Privatizing the DNS

An Update on the IANA Stewardship Transition

Content

The Transition of Key Internet Functions: Why it Matters

For almost three billion people around the world – 40 percent of the global population – the Internet is an indispensable part of daily life. Over the last five years, information created and shared online has increased nine-fold.[i] By 2020, the Internet will connect more than 50 billion devices.[ii]

Contributing to the success of the Internet is the fact that *no one entity* – industry or government, including the U.S. Government – controls it. The scale of the global Internet requires multiple governance networks to manage its resources. While some nations choose to block the exercise of free expression or the free flow of information to their citizens, they cannot unilaterally use the Internet's technical architecture to do so beyond their borders.

The Internet generates enormous value around the world – social networks reach 80 percent of global users, and the Internet economy will reach $4.2 trillion worldwide by 2016.[iii] But these social and economic benefits will only continue to grow if the Internet is protected. According to the Boston Consulting Group, nations supporting a prominent and open Internet experience economic growth 2.5 percent higher than countries with fragmented Internet activity.[iv] In the United States, it is estimated that digital trade has raised GDP between 3.4 and 4.8 percent by increasing productivity and lowering the costs of trade; it has also increased wages and likely contributed to as many as 2.4 million new jobs.[v]

To ensure the Internet's continued global expansion and the benefits the Internet provides, we must preserve the Internet as a platform for choice and competition that drives innovation and infuses development across the globe.

IANA Stewardship Transition

Background

On March 14, 2014, the U.S. Department of Commerce[vi] reinforced those ideals with an announcement by the National Telecommunications and Information Administration (NTIA)[vii] of its intent to transition stewardship of key Internet domain name system (DNS) functions to the global multistakeholder community. These technical functions – the Internet Assigned Numbers Authority (IANA) functions – coordinate the top level of the Internet's system of unique identifiers that include domain names and IP addresses, as well as the protocol parameter registries that allow connected devices to talk and understand each other. These identifiers are an important component of the Internet's infrastructure, and their management is quite technical in nature. The transition of stewardship of the IANA functions will not affect how the identifiers are coordinated nor will it affect the functionality of the Internet or our ability to access it.

In fact, the transition is nothing more than the final step in a 17-year process. The U.S. Government always envisioned it would hold only temporary stewardship over the top level of the Internet's system of unique identifiers. The U.S. Government recognized that as the commercial use of the Internet expanded globally, governance would also need to evolve, and that stewardship of Internet resources would be better served by the private sector.

With this in mind, the Internet Corporation for Assigned Names and Numbers (ICANN)[viii] – one of the many governance organizations responsible for the Internet's complex, decentralized technical infrastructure – was formed. Per the IANA Functions contract, ICANN maintains, updates, assigns unique values and makes publically available registries of top-level names, blocks of numbers and listings of protocol parameters for the Internet.

The first IANA Functions contract[ix] between NTIA and ICANN was executed in 2000, and during its nearly two decade-long relationship with the U.S Government, ICANN has maintained the security and stability of the top level of the Internet's system of unique identifiers with increasing levels of business excellence.

NTIA's March 2014 announcement to begin a process towards transitioning the U.S. Government out of its current role represents the final phase of DNS privatization as outlined in a 1998 Department of Commerce White Paper.[x] The transition will ensure that all members of the Internet's global multistakeholder community – business, technical groups, civil society and governments – are partners in the continued expansion and innovation of one, unified Internet.

Last year's announcement stated why the time was right to transition the IANA functions stewardship:

> *"ICANN as an organization has matured and taken steps in recent years to improve its accountability and transparency and its technical competence. At the same time, international support continues to grow for the multistakeholder model of Internet governance as evidenced by the continued success of the Internet Governance Forum and the resilient stewardship of the various Internet institutions."* [xi]

Also in the announcement, NTIA asked ICANN to convene an inclusive, global discussion that involved the full range of stakeholders to collectively develop a proposal for the transition. Immediately following, ICANN convened stakeholders most directly served by the IANA functions, as well as governments, the private sector and civil society, to determine the process for transitioning stewardship of the IANA functions. At each step, stakeholders have – and continue to be given – ample opportunity to comment and provide feedback, and the entire Internet community is highly encouraged to participate.

To guide this global discussion, NTIA provided ICANN with a clear framework for the transition proposal. It must have broad community support and address the following four principles:

- Support and enhance the existing multistakeholder model;
- Maintain the security, stability and resiliency of the Internet DNS;
- Meet the needs and expectations of the global customers and partners of the IANA services; and,
- Maintain the openness of the Internet.

Also, NTIA stated unequivocally that stewardship would not be transitioned to any government or intergovernmental institution.

ICANN Accountability

ICANN is committed to being an accountable and transparent organization, and has accountability and transparency mechanisms built into every level of its structure. These mechanisms are fundamental to ensuring all of ICANN's work moves forward through a bottom-up, consensus-driven, multistakeholder model.

- **Bottom-up.** Policy development is first initiated at the grassroots level by various groups, with the core development work occurring within Supporting Organizations and then elevated to the Board as policy recommendations.

Advisory Committees have multiple avenues of input throughout the policy development process.

- **Consensus-driven.** ICANN provides the arena where global advocates discuss Internet policy issues, search for mutual interests and work toward consensus.

- **Multistakeholder model.** One of the pillars of ICANN's work is that all users of the Internet deserve a say in how it is run. This inclusive approach treats the public sector, the private sector and technical experts as peers, and includes individuals that represent the full global array of Internet users, including volunteer participation.

While the ICANN multistakeholder model has proven itself ready for the responsibilities that will come with the eventual transition of the NTIA's stewardship, concerns have been raised about how ICANN will maintain its accountability absent its historical contract with the U.S. Government and NTIA.

To ensure ICANN continues to operate under an open, multistakeholder model where no entity or country can impose its will, the ICANN community initiated a review of how the organization's broader accountability processes and backstops can be further enhanced to address the absence of the historical contract. As a result, ICANN launched a second, interrelated process, the Enhancing ICANN Accountability process, to run parallel to the IANA Stewardship Transition process.

Process Overview

At the ICANN 49 Meeting in Singapore two weeks after NTIA's announcement, ICANN launched the multistakeholder process to develop the IANA Stewardship Transition final proposal. But before embarking on the mission, ICANN and the global community required principles and mechanisms to guide the proposal's development. Based on discussions at ICANN 49, feedback from a Public Comment period and subsequent dialogues, ICANN drafted the Process to Develop a Proposal and Next Steps[xii] to guide the development of the IANA Stewardship Transition final proposal.

The process – now well underway – is multilayered, transparent and inclusive. At each step, the public is encouraged to participate. There already has been significant community involvement and global input, which will continue throughout the proposal's development.

Structure and Key Groups

Reflecting the open and global nature of the Internet, the IANA Stewardship Transition process represents all Internet stakeholders. The organizational structure of the process calls for direct input from those communities that have working relationships with the IANA functions – Domain Names, Numbering Resources and Protocol Parameters – with additional opportunities for public feedback at each level of proposal development.

THE IANA STEWARDSHIP TRANSITION COORDINATION GROUP (ICG)

The ICG has 30 members representing 13 Internet communities, including those direct stakeholders (e.g., operational communities with direct operation or service relationships with the IANA functions) and indirect stakeholders, such as civil society, governments and Internet users. On September 9, 2014, the ICG began the process of developing a transition proposal by issuing a Request for Proposals (RFP) from each operational community in connection with names, numbers and protocol parameters.

DOMAIN NAMES: CROSS COMMUNITY WORKING GROUP (CWG-STEWARDSHIP)

A Cross Community Working Group was formed to develop an IANA Stewardship Transition Proposal on Naming Related Functions. The group was chartered by, and represents five communities:

- The At-Large Advisory Committee (ALAC) represents the interests of individual Internet users.

- The Country-Code Names Supporting Organization (ccNSO) is the group intended to provide leadership in activities relevant to country-code top-level domains (.uk, .de, .jp).

- The Governmental Advisory Committee (GAC) is an advisory committee of representatives of national government, multinational governmental organizations and treaty organizations.

- The Generic Names Supporting Organization (GNSO) represents general top-level domains

- The Security and Stability Advisory Committee (SSAC), an advisory committee on the security and stability of the Internet's naming and address allocation systems.

The CWG-Stewardship is comprised of members – individuals appointed by the chartering organizations – and participants – anyone interested in the work of the

CWG-Stewardship. The group has grown to more than 150 individuals, including 19 members and 130+ participants, representing the Asia/Asia Pacific, Europe, North America, Latin America and Africa regions.

NUMBERING RESOURCES: CONSOLIDATED RIR IANA STEWARDSHIP PROPOSAL TEAM (CRISP TEAM)

The CRISP Team was formed by the Number Resource Organization (NRO) – a coordinating body for the five Regional Internet Registries (RIRs) that manage the distribution of Internet number resources, including IP addresses.

The 15-member CRISP Team (two appointees from each RIR region, and one RIR staff from each region) held 15 teleconferences between late 2014 and early 2015 to consolidate the input from each RIR region into a single community RFP submission.

PROTOCOL PARAMETERS: IANAPLAN WORKING GROUP (IANAPLAN WG)

The Internet Engineering Task Force (IETF) – a large, open international community of network designers, operators, vendors and researchers – formed the IANAPLAN Working Group (WG), which used their routine process of developing an "Internet Draft" for their response. The draft proposal then underwent an IETF-wide "last call" to identify any issues or concerns.

Inclusive, Open Participation

As mandated by the original RFP from the ICG, all community proposals are to be "developed through a transparent process that is open to and inclusive of all stakeholders interested in participating in the development of the proposal."
The groups tasked with drafting IANA Stewardship Transition proposals are diverse, both geographically and in terms of the interests and needs represented within each working group and team. The CWG-Stewardship, CRISP Team and IANAPLAN WG have posted their proposals for public comment or feedback.

In total, each group logged hundreds – even thousands – of hours while developing their responses.

Following submissions from the three communities, the ICG will assess the respective outputs, assemble a complete proposal for the transition and provide multiple opportunities for additional input and comment.

Enhancing ICANN Accountability

Process Overview

In response to a public session at ICANN 49 in Singapore and the community's call for broader accountability mechanisms, including external and independent processes, ICANN published a draft process entitled *Enhancing ICANN Accountability*. This draft process was revised to reflect 49 public comments received during a subsequent public comment period and from community dialogue at the ICANN 50 Meeting in London in June. The draft process was again revised following discussions at the Internet Governance Forum (IGF) in Istanbul in September, as well as an additional public comment period that followed the IGF meeting. After significant collaborative work and community input, ICANN published a Revised Enhancing ICANN Accountability process.[xiii]

Structure and Key Groups

CROSS COMMUNITY WORKING GROUP ON ENHANCING ICANN ACCOUNTABILITY (CCWG-ACCOUNTABILITY)

A Cross Community Working Group (CCWG-Accountability) was formed to facilitate the process of developing enhancements to ICANN Accountability. This CCWG-Accountability, chartered by and comprised of both Supporting Organizations and Advisory Committees also provides meaningful opportunities for participation and comment from outside voices that may not participate in the daily workings of the group.

The community also strongly felt the CCWG-Accountability should have *two* Work Streams: 1) to address the mechanisms necessary to be in place or committed to before the transition of the stewardship of the IANA functions (to address the loss of the historical backstop of the IANA Functions Contract); and 2) those needed to address ICANN's overall accountability.

PUBLIC EXPERTS GROUP (PEG) AND EXTERNAL ADVISORS

To advise and contribute to the dialogue of the CCWG-Accountability, a four-member Public Experts Group was appointed by ICANN's President and CEO, which then in turn selected seven Advisors to work with the CCWG-Accountability. The Advisors roles are to contribute research and advice to the CCWG-Accountability, and to bring

perspectives on global best practices to enrich the discussion, all while engaging with a broader network of accountability experts from around the world.

ICANN BOARD

The ICANN Board is involved in the accountability process, most prominently by way of a Board liaison that brings the Board's voice and expertise to all discussions around the final recommendations. Secondly, the Board will consider the recommendations from the CCWG-Accountability. The Board can then accept the recommendations or, if members believe a recommendation is not in the global public interest, it will refer the recommendation back to the CCWG-Accountability to work on any issues identified. In no event will the Board independently revise a recommendation. Because of Board involvement within the development of the recommendations, this process is not anticipated to be needed, but has been defined in any event:

- The Board must initiate dialogue with the CCWG-Accountability and provide detailed rationale;

- The CCWG-Accountability then has an opportunity to address the Board's concerns and report back to the Board, providing a detailed account of any modifications to a recommendation; and

- The process repeats itself if the Board still has concerns, until both the CCWG-Accountability and the Board have reached a consensus.

Inclusive, Open Participation

Volunteers from the community are encouraged to participate in the Enhancing ICANN Accountability effort. Any interested party can join as a participant by completing a statement of interest and actively contributing to conversations and meetings or, alternatively, as a mailing list observer interested in simply monitoring CCWG-Accountability conversations. There are now 154 individual participants, along with 26 appointed members.[xiv]

REGIONAL REPRESENTATION

25% Europe
24% North America
21% Asia/Asia Pacific
10% Africa
7% Latin America/Caribbean

*13% of CCWG-Accountability members/participants did not specify regional representation.

ORGANIZATIONAL STAKEHOLDER REPRESENTATION

68 (no affiliation)
47 GNSO
26 GAC
21 ALAC
13 ccNSO/ccTLD
5 ASO

Similar to the groups tasked with drafting IANA Stewardship Transition proposals, the CCWG-Accountability represents broad diversity, both geographically and in terms of the interests and needs represented.

Participation is also encouraged through the opportunities for public comment or feedback on any Work Stream 1 and Work Stream 2 proposals.

Final Proposals

NTIA is expecting proposals from each group – the ICG final proposal for the IANA Stewardship Transition and the CCWG-Accountability Work Stream 1 proposal for Enhancing ICANN Accountability – to be transmitted through the ICANN Board, and has indicated that it will consider them together. The Board will forward the proposals promptly and without modification to NTIA.

A Secure, Stable and Resilient Internet

The transition of stewardship of the IANA functions and ICANN's enhanced accountability are parts of the natural evolution of a narrow, complex, technical system on which the world has come to depend.

Through these processes, ICANN and the broader Internet community are taking collaborative steps to ensure the continued security and stability of the IANA functions, maintaining a global, interoperable, and open Internet.

The same multistakeholder model under which ICANN has operated for more than 17 years is now the source of an inclusive and productive dialogue to ensure a transition informed by one clear objective: keeping the Internet open, secure and unified. At every step of this multilayered, global process, the transition teams and community working groups have encouraged global input and solicited public feedback. The ultimate transition plan will undergo that same community evaluation before being reviewed by NTIA.

One World, One Internet

ABOUT ICANN

ICANN's mission is to ensure a stable, secure and unified global Internet. To reach another person on the Internet you have to type an address into your computer – a name or a number. That address has to be unique so computers know where to find each other. ICANN coordinates these unique identifiers across the world. Without that coordination we wouldn't have one global Internet. ICANN was formed in 1998. It is a not–for–profit public–benefit corporation with participants from all over the world dedicated to keeping the Internet secure, stable and interoperable. It promotes competition and develops policy on the Internet's unique identifiers. ICANN doesn't control content on the Internet. It cannot stop spam and it doesn't deal with access to the Internet. But through its coordination role of the Internet's naming system, it does have an important impact on the expansion and evolution of the Internet. For more information please visit www.icann.org or join the next Quarterly Stakeholder Call[xv] for an update on ICANN's progress in meeting its strategic objectives.

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[i] http://www.fedtechmagazine.com/article/2013/06/18-incredible-internet-usage-statistics

[ii] http://www.cisco.com/web/about/ac79/docs/innov/IoT_IBSG_0411FINAL.pdf

[iii] https://www.bcgperspectives.com/content/articles/media_entertainment_strategic_planning_4_2_trillion_opportunity_internet_economy_g20/

[iv] Client Provided: "IG-deck-script-final-20Feb2014" and Boston Consulting Group: "The Connected World: Greasing the Wheels of the Internet Economy"

[v] http://www2.itif.org/2015-cross-border-data-flows.pdf

[vi] http://www.ntia.doc.gov/blog/2014/promoting-internet-growth-and-innovation-through-multistakeholder-internet-governance

[vii] http://www.ntia.doc.gov/press-release/2014/ntia-announces-intent-transition-key-internet-domain-name-functions

[viii] https://www.icann.org/

[ix] http://www.ntia.doc.gov/page/iana-functions-purchase-order

[x] https://www.icann.org/resources/unthemed-pages/white-paper-2012-02-25-en

[xi] http://www.ntia.doc.gov/press-release/2014/ntia-announces-intent-transition-key-internet-domain-name-functions

[xii] https://www.icann.org/resources/pages/process-next-steps-2014-06-06-en

[xiii] https://www.icann.org/resources/pages/process-next-steps-2014-10-10-en

[xiv] https://community.icann.org/pages/viewpage.action?pageId=50823968

[xv] https://www.icann.org/news/announcement-2015-01-13-en