

Internet Governance and the Domain Name System: Issues for Congress

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Summary

The Internet is often described as a "network of networks" because it is not a single physical entity, but hundreds of thousands of interconnected networks linking hundreds of millions of computers around the world. As such, the Internet is international, decentralized, and comprised of networks and infrastructure largely owned and operated by private sector entities. As the Internet grows and becomes more pervasive in all aspects of modern society, the question of how it should be governed becomes more pressing.

Currently, an important aspect of the Internet is governed by a private sector, international organization called the Internet Corporation for Assigned Names and Numbers (ICANN), which manages and oversees some of the critical technical underpinnings of the Internet such as the domain name system and Internet Protocol (IP) addressing. ICANN makes its policy decisions using a multistakeholder model of governance, whereby a "bottom-up" collaborative process is open to all constituencies of Internet stakeholders.

National governments have recognized an increasing stake in ICANN policy decisions, especially in cases where Internet policy intersects with national laws addressing such issues as intellectual property, privacy, law enforcement, and cybersecurity. Some governments around the world are advocating increased intergovernmental influence over the way the Internet is governed. For example, specific proposals have been advanced that would create an Internet governance entity within the United Nations (U.N.). Other governments (including the United States), as well as many other Internet stakeholders, oppose these proposals and argue that ICANN's multistakeholder model, while not perfect and needing improvement, is the most appropriate way to govern the Internet.

Currently, the U.S. government, through the National Telecommunications and Information Administration (NTIA) at the Department of Commerce, enjoys a unique influence over ICANN, largely by virtue of its legacy relationship with the Internet and the domain name system. A key issue for Congress is whether and how the U.S. government should continue to maximize U.S. influence over ICANN's multistakeholder Internet governance process, while at the same time effectively resisting proposals for an increased role by international governmental institutions such as the U.N.

The outcome of this debate will likely have a significant impact on how other aspects of the Internet may be governed in the future, especially in such areas as intellectual property, privacy, law enforcement, Internet free speech, and cybersecurity. Looking forward, the institutional nature of Internet governance could have far reaching implications on important policy decisions that will likely shape the future evolution of the Internet.

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What Is Internet Governance?

There is no universally agreed-upon definition of "Internet governance." A more limited definition would encompass the management and coordination of the technical underpinnings of the Internet—such as domain names, addresses, standards, and protocols that enable the Internet to function. A broader definition would include the many factors that shape a variety of Internet policy-related issues, such as such as intellectual property, privacy, Internet freedom, e-commerce, and cybersecurity.

One working definition was developed at the World Summit on the Information Society (WSIS) in 2005:

> 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.[1]

Another definition developed by the Internet Governance Project (IGP)[2] delineates three aspects of the Internet that may require some level of governing: *technical standardization*, which involves arriving at and agreeing upon technical standards and protocols; *resource allocation and assignment* which includes domain names and Internet Protocol (IP) addresses; and *human conduct on the Internet*, encompassing the regulations, rules, and policies affecting areas such as spam, cybercrime, copyright and trademark disputes, consumer protection issues, and public and private security. With these three categories in mind, the IGP definition is:

> Internet governance is collective decisionmaking by owners, operators, developers, and users of the networks connected by Internet protocols to establish policies, rules, and dispute resolution procedures about technical standards, resource allocations, and/or the conduct of people engaged in global internetworking activities.[3]

How Is the Internet Currently Governed?

The nature of the Internet, with its decentralized architecture and structure, makes the practice of governing a complex proposition. First, the Internet is inherently international and cannot in its totality be governed by national governments whose authority ends at national borders. Second, the Internet's successful functioning depends on the willing cooperation and participation by mostly private sector stakeholders around the world. These stakeholders include owners and operators of servers and networks around the world, domain name registrars and registries, regional IP address allocation organizations, standards organizations, Internet service providers, and Internet users.

[1] Tunis Agenda for the Information Society, November 18, 2005, WSIS-05/TUNIS/DOC6(Rev.1)-E, p. 6, available at http://www.itu.int/wsis/docs2/tunis/off/6rev1.pdf.

[2] The IGP describes itself as "an alliance of academics that puts expertise into practical action in the fields of global governance, Internet policy, and information and communication technology." See http://www.internetgovernance.org.

[3] Milton Mueller, John Mathiason, and Hans Klein, "The Internet and Global Governance: Principles and Norms for a New Regime," *Global Governance*, vol. 13 (2007), p. 245.

Given the multiplicity and diversity of Internet stakeholders, a number of organizations and entities play varying roles. It is important to note that all of the Internet stakeholders cited above participate in various ways within the various fora, organizations, and frameworks addressing Internet governance and policy.

Key organizations in the private sector include the following:

Internet Corporation for Assigned Names and Numbers (ICANN)—ICANN was created in 1998 through a Memorandum of Understanding with the Department of Commerce (see the following section of this report, "Role of U.S. Government"). Directed by an internationally constituted Board of Directors, ICANN is a private, not-for-profit organization based in Marina Del Ray, CA, which manages and oversees the critical technical underpinnings of the Internet such as the domain name system and IP addressing (see the **Appendix** for more background information on ICANN). ICANN implements and enforces many of its policies and rules through contracts with *registries* (companies and organizations who operate and administer the master database of all domain names registered in each top level domain, such as .com and .org) and accredited *registrars* (the hundreds of companies and organizations with which consumers register domain names). Policies are developed by Supporting Organizations and Committees in a consensus-based "bottom-up" process open to various constituencies and stakeholders of the Internet. As such, ICANN is often pointed to as emblematic of the "multistakeholder model" of Internet governance.

Internet standards organizations—As the Internet has evolved, groups of engineers, researchers, users, and other interested parties have coalesced to develop technical standards and protocols necessary to enable the Internet to function smoothly. These organizations conduct standards development processes that are open to participants and volunteers from around the world. Internet standards organizations include the Internet Engineering Task Force (IETF), the Internet Architecture Board (IAB), the Internet Society (ISOC), and the World Wide Web Consortium (W3C).

Governmental entities involved in Internet governance include the following:

Governmental Advisory Committee (GAC)—As part of ICANN's multistakeholder process, the GAC provides advice to the ICANN Board on matters of public policy, especially in cases where ICANN activities and policies may interact with national laws or international agreements related to issues such as intellectual property, law enforcement, and privacy. Although the ICANN Board is required to consider GAC advice and recommendations, it is not obligated to follow those recommendations. Membership in the GAC is open to all national governments who wish to participate. Currently, there are 113 nations represented, and the GAC Chair is presently held by Canada, with Vice Chairs held by Kenya, Sweden, and Singapore.

Internet Governance Forum (IGF)—The IGF was established in 2006 by the United Nation's World Summit on the Information Society (WSIS). The purpose of the IGF is to provide a multistakeholder forum which provides an open discussion (in yearly meetings) on public policies related to the Internet. Open to all stakeholders and interested parties (governments, industry, academia, civil society), the IGF serves as an open discussion forum and does not have negotiated outcomes, nor does it make formal recommendations to the U.N. In December 2010, the U.N. General Assembly renewed the IGF through 2015 and tasked the U.N.'s Commission on Science and Technology for Development (CSTD) to develop a report and recommendations on how the IGF might be improved. A Working Group on Improvements to the Internet Governance Forum

was formed by the U.N., which includes 22 governments (including the United States) and the participation of Internet stakeholder groups.

Other International Organizations—Other existing international organizations address Internet policy issues in various ways. The International Telecommunications Union (ITU) is the United Nations specialized agency for communications and information technology. The World Intellectual Property Organization (WIPO) is another specialized agency of the U.N., which addresses a wide range of intellectual property issues, including those related to Internet policy. The Organisation for Economic Co-operation and Development (OECD) provides a forum for governments to work together to address economic issues, including the recent development of Internet policymaking principles. While none of these organizations have direct control or authority over the Internet, their activities can have influence over future directions of global Internet policy.

National governments—National governments have acted to address various Internet policy issues within their own borders. Many of the national laws and regulations pertain to user behavior on the Internet. For example, in the United States, laws have been passed addressing such issues as cybersecurity and cybercrime, Internet gambling, Internet privacy, and protection of intellectual property on the Internet. Governments have also established internal Internet policy coordinating bodies (e.g., the National Telecommunication and Information Administration's Internet Policy Task Force and the European Commission's Information Society).

Role of U.S. Government

The United States government has no statutory authority over ICANN or the domain name system. However, because the Internet evolved from a network infrastructure created by the Department of Defense, the U.S. government originally owned and operated (primarily through private contractors) many of the key components of network architecture that enabled the domain name system to function. In the early 1990s, the National Science Foundation (NSF) was given a lead role in overseeing domain names used in the civilian portion of the Internet (which at that time was largely comprised of research universities). By the late 1990s, ICANN was created, the Internet had expanded into the commercial world, and the National Telecommunications and Information Administration (NTIA) of the Department of Commerce (DOC) assumed the lead role.

A 1998 Memorandum of Understanding between ICANN and the DOC initiated a process intended to transition technical DNS coordination and management functions to a private-sector not-for-profit entity. While the DOC plays no role in the internal governance or day-to-day operations of ICANN, the U.S. government, through the DOC/NTIA, retains a role with respect to the DNS via three separate contractual agreements. These are:

- a 2009 Affirmation of Commitments (AoC) between DOC and ICANN;[4]

[4] For more information on the Affirmation of Commitments, including the precursor agreements between DOC and ICANN such as the Joint Project Agreement and the Memorandum of Understanding, see CRS Report 97-868, *Internet Domain Names: Background and Policy Issues*, by Lennard G. Kruger.

- a contract between ICANN and DOC to perform various technical functions such as allocating IP address blocks, editing the root zone file, and coordinating the assignment of unique protocol numbers; and
- a cooperative agreement between DOC and VeriSign to manage and maintain the official DNS root zone file.

By virtue of those three contractual agreements, the United States government—through DOC/NTIA—exerts a legacy authority over ICANN, and arguably has more influence over ICANN and the DNS than other national governments.

While NTIA is the lead agency overseeing domain name issues, other federal agencies maintain a specific interest in the DNS that may affect their particular missions. For example, the Federal Trade Commission (FTC) seeks to protect consumer privacy on the Internet, the Department of Justice (DOJ) addresses Internet crime and intellectual property issues, and the Department of Defense and Department of Homeland Security address cybersecurity issues. However none of these agencies have legal authority over ICANN or the running of the DNS.

Affirmation of Commitments

On September 30, 2009, DOC and ICANN announced agreement on an Affirmation of Commitments (AoC) to "institutionalize and memorialize" the technical coordination of the DNS globally and by a private-sector-led organization.[5] The AoC replaced the previous Memorandum of Understanding and subsequent Joint Project Agreement between DOC and ICANN. It has no expiration date and would conclude only if one of the two parties decided to terminate the agreement.

Under the AoC, ICANN committed to remain a not-for-profit corporation "headquartered in the United States of America with offices around the world to meet the needs of a global community." According to the AoC, "ICANN is a private organization and nothing in this Affirmation should be construed as control by any one entity." Specifically, the AoC called for the establishment of review panels which will periodically make recommendations to the ICANN Board in four areas: ensuring accountability, transparency, and the interests of global Internet users (panel includes the Administrator of NTIA); preserving security, stability, and resiliency; impact of new generic top level domains (gTLDs); and WHOIS policy.[6]

On December 31, 2010, the Accountability and Transparency Review Team (ATRT) released its recommendations to the Board for improving ICANN's transparency and accountability with respect to Board governance and performance, the role and effectiveness of the GAC and its interaction with the Board, public input and policy development processes, and review mechanisms for Board decisions.[7] At the June 2011 meeting in Singapore, the Board adopted all

[5] Affirmation of Commitments by the United States Department of Commerce and the Internet Corporation for Assigned Names and Numbers, September 30, 2009, available at http://www.ntia.doc.gov/ntiahome/domainname/Affirmation_of_Commitments_2009.pdf.

[6] WHOIS is a publically available online database that provides information on domain name registrants. WHOIS is used to identify domain name holders. WHOIS policy is controversial because it encompasses two competing considerations: protecting the privacy of domain name holders versus enabling law enforcement and trademark holders to identify owners of domain names and websites engaging in criminal activities or infringing on intellectual property.

[7] The ATRT final report is available at http://www.icann.org/en/reviews/affirmation/atrt-final-recommendations-(continued...)

27 ATRT recommendations. According to NTIA, "the focus turns to ICANN management and staff, who must take up the challenge of implementing these recommendations as rapidly as possible and in a manner that leads to meaningful and lasting reform."[8]

DOC Contracts With ICANN and VeriSign

A contract between DOC and ICANN authorizes the Internet Assigned Numbers Authority (IANA) to perform various technical functions such as allocating IP address blocks, editing the root zone file, and coordinating the assignment of unique protocol numbers. Additionally, a cooperative agreement between DOC and VeriSign (a company that operates the .com and .net registries) authorizes VeriSign to manage and maintain the official root zone file that is contained in the Internet's root servers that underlie the functioning of the DNS.[9] By virtue of these legal agreements, the DOC must approve changes or modifications made to the root zone file (changes, for example, such as adding a new top level domain).[10]

Debate among Internet stakeholders is ongoing over the renewal of the IANA contract between DOC and ICANN, which currently is due to expire on March 31, 2012. The IANA contract renewal provided a further arena for the larger debate over Internet governance. NTIA's draft Statement of Work (SOW) detailing work requirements for the IANA contract[11] included a provision requiring that requests to IANA for new gTLDs be accompanied by documentation demonstrating how the proposed new gTLD "reflects consensus among relevant stakeholders and is supportive of the global public interest."[12] ICANN and many others in the domain name community submitted comments to NTIA, expressing strong opposition to the proposal that requests to IANA for new gTLDs be accompanied by documentation demonstrating global public support and consensus. According to ICANN, such a step would undermine ICANN's multistakeholder model by revising the gTLD implementation and policy processes already adopted through the bottom-up decision-making process.[13]

(...continued)

31dec10-en.pdf.

[8] NTIA, *Press Release*, "NTIA Commends ICANN Board on Adopting the Recommendations of the Accountability and Transparency Review Team," June 24, 2011, available at http://www.ntia.doc.gov/press/2011/NTIA_Statement_06242011.html.

[9] According to the National Research Council, "The root zone file defines the DNS. For all practical purposes, a top level domain (and, therefore, all of its lower-level domains) is in the DNS if and only if it is listed in the root zone file. Therefore, presence in the root determines which DNS domains are available on the Internet." See National Research Council, Committee on Internet Navigation and the Domain Name System, *Technical Alternatives and Policy Implications, Signposts on Cyberspace: The Domain Name System and Internet Navigation*, National Academy Press, Washington, DC, 2005, p. 97.

[10] The June 30, 2005, "U.S. Principles on the Internet's Domain Name and Addressing System" stated the intention to "preserve the security and stability" of the DNS, and asserted that "the United States is committed to taking no action that would have the potential to adversely impact the effective and efficient operation of the DNS and will therefore maintain its historic role in authorizing changes or modifications to the authoritative root zone file." See http://www.ntia.doc.gov/ntiahome/domainname/USDNSprinciples_06302005.pdf.

[11] Department of Commerce, National Telecommunications and Information Administration, "Request for Comments on the Internet Assigned Numbers Authority (IANA) Functions," 76 *Federal Register* 10570, February 25, 2011.

[12] Ibid., p. 34662.

[13] See ICANN comments at http://www.ntia.doc.gov/files/ntia/icann_fnoi_comments_20110722.pdf, p. 7.

NTIA's final contract solicitation, released on November 10, 2011, lessens the IANA contractor requirements for adding new gTLDs, stating that when adding new gTLDs to the root zone, the contractor must provide "specific documentation demonstrating how the process provided the opportunity for input from relevant stakeholders and was supportive of the global public interest."[14] The IANA contract solicitation issued by NTIA specified that the contractor must be a wholly U.S. owned and operated firm or a U.S. university or college; that all primary operations and systems shall remain within the United States; and that the U.S. government reserves the right to inspect the premises, systems, and processes of all facilities and components used for the performance of the contract.

U.S. government authority and control over IANA and the management of the root zone file is a long-standing point of contention internationally. For example, while the European Commission approved many aspects of the new IANA contract, it sounded the following caution:

> The Commission believes greater respect should be given by the IANA contractor to respecting applicable law (such as EU personal data protection laws). The Commission will continue to take the initiative for such provisions in future IANA contracts as part of its efforts to ensure sustainable multi-stakeholder governance of the Internet, in the service of public interest, as a matter of both principle and efficient practice. In that context, it noted with regret that non-US companies are not allowed to compete for the forthcoming IANA contract.[15]

Debate over Future Model of Internet Governance

Given its complexity, diversity, and international nature, how should the Internet be governed? Some assert that a multistakeholder model of governance is appropriate, where all stakeholders (both public and private sectors) arrive at consensus through a transparent bottom-up process. Others argue that a greater role for national governments is necessary, either through increased influence through the multistakeholder model, or under the auspices of an international body exerting intergovernmental control.

To date, ICANN and the governance of the domain name system has been the focal point of this debate. While ICANN's mandate is to manage portions of the technical infrastructure of the Internet (domain names and IP addresses), many of the decisions ICANN makes affect other aspects of Internet policy, including areas such as intellectual property, privacy, and cybersecurity. These are areas which many national governments have addressed for their own citizens and constituencies through domestic legislation, as well as through international treaties.

As part of the debate over an appropriate model of Internet governance, criticisms of ICANN have arisen on two fronts. One criticism reflects the tension between national governments and the current performance and governance processes of ICANN, whereby governments feel they lack adequate influence over ICANN decisions that affect a range of Internet policy issues. The

[14] Available at https://www.fbo.gov/index?s=opportunity&mode=form&id=c564af28581edb2a7b9441eccfd6391d&tab=core&_cview=0.

[15] European Commission, "Digital Agenda: Commission welcomes improvements in new IANA contract," *Press Release*, November 14, 2011, available at http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/1345&format=HTML&aged=0&language=EN&guiLanguage=en.

other criticism is fueled by concerns of many nations that the U.S. government holds undue legacy influence and control over ICANN and the domain name system.

The debate over multistakeholderism vs. intergovernmental control initially manifested itself in 2005 at the World Summit on the Information Society (WSIS), which was a conference organized by the United Nations. More recently, this debate has been rekindled in various international fora, partially sparked by two ICANN actions in 2011: the approval of the .xxx top-level domain and the approval of a process to allow an indefinite number of new generic top level domains (gTLDs).

2005 World Summit on the Information Society (WSIS)

Following the creation of ICANN in 1998, many in the international community, including foreign governments, argued that it was inappropriate for the U.S. government to maintain its legacy authority over ICANN and the DNS. They suggested that management of the DNS should be accountable to a higher intergovernmental body. The United Nations, at the first phase of the WSIS in December 2003, debated and agreed to study the issue of how to achieve greater international involvement in the governance of the Internet, and the domain name system in particular. The study was conducted by the U.N.'s Working Group on Internet Governance (WGIG). On July 14, 2005, the WGIG released its report,[16] stating that no single government should have a preeminent role in relation to international Internet governance. The report called for further internationalization of Internet governance, and proposed the creation of a new global forum for Internet stakeholders. Four possible models were put forth, including two involving the creation of new Internet governance bodies linked to the U.N. Under three of the four models, ICANN would either be supplanted or made accountable to a higher intergovernmental body. The report's conclusions were scheduled to be considered during the second phase of the WSIS held in Tunis in November 2005. U.S. officials stated their opposition to transferring control and administration of the domain name system from ICANN to any international body. Similarly, the 109th Congress expressed its support for maintaining existing U.S. control over ICANN and the DNS (H.Con.Res. 268 and S.Res. 323).[17]

The European Union (EU) initially supported the U.S. position. However, during the September 2005 preparatory meetings, the EU seemingly shifted its support towards an approach which favored an enhanced international role in governing the Internet. Conflict at the WSIS Tunis Summit over control of the domain name system was averted by the announcement, on November 15, 2005, of an Internet governance agreement between the United States, the EU, and over 100 other nations. Under this agreement, ICANN and the United States maintained their roles with respect to the domain name system. A new international group under the auspices of the U.N. was formed—the Internet Governance Forum (IGF)—which would provide an ongoing forum for all stakeholders (both governments and nongovernmental groups) to discuss and debate Internet policy issues.

[16] Working Group on Internet Governance, Report from the Working Group on Internet Governance, World Summit on the Information Society, Document WSIS-II/PC-3/DOC/5-E, August 3, 2005, available at http://www.itu.int/wsis/docs2/pc3/html/off5/index.html.

[17] In the 109th Congress, H.Con.Res. 268 was passed unanimously by the House on November 16, 2005. S.Res. 323 was passed in the Senate by Unanimous Consent on November 18, 2005.

Creation of the .xxx Domain and New gTLDs

Starting in 2010 and 2011, controversies surrounding the roll-out of new generic top level domains (gTLDs) and the addition of the .xxx TLD led some governments to argue for increased government influence on the ICANN policy development process.[18]

.xxx

Since 2000, ICANN has repeatedly considered whether to allow the establishment of a gTLD for adult content. On June 1, 2005, ICANN announced that it had entered into commercial and technical negotiations with a registry company (ICM Registry) to operate a new ".xxx" domain, which would be designated for use by adult websites. With the ICANN Board scheduled to consider final approval of the .xxx domain on August 16, 2005, the Department of Commerce sent a letter to ICANN requesting that adequate additional time be provided to allow ICANN to address the objections of individuals expressing concerns about the impact of pornography on families and children and opposing the creation of a new top level domain devoted to adult content. ICANN's Governmental Advisory Committee (GAC) also requested more time before the final decision.

On March 30, 2007, the ICANN Board voted 9-5 to deny the .xxx domain. ICM Registry subsequently challenged ICANN's decision before an Independent Review Panel (IRP), claiming that ICANN's rejection of ICM's application for a .xxx gTLD was not consistent with ICANN's Articles of Incorporation and Bylaws. On February 19, 2010, a three-person Independent Review Panel ruled primarily in favor of ICM Registry, finding that its application for the .xxx TLD had met the required criteria.

Subsequently, on June 25, 2010, at the ICANN meeting in Brussels, the Board of Directors voted to allow ICM's .xxx application to move forward, and at the December 2010 ICANN meeting, the ICANN Board passed a resolution stating that while "it intends to enter into a registry agreement with ICM Registry for the .xxx TLD," the Board would enter into a formal consultation with the Governmental Advisory Committee on areas where the Board's decision was in conflict with GAC advice relating to the ICM application.[19]

While not officially or formally in opposition to the approval of .xxx, the GAC advised ICANN that "there is no active support of the GAC for the introduction of a .xxx TLD" and that "while there are members, which neither endorse nor oppose the introduction of a .xxx TLD, others are emphatically opposed from a public policy perspective to the introduction of an .xxx TLD."[20] The GAC listed a number of specific issues and objections that it wished ICANN to resolve.

A February 2011 letter from ICANN to the GAC acknowledged and responded to areas where approving the .xxx registry agreement with ICM would conflict with GAC advice received by

[18] See McCarthy, Kieren, *.nxt*, "Global Internet Governance Fight Looms," September 22, 2011, available at http://news.dot-nxt.com/2011/09/22/internet-governance-fight-looms.

[19] ICANN, *Adopted Board Resolutions, Cartegena*, December 10, 2010, available at http://www.icann.org/en/minutes/resolutions-10dec10-en.htm#4.

[20] Letter from Chair, Governmental Advisory Committee to ICANN Chairman of the Board , March 16, 2011, available at https://gacweb.icann.org/download/attachments/1540116/20110316+GAC+Advice+on+.xxx.pdf?version=2&modificationDate=1312469527000.

ICANN.[21] The Board acknowledged that ICANN and the GAC were not able to reach a mutually acceptable solution, and ultimately, on March 18, 2011, the Board approved a resolution giving the CEO or General Counsel of ICANN the authority to execute the registry agreement with ICM to establish a .xxx TLD. The vote was nine in favor, three opposed, and four abstentions.

The decision to create a .xxx TLD was not viewed favorably by many governments.[22] In an April 6, 2011, letter to the Department of Commerce, the European Commissioner for the Digital Agenda asked that the introduction of .xxx be delayed.[23] In its response, NTIA said it "share[s] your disappointment that ICANN ignored the clear advice of governments worldwide, including the United States, by approving the new .xxx domain."[24] However, NTIA stated why it would not (and did not) interfere with the addition of .xxx:

> While the Obama Administration does not support ICANN's decision, we respect the multi-stakeholder Internet governance process and do not think that it is in the long-term best interest of the United States or the global Internet community for us unilaterally to reverse the decision. Our goal is to preserve the global Internet, which is a force for innovation, economic growth, and the free flow of information. I agree with you that the Board took its action without the full support of the community and accordingly, I am dedicated to improving the responsiveness of ICANN to all stakeholders, including governments worldwide.[25]

gTLD Expansion

Top Level Domains (TLDs) are the suffixes that appear at the end of an address (after the "dot"). Prior to ICANN's establishment in 1998, the Internet had eight generic top level domains (gTLDs), including .com, .org, .net, and .gov. In 2000 and 2004, ICANN held application rounds for a limited number of new gTLDs—currently there are twenty-two. Some are reserved or restricted to particular types of organizations (e.g., .museum, .gov, .travel) and others are open for registration by anyone (.com, .org, .info). Applicants for new gTLDs are typically commercial entities and non-profit organizations who seek to become ICANN-recognized registries that will establish and operate name servers for their TLD registry, as well as implement a domain name registration process for that particular TLD.

The growth of the Internet and the accompanying growth in demand for domain names has focused the debate on whether and how to further expand the number of gTLDs. Beginning in 2005, ICANN embarked on a long consultative process to develop rules and procedures for

[21] Letter from ICANN to Chair of GAC, February 10, 2011, available at http://icann.org/en/correspondence/jeffrey-to-to-dryden-10feb11-en.pdf.

[22] ICANN must receive formal approval from NTIA for any additions of new gTLDs to the DNS. See Kevin Murphy, "US upset with ICANN over .xxx," *Domain Incite*, March 20, 2011, available at http://domainincite.com/us-upset-with-icann-over-xxx/.

India and Saudi Arabia have stated their intention to block the .xxx domain. See "xxx addresses open for business," *The Times of India*, April 19, 2011, available at http://articles.timesofindia.indiatimes.com/2011-04-19/computing/29446429_1_icann-suffix-websites.

[23] Kevin Murphy, "Europe asked US to delay .xxx," Domain Incite, May 5, 2011, available at http://domainincite.com/europe-did-ask-the-us-to-delay-xxx/.

[24] Letter from Lawrence Strickling to Neelie Kroes, "Strickling letter to Kroes re: dot-xxx," *.nxt*, April 20, 2011, available at http://news.dot-nxt.com/2011/04/20/strickling-letter-kroes-xxx.

[25] Ibid.

introducing and adopting an indefinite number of new gTLDs into the domain name system. A new gTLD can be any word or string of characters that is applied for and approved by ICANN. Between 2008 and 2011, ICANN released seven iterations of its gTLD Applicant Guidebook (essentially the rulebook for how the new gTLD program will be implemented). On June 20, 2011, the ICANN Board of Directors voted to approve the launch of the new gTLD program, under which potentially hundreds of new gTLDs could ultimately be approved by ICANN and introduced into the DNS. Applications for new gTLDs were to be accepted from January 12 through April 12, 2012.

The rollout of new gTLDs was controversial. Advocates (including the domain name industry) argued that a gTLD expansion will provide opportunities for Internet innovation and competition. On the other hand, many trademark holders pointed to possible higher costs and greater difficulties in protecting their trademarks across hundreds of new gTLDs. Similarly, governments expressed concern over intellectual property protections, and along with law enforcement entities, also cited concerns over the added burden of combating various cybercrimes (such as phishing and identity theft) across hundreds of new gTLDs. Throughout ICANN's policy development process, governments, through the Governmental Advisory Committee, advocated for additional intellectual property protections in the new gTLD process. The GAC also argued for more stringent rules that would allow for better law enforcement in the new domain space to better protect consumers. Although changes were made, strong opposition from many trademark holders[26] led to opposition from some parts of the U.S. government towards the end of 2011. For example:

- On December 8, 2011, the Senate Committee on Commerce, Science and Transportation held a hearing on the ICANN's expansion of TLDs. Subsequently, on December 28, 2011, a letter from Senator John Rockefeller, Chairman of the Senate Committee on Commerce, Science and Transportation, to the Secretary of Commerce and the Administrator of NTIA, stated his concern that "this expansion of gTLDs, if it proceeds as planned, will have adverse consequences for the millions of American consumers, companies, and non-profit organizations that use the Internet on a daily basis" and that at the hearing, "witnesses speaking on behalf of more than a hundred companies and non-profit organizations explained that ICANN's current plan for gTLD expansion will likely cause millions of dollars in increased costs related to combating cybersquatting." In the letter, Senator Rockefeller requested that NTIA "should consider asking ICANN to either delay the opening of the application period or to drastically limit the number of new gTLDs it approves next year."[27] A subsequent December 22, 2011, letter to ICANN from Senators Klobuchar and Ayotte, also registered concern over the TLD expansion and asked ICANN to further address law enforcement, trademark, and consumer concerns before launching the program.[28]

[26] The Association of National Advertisers (ANA) has been a leading voice against ICANN's current rollout of the new gTLD program. See ANA webpage, "Say No to ICANN: Generic Top Level Domain Developments," available at http://www.ana.net/content/show/id/icann.

[27] See "Rockefeller Says Internet Domain Expansion Will Hurt Consumers, Businesses, and Non-Profits—Urges Delay," *Press Release*, Senate Committee on Commerce, Science and Transportation, December 28, 2011, available at http://commerce.senate.gov/public/index.cfm?p=PressReleases.

[28] Letter from Senator Amy Klobuchar and Senator Kelly Ayotte to ICANN, December 22, 2011, available at http://www.icann.org/en/correspondence/klobuchar-ayotte-to-beckstrom-crocker-22dec11-en.pdf.

- On December 14, 2011, the House Committee on Energy and Commerce, Subcommittee on Communications and Technology, held a hearing on ICANN's top level domain program. Subsequently on December 21, 2011, a bipartisan group of Committee Members sent a letter to ICANN requesting that the expansion of the gTLDs be delayed, noting that "many stakeholders are not convinced that ICANN's process has resulted in an acceptable level of protection."[29] The Energy and Commerce Committee Members argued that "a short delay will allow interested parties to work with ICANN and offer changes to alleviate many of them, specifically concerns over law enforcement, cost and transparency that were discussed in recent Congressional hearings."[30]
- A December 16, 2011, letter to the Secretary of Commerce from Representative Bob Goodlatte, Chairman of the House Subcommittee on Intellectual Property, Competition, and the Internet, and Representative Howard Berman, Ranking Member of the House Committee on Foreign Affairs, urged DOC to take all steps necessary to encourage ICANN to undertake further evaluation and review before the gTLD expansion is permitted to occur. The letter asked DOC to determine whether the benefits of the expansion outweigh the costs and risks to consumers, businesses, and the Internet, and that if the program proceeds, that ICANN should initially limit the expansion to a small pilot project which can be evaluated.[31]
- A December 16, 2011, letter from the Federal Trade Commission (FTC) to ICANN argued that a "rapid, exponential expansion of gTLDs has the potential to magnify both the abuse of the domain name system and the corresponding challenges we encounter in tracking down Internet fraudsters." The FTC urged ICANN to implement the new gTLD program as a pilot program and substantially reduce the number of gTLDs that are introduced in the first application round, strengthen ICANN's contractual compliance program, develop a new ongoing program to monitor consumer issues that arise during the first round of implementing the new gTLD program, conduct an assessment of each new proposed gTLD's risk of consumer harm as part of the evaluation and approval process, and improve the accuracy of WHOIS data, including by imposing a registrant verification requirement. The FTC added that "ICANN should address these issues before it approves any new gTLD applications. If ICANN fails to address these issues responsibly, the introduction of new gTLDs could pose a significant threat to consumers and undermine consumer confidence in the Internet."[32]

At the December 2011 House and Senate hearings, ICANN stated its intention to proceed with the gTLD expansion as planned. ICANN defended its gTLD program, arguing that the new gTLDs will offer more protections for consumers and trademark holders than current gTLDs; that

[29] House Committee on Energy and Commerce, "Committee Urges ICANN to Delay Expansion of Generic Top-Level Domain Program," *Press Release*, December 21, 2011, available at http://energycommerce.house.gov/news/PRArticle.aspx?NewsID=9176.

[30] Ibid.

[31] Letter from Representative Goodlatte and Representative Berman to the Secretary of Commerce, December 16, 2011, available at http://www.icann.org/en/correspondence/goodlatte-berman-to-bryson-16dec11-en.pdf.

[32] Letter from FTC to ICANN, December 16, 2011, available at http://www.ftc.gov/os/closings/publicltrs/111216letter-to-icann.pdf.

new gTLDs will provide needed competition, choice, and innovation to the domain name system; and that critics have already had ample opportunity to contribute input during a seven-year deliberative policy development process.[33] Ultimately, ICANN did not delay the initiation of the new gTLD program, and the application window was opened on January 12, 2012, as planned.

Much of the pressure on ICANN to delay the new gTLD program was directed at NTIA, given NTIA's unique relationship with ICANN. At both the December 2011 Senate and House hearings, NTIA expressed support for ICANN's planned rollout of the TLD expansion program, arguing that national governments have been able to address intellectual property, law enforcement, and consumer concerns through the Governmental Advisory Committee (GAC):

> NTIA believes that ICANN improved the new gTLD program by incorporating a significant number of proposals from the GAC. ICANN's new gTLD program also now provides law enforcement and consumer protection authorities with significantly more tools than those available in existing gTLDs to address malicious conduct. The fact that not all of the GAC's proposals were adopted as originally offered does not represent a failure of the process or a setback to governments; rather, it reflects the reality of a multi-stakeholder model.[34]

While NTIA stated that it would continue to monitor progress and push for necessary changes to ICANN's TLD expansion program, a key aspect of NTIA's argument for supporting ICANN's planned rollout was to preserve the integrity of the multistakeholder Internet governance process:

> NTIA is dedicated to maintaining an open, global Internet that remains a valuable tool for economic growth, innovation, and the free flow of information, goods, and services online. We believe the best way to achieve this goal is to continue to actively support and participate in multi-stakeholder Internet governance processes such as ICANN. This is in stark contrast to some countries that are actively seeking to move Internet policy to the United Nations. If we are to combat the proposals put forward by others, we need to ensure that our multi-stakeholder institutions have provided a meaningful role for governments as stakeholders. NTIA believes that the strength of the multi-stakeholder approach to Internet policy-making is that it allows for speed, flexibility, and decentralized problem-solving and stands in stark contrast to a more traditional, top-down regulatory model characterized by rigid processes, political capture by incumbents, and in so many cases, impasse or stalemate.[35]

On January 3, 2012, NTIA sent ICANN a letter concerning implementation of the new gTLD program.[36] While NTIA recognized that the program "is the product of a six-year international multistakeholder process" and that NTIA does "not seek to interfere with the decisions and compromises reached during that process," NTIA urged ICANN to consider implementing

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[33] Testimony of Kurt Pritz, Senior Vice President, ICANN, before the House Committee on Energy and Commerce, Subcommittee on Communications and Technology, December 14, 2011, available at http://republicans.energycommerce.house.gov/Media/file/Hearings/Telecom/121411/Pritz.pdf. The gTLD expansion is also strongly supported by many in the Internet and domain name industry, see letter to Senator Rockefeller and Senator Hutchison at http://news.dot-nxt.com/sites/news.dot-nxt.com/files/gtld-industry-to-congress-gtlds-8dec11.pdf.

[34] Testimony of Fiona M. Alexander, Associate Administrator, NTIA, before the House Committee on Energy and Commerce, Subcommittee on Communications and Technology, December 14, 2011, available at http://www.ntia.doc.gov/speechtestimony/2011/testimony-associate-administrator-alexander-icann-s-top-level-domain-name-progr.

[35] Ibid.

[36] Letter from Lawrence Strickling, Assistant Secretary for Communications and Information, U.S. Department of Commerce, to ICANN, January 3, 2012, available at http://www.ntia.doc.gov/other-publication/2012/ntia-letter-regarding-gtld-program.

measures to address many of the criticisms raised. Such measures would address concerns of trademark holders, law enforcement, and consumer protection. NTIA also asked ICANN to assess (after the initial application window closes and the list of prospective new gTLDs is known) whether there is a need to phase in the introduction of new gTLDs, and whether additional trademark protection measures need to be taken.

NTIA concluded its letter as follows:

> How ICANN handles the new gTLD program will, for many, be a litmus test of the viability of this approach. For its part, NTIA is committed to continuing to be an active member of the GAC and working with stakeholders to mitigate any unintended consequences of the new gTLD program.[37]

Thus, NTIA views the success (or failure) of the new gTLD program as an important factor in determining the ongoing viability of the multistakeholder model for Internet governance.

Proposed Models for Internet Governance

As discussed above, ICANN is a working example of a multistakeholder model of Internet governance, whereby a bottom-up collaborative process is used to provide Internet stakeholders with access to the policymaking process. Support for the multistakeholder model of Internet governance is reflected in international organizations such as the Organisation for Economic Co-operation and Development (OECD) and the Group of Eight (G8). For example, the OECD's *Communiqué on Principles for Internet Policy-Making* cites multistakeholderism as a central tenet of Internet governance:

> In particular, continued support is needed for the multi-stakeholder environment, which has underpinned the process of Internet governance and the management of critical Internet resources (such as naming and numbering resources) and these various stakeholders should continue to fully play a role in this framework. Governments should also work in multi-stakeholder environments to achieve international public policy goals and strengthen international co-operation in Internet governance. [38]

Similarly, at the G8 Summit of Deauville on May 26-27, 2011, the G8 issued a declaration on its renewed commitment for freedom and democracy that contained a new section on the Internet. Support for a multistakeholder model for Internet governance with a significant national government role was made explicit:

> As we support the multi-stakeholder model of Internet governance, we call upon all stakeholders to contribute to enhanced cooperation within and between all international fora dealing with the governance of the Internet. In this regard, flexibility and transparency have to be maintained in order to adapt to the fast pace of technological and business developments and uses. Governments have a key role to play in this model.[39]

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[37] Ibid.

[38] Organisation for Economic Co-operation and Development, OECD High Level Meeting, The Internet Economy: Generating Innovation and Growth, *Communique on Principles for Internet Policy-Making*, June 28-29, 2011, p. 4, available at http://www.oecd.org/dataoecd/33/12/48387430.pdf.

[39] G8 Declaration, Renewed Commitment for Freedom and Democracy, G8 Summit of Deauville, May 26-27, 2011, available at http://www.g20-g8.com/g8-g20/g8/english/live/news/renewed-commitment-for-freedom-and-(continued...)

As discussed above, in 2005, the World Summit on the Information Society (WSIS) considered four models of Internet governance, of which three would have involved an intergovernmental body to oversee the Internet and the domain name system. While the WSIS ultimately decided not to pursue an intergovernmental model in 2005, today some nations are again advocating an intergovernmental approach for Internet governance. For example:

- India, Brazil, and South Africa (referred to as IBSA) have proposed that "an appropriate body is urgently required in the U.N. system to coordinate and evolve coherent and integrated global public policies pertaining to the Internet." The IBSA proposed body would "integrate and oversee the bodies responsible for technical and operational functioning of the Internet, including global standards setting."[40]
- In order to implement the major aspects of the IBSA proposal, the government of India proposed (in the U.N. General Assembly) the establishment of a new institutional mechanism in the United Nations for global internet-related policies, to be called the United Nations Committee for Internet-Related Policies (CIRP). CIRP would be comprised of 50 member states chosen on the basis of equitable geographical representation. The Internet Governance Forum (IGF) and four advisory stakeholder groups would provide input to CIRP, which would report directly to the General Assembly and present recommendations for consideration, adoption, and dissemination among all relevant intergovernmental bodies and international organizations.[41]
- Another group of nations, including China and the Russian Federation, have proposed a voluntary "International Code of Conduct for Information Security," for further discussion in the U.N. General Assembly. The Code includes language that promotes the establishment of a multilateral, transparent, and democratic international management system to ensure an equitable distribution of resources, facilitate access for all, and ensure a stable and secure functioning of the Internet.[42]

(...continued)

democracy.1314.html.

[40] IBSA Multistakeholder meeting on Global Internet Governance, *Recommendations*, September 1-2, 2011 at Rio de Janeiro, Brazil, available at http://www.culturalivre.org.br/artigos/IBSA_recommendations_Internet_Governance.pdf.

[41] The CIRP proposal is available at http://igfwatch.org/discussion-board/indias-proposal-for-a-un-committee-for-internet-related-policies-cirp.

[42] United Nations General Assembly, Sixty-sixth session, Item 93 of the provisional agenda, Developments in the field of information and telecommunications in the context of international security, "Letter dated 12 September 2011 from the Permanent Representatives of China, the Russian Federation, Tajikistan, and Uzbekistan to the United Nations addressed to the Secretary-General," September 14, 2011, A/66/359, available at http://blog.internetgovernance.org/pdf/UN-infosec-code.pdf.

Thus, governments such as the United States and the European Union support ICANN's multistakeholder model, while at the same time advocating increased governmental influence within that model.[43] By contrast, other nations support an expanded role for an intergovernmental model of Internet governance. The debate has been summarized by NTIA as follows:

> By engaging all interested parties, multistakeholder processes encourage broader and more creative problem solving, which is essential when markets and technology are changing as rapidly as they are. They promote speedier, more flexible decision making than is common under traditional, top-down regulatory models which can too easily fall prey to rigid procedures, bureaucracy, and stalemate. But there is a challenge emerging to this model in parts of the world.... Some nations appear to prefer an Internet managed and controlled by nation-states. In December 2012, the U.S. will participate in the ITU's World Conference on International Telecommunications (WCIT). This treaty negotiation will conduct a review of the International Telecommunication Regulations (ITRs), the general principles which relate to traditional international voice telecommunication services. We expect that some states will attempt to rewrite the regulation in a manner that would exclude the contributions of multi-stakeholder organizations and instead provide for heavy-handed governmental control of the Internet, including provisions for cybersecurity and granular operational and technical requirements for private industry. We do not support any of these elements. It is critical that we work with the private sector on outreach to countries to promote the multi-stakeholder model as a credible alternative.[44]

Issues for Congress

Congress plays an important role overseeing NTIA's stewardship of the domain name system and ICANN. The House Committee on Energy and Commerce and the Senate Committee on Commerce, Science, and Transportation have held numerous oversight hearings exploring ICANN's performance in general, as well as specific DNS issues that arise (e.g., the proposed gTLD expansion). Additionally, other committees, such as the House and Senate Judiciary Committees, maintain an interest in the DNS as it affects Internet policy issues such as intellectual property, privacy, and cybercrime. Since 1997, congressional committees have held 30 hearings on the DNS and ICANN.[45]

Congress has an impact on the issue of Internet governance, both via its oversight of NTIA and the DNS, and through its actions in other and more specific areas of Internet policymaking. For example, Congress continues to oversee and evaluate NTIA's strategy of supporting ICANN's multistakeholder model while opposing arguments for increased intergovernmental control. At the same time, NTIA is seeking to maximize government influence within the ICANN process (primarily through the GAC), especially in instances where Internet policy intersects with

[43] The European Commission has been a particularly strong voice in favor of significantly increasing GAC influence on the ICANN policy process. See Kieren McCarthy, "European Commission calls for greater government control over Internet," *.nxt*, August 31, 2011, available at http://news.dot-nxt.com/2011/08/31/ec-greater-government-control.

[44] Remarks by Lawrence Strickling, Assistant Secretary of Commerce for Communications and Information, National Telecommunications and Information Administration, Department of Commerce, before the PLI/FCBA Telecommunications Policy & Regulation Institute, Washington, DC, December 8, 2011, available at http://www.ntia.doc.gov/speechtestimony/2011/remarks-assistant-secretary-strickling-practising-law-institutes-29th-annual-te.

[45] For a complete list, see the Appendix in CRS Report 97-868, *Internet Domain Names: Background and Policy Issues*, by Lennard G. Kruger.

national laws addressing such issues as intellectual property, privacy, law enforcement, and cybersecurity.

One of NTIA's arguments for increasing government influence over ICANN policymaking (via the GAC) is that if governments feel their interests are not adequately addressed within the ICANN process, this perception will give support to the argument that the DNS and the Internet should be governed through a more formal intergovernmental mechanism. Congress may wish to examine where an appropriate balance exists between a sufficient level of governmental influence within the ICANN system, and an inappropriately excessive level of governmental control through the GAC that might threaten the multistakeholder model that ICANN represents.

To the extent that ICANN is successful in its endeavors and its credibility remains strong with Internet stakeholders, the argument for a multistakeholder model of Internet governance will be bolstered. By contrast, to the extent that ICANN falls short, the arguments for a growing role for some sort of formal intergovernmental body could become stronger. The following are some important issues that Congress may wish to consider as part of its oversight of NTIA's relationship with ICANN:

- How transparent and accountable is the ICANN governance structure, and to what extent do all Internet stakeholders have equal access to and influence over the ICANN policymaking process?
- How effectively does ICANN balance the interests and positions of differing stakeholders on particularly controversial issues, such as the new gTLD program? How successful will be the rollout of the gTLD program and other high-profile initiatives in the future?
- Regarding the Board of Directors and the ICANN staff, to what extent are sufficient ethics safeguards in place to prevent special interests (who may, for example, have financial interests at stake) from exerting undue influence over ICANN policy decisions?[46]
- Should the U.S. government maintain its current legacy authority over ICANN and the DNS, and if so, how can NTIA best use this authority judiciously in order to advance U.S. government interests, while at the same time minimizing the perception by other nations (as well as the international community of Internet stakeholders) that the United States has an inappropriate level of control or influence over the Internet and the DNS?

Congress may also have a collateral impact on the debate over Internet governance through legislative activity related to specific areas of national Internet policy. For example, provisions intended to protect intellectual property in the Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act (PROTECT IP or PIPA, S. 968) and the Stop Online Piracy Act (SOPA, H.R. 3261) would prohibit Internet service providers from directing Internet traffic to domain names with infringing content.[47] One of the arguments against the

[46] See for example: *Press Release of Senator Ron Wyden*, "Wyden Calls for Ethics Rules to Prevent Revolving Door for Internet Domain Name Regulators," September 14, 2011, available at http://wyden.senate.gov/newsroom/press/release/?id=2e414e69-1250-4ca3-ae6b-2b6091ed52cc.

[47] See CRS Report R42112, *Online Copyright Infringement and Counterfeiting: Legislation in the 112th Congress*, by Brian T. Yeh.

legislation has been that any imposition of U.S. restrictions on the functioning of the DNS will, in the long run, undermine the integrity of the current multistakeholder model of Internet governance and give ammunition to those arguing for a formal intergovernmental body overseeing the Internet. For SOPA/PIPA and other Internet-related legislation, Congress may weigh arguable Internet governance impacts within the context of other arguments for and against the legislation. But the impact of domestic Internet laws and regulations on the overall Internet governance debate is an issue that may increasingly be considered by Congress.

Finally, the debate over how the Internet's domain name system is governed may have a significant impact on future debates on how other Internet policy areas are governed on a worldwide basis.[48] The ultimate success or failure of ICANN, and the multistakeholder model of Internet governance it represents, could help determine how other Internet policy issues—such as cybersecurity and privacy—are addressed.

[48] See for example: The White House, *International Strategy for Cyberspace: Prosperity, Security, and Openness in a Networked World*, May 2011, p. 21-22, available at http://www.whitehouse.gov/sites/default/files/rss_viewer/international_strategy_for_cyberspace.pdf.

Appendix. ICANN Basics

ICANN is a not-for-profit public benefit corporation headquartered in Marina del Rey, CA, and incorporated under the laws of the state of California. ICANN is organized under the California Nonprofit Public Benefit Law for charitable and public purposes, and as such, is subject to legal oversight by the California attorney general. ICANN has been granted tax-exempt status by the federal government and the state of California.[49]

ICANN's organizational structure consists of a Board of Directors (BOD) advised by a network of supporting organizations and advisory committees that represent various Internet constituencies and interests (see **Figure A-1**). Policies are developed and issues are researched by these subgroups, who in turn advise the Board of Directors, which is responsible for making all final policy and operational decisions. The Board of Directors consists of 15 international and geographically diverse members, composed of one president, eight members selected by a Nominating Committee, two selected by the Generic Names Supporting Organization, two selected by the Address Supporting Organization, and two selected by the Country-Code Names Supporting Organization. Additionally, there are six non-voting liaisons representing other advisory committees.

The explosive growth of the Internet and domain name registration, along with increasing responsibilities in managing and operating the DNS, has led to marked growth of the ICANN budget, from revenues of about $6 million and a staff of 14 in 2000, to revenues of $65 million and a staff of about 140 in 2011. ICANN is funded primarily through fees paid to ICANN by registrars and registry operators. Registrars are companies (e.g., GoDaddy, Google, Network Solutions) with which consumers register domain names.[50] Registry operators are companies and organizations who operate and administer the master database of all domain names registered in each top level domain (for example VeriSign, Inc. operates .com and .net, Public Interest Registry operates .org, and Neustar, Inc. operates .biz).[51] In 2011, ICANN received 94% of its total revenues from registry and registrar fees (49% from registry fees, 45% from registrar fees).[52]

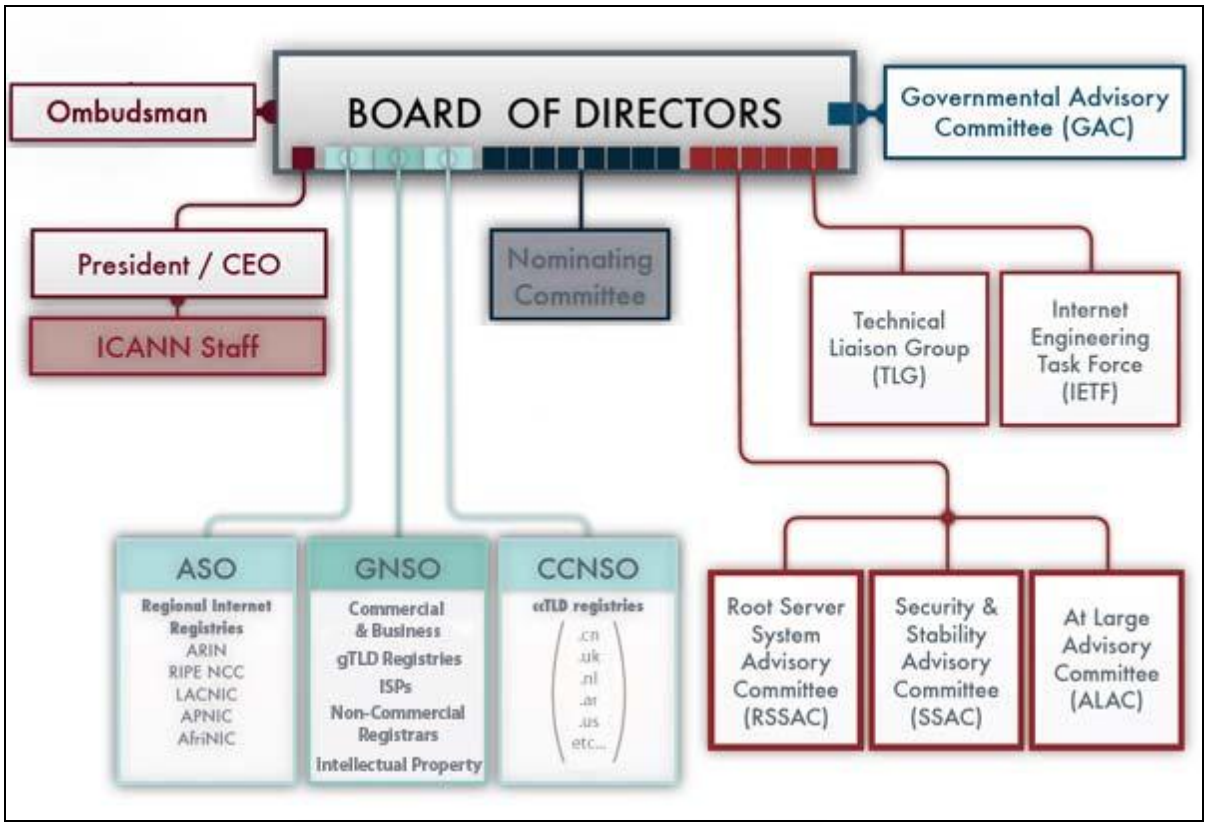
[49] ICANN, *2008 Annual Report*, December 31, 2008, p. 24, available at http://www.icann.org/en/annualreport/annual-report-2008-en.pdf.

[50] A list of ICANN-accredited registrars is available at http://www.icann.org/en/registries/agreements.htm.

[51] A list of current agreements between ICANN and registry operators is available at http://www.icann.org/en/registries/agreements.htm.

[52] ICANN Financials Dashboard, updated June 15, 2011, available at https://charts.icann.org/public/index-finance-fy11.html.

Figure A-1. Organizational Structure of ICANN



Source: ICANN; http://www.icann.org/en/structure/.

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