations Task Force for the development of a new U.S. digital policy framework.

N. Singer. **When You Can't Tell Web Suffixes Without a Scorecard.** The New York Times. (Aug. 17, 2013). Retrieved from *http://www.nytimes.com/2013/08/18/technology/when-you-cant-tell-web-suffixes-without-a-scorecard.html*. This recent piece discusses the current state of affairs following ICANN's decision to allow applications for new generic top-level domain names, and the implications for both businesses and Internet freedom advocates.

L. E. Strickling. **The Necessity of an Inclusive, Transparent and Participatory Internet.** NTIA, (2012). Retrieved from *http://www.ntia.doc.gov/blog/2012/necessity-inclusive-transparent-and-participatory-internet*. This piece calls for a recommitment by the U.S. government to the multistakeholder model as a means to address Internet policy and governance going forward. It discusses how this approach has enabled an open, decentralized Internet to flourish.

J. Waz and P. Weiser, **Internet Governance: The Role of Multistakeholder Organizations.** 10 J. on Telecomm. and High Tech. L. 2. (2012). Retrieved from *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2195167.* As its title suggests, this piece addresses the current role of multistakeholder organizations in Internet governance and offers a research agenda for better understanding how these organizations work, where they operate successfully, an where reform is needed.

GOVLAB ....

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