Draft Statement of ICANN's Role and Remit in SSR

Summary and Analysis of Comments

The Security, Stability and Resiliency Review Team under the Affirmation of Commitments recommended that ICANN publish a clear and consistent statement of its SSR remit and limited technical mission, and that ICANN seek public feedback in order to reach a consensus-based statement.

ICANN initiated community feedback on a draft statement of ICANN's role and remit in the security, stability and resiliency of the Internet's unique identifiers and conducted an initial public comment period between 17 May and 16 June 2012. Following the ICANN meeting in Prague, Czech Republic, the reply comment period was extended to 31 August 2012. As additional comments were received after the close of the extended reply comment period, a final extension was granted to 11 September 2012.

Staff conducted briefings on the draft statement and broad engagement to spread awareness of the comment period:

- Directly with the SSR Review Team after the ICANN Costa Rica meeting and in Prague

- Board-level DNS Risk Management Framework Working Group meeting in Amsterdam, May 2012

- Registry & Registrar Regional Gathering on 17 May 2012 in Los Angeles

- IT Sector Coordinating Council International Committee (Washington, DC) on 12 June 2012

- ICANN Prague meeting sessions with the ccNSO, Business Constituency and Security Team open session

- Outreach & engagement through Organization of American States Cyber Security list members

- DNS Security and Stability Analysis Working Group members

- Individual outreach and encouragement

- Social media – through an ICANN blog post, ICANN Facebook, LinkedIn, Google+ and Twitter reminders

- Business Constituency briefing in Washington DC on 18 September 2012

The draft statement was translated into the 5 UN languages, and OAS CICTE promoted the draft statement to their Cyber Security list members in English and Spanish throughout the comment period.

Summary of Comments

ICANN received direct comments on the draft statement from the ccNSO, gTLD Registries Stakeholder Group (RySG), ALAC, former ICANN Board members, registrars, ccTLD operators and individuals. ICANN also received informal input from the Business Constituency, commercial stakeholders and individuals.

Main Themes

1. There was general support for the proactive response from ICANN staff to the SSR RT report and recommendations.

2. Many commenters thought that the draft statement covered the right level of detail and was clear and concise.

3. Commenters distinguished between ICANN's coordination role in the overall system of Internet unique identifiers and ICANN's coordination role with root server operators and other entities in the Internet ecosystem. It was also suggested that the statement clarify between use of "ICANN" to mean ICANN the organization and ICANN the community.

4. It was noted that ICANN should put an emphasis on the types of relationships that ICANN has with others in the Internet ecosystem and, in the area of coordination and engagement, ICANN should focus on information sharing, mutual assistance and capability building activities. Several commenters pointed to the activities of the DNS Security and Stability Analysis Working Group as a model for defining these roles and relationships.

5. There was general support for the language on "shared responsibility among the community of multi-stakeholder participants in the Internet ecosystem and not one borne alone by ICANN as a singular entity." Some commenters suggested that the responsibilities of participants should be described and defined.

A detailed analysis of these comments is provided below. The comment forum can be viewed at http://forum.icann.org/lists/draft-ssr-role-remit/. Staff notes that the draft statement is a work-in-progress and will be enhanced through further discussion and engagement with the broader Internet community.

Detailed Analysis

The ccNSO welcomed the opportunity to comment on the draft statement and "the need to appreciate and respect the interdependencies between and among organizations that also play important roles in this critical area." The ccNSO agreed that a clear, comprehensive and community-endorsed statement of ICANN's SSR remit and its alignment with ICANN's technical mission would be a valuable tool. The ccNSO endorses the SSR RT's call to develop and use a standard taxonomy for SSR purposes.

Lyman Chapin noted that the current draft was "clear and concise. It is written at just the right level of detail, beyond which the clarity solicited by the SSR RT would not be possible."

Dynamic Network Services, Inc. ("Dyn") also stated that the draft statement "struck the right balance: it was a clear statement of principles, and a clear statement of the limitations of ICANN's scope of activity, without being overly specific. We think that sort of statement is exactly what the SSR RT report called for." Dyn noted that some of the public comments and questions posed in the public comment request may lead in the wrong direction.

The gTLD Registries Stakeholder Group ("RySG") appreciated ICANN's commitment to the security, stability and resiliency of the DNS but cautioned against separating Recommendations 1 and 3 from the whole of the SSR RT recommendations. "[W]hile preliminary discussions of ICANN's role and remit in

security, stability, and resiliency are valuable to help frame analyses, any conclusions will have to include detailed analysis of all recommendations in the overall report."

The RySG stated that discussion should not be limited by terms that frame the discussion, rather discussion should frame the terminology. The RySG found the graphic from the ICANN blog post describing ICANN's technical mission to be useful, limited in number of items but not limited in scope. See below:

The Internet Service Provider and Connectivity Provider's Constituency (ISPCP) welcomed the launch of the discussion on ICANN's role and remit and supporting a broader, more structured conversation among ecosystem participants to arrive at a mutually agreeable statement of ICANN's remit. The ISPCP suggested it would be useful to clarify the distinction between using "ICANN" to refer to the organization, led by its CEO and "ICANN" the community.

Rossella Mattioli noted that the draft statement represents an important step in the definition of ICANN's role and will help in engaging the broader Internet community in understanding DNS security importance. Mattioli suggested that ICANN provide dashboard regarding the status of the allocation of Internet identifiers, performance indicators regarding SSR of the unique identifiers, a repository of public resources on these topics, and a clear organization chart stating the job description of every security function and related identifiers.

ALAC noted that the draft statement covered Recommendations 1 and 3 of the SSR RT Draft Report but was closely related to Recommendation 5. ALAC suggested that the statement be expanded to incorporate Recommendation 5.

The ccNSO acknowledged the usefulness of dividing ICANN's SSR remit into conceptual parts, including:

1. Internal corporate infrastructure (internal IT/security);

2. Limited and clearly defined operational responsibilities;

3. Role in coordinating and facilitating; relevant community-developed policy responsibilities and operational actions;

4. Engagement with others in the global Internet ecosystem on SSR matters

The ccNSO suggested that ICANN should prioritize these roles in the order stated, putting primary emphasis on operation of L-root, contractual compliance and the IANA functions. The ccNSO supports more clarity and precision on ICANN's activities involving security coordination and engagement with others in the global Internet ecosystem.

Responses to the questions on Recommendation 1

To facilitate comment on the draft statement, three questions were included for Recommendation 1:

1. What does it mean to "coordinate at the overall level the global Internet's system of unique identifiers?"

2. What are the limits of that coordination role?

3. What does it mean to ensure the security and stability of the global Internet's unique identifier systems?

Defining "Coordination"

Andrei Sozonov of Rusnames Ltd/ISOC Russia ("Sozonov") noted that "ICANN today 'de-facto' is the only and fully accepted multi-stakeholder structure of Internet users, governments, business and infrastructure participants" suggested that coordination might mean that ICANN is widely accepted as the body "steering the Internet's system of unique identifiers in [a] just and harmonious way, serving combinations and interactions of the Internet participants and its functional infrastructure."

Roberto Gaetano also noted ICANN's role as a multistakeholder organization, and that it provides a forum for the voice of Internet users to be heard on SSR. As a coordinator, ICANN is able to assist with managing transition should an operator cease and enforce rules that improve Internet security, stability and resiliency, such as DNSSEC.

According to LACTLD, "coordination implies reaching out to all the stakeholders involved and showing the impact of these actions (both in process as well as in outcome). It also implies recognizing that in a multistakeholder mechanism, where initiatives arise from the community, the links between topics and proposals, as well as the grounds that back any decisions must be explicit and communicated."

LACTLD asked if this requires that all involved in the registry chain "from IANA, TLDs, Registrars, Resellers until the Registrants" need formalized and working agreements.

ALAC considered the coordination role as appropriately described in the draft statement.

To CSIRT Panama, coordination means that ICANN and its community ensure confidence in the worldwide DNS system by following recognized methods and pre-established policies.

The ISPCP stated that the definition of coordination as proposed fell short of the hope expressed by the SSR RT. "The proposal addresses vague language with different vague language and does not clarify the situation." The ISPCP asked "what does it mean to actively engage with stakeholders?"

The ISPCP suggested that the statement would go further to provide better definition of the roles of ICANN the organization <u>and</u> community. "A much more useful definition would include statements

describing the role, responsibility, accountability and authority of <u>all</u> the participants in the process: ICANN the corporation, members of the ICANN community and others."

"The proposed statement could be further improved by replacing the phase 'shared responsibility among the community' with some underpinnings as to what that shared set of responsibilities are, and who is accountable for them."

During the Business Constituency briefing in June at the ICANN Prague meeting, Marilyn Cade noted that "coordinate" meant different things in the foundation days of ICANN (1997, 1998) than it does today because we are in a different world. "There's probably a very important role for ICANN in education and awareness and offering the kinds of training and support that some of those entities are getting."

The RySG was supportive of comments made by ALAC and the ISPCP. They noted that programs such as DNSSEC workshops, "are valuable in educating the public, fostering its [DNSSEC] adoption, and thereby enhancing the security, stability and resilience of the unique identifier system." Other examples such as SSAC documents and targeted educational efforts are within ICANN's remit as a technical coordinator.

.RU observed that operational excellence should form a critical element of the coordination role. This same comment was made by an individual without attribution. As part of this, .RU stated that ICANN should maintain a hotline or communications that are available 365 days per year, 7 days a week, 24 hours a day. .RU also noted that ICANN should have strictly defined and enforced response times for inquiries from registries and registrars, and transparent decision making in picking operators securing operation of the Internet's addressing system.

One commenter noted that the definition of "coordination" simply shifts the question to what does ICANN mean by actively engage. This echoed other comments such as the ISPCP and ccNSO comments about consulting with relevant stakeholders and others in the Internet ecosystem.

The Islamic Republic of Afghanistan Ministry of Communications and IT ("MCIT Afghanistan") noted that the first question requires a definition of what is meant by unique identifiers at each level. A clear definition of "coordinate" would be helpful to further understand the statement being questioned.

Cristina Ledesma stated that she found the mission, objectives, procedure and strategy very clear but asked if it was possible to broaden the scope referring to Security to include ICANN encouraging the Internet community to adopt good practices and security protocols such as SSL or similar protocols. This point was also echoed by an individual commenter who stated that "I could not find anything in the draft statement regarding ICANN's role in facilitating/promoting security best practices related to the provisioning and allocation of Internet identifiers. As an example, I would like to see registries and registrars adopt multi-factor authentication."

Mattioli supported the notion that ICANN security functions should engage with every international and national working group which deals with unique identifiers threats and publish updated reports. "The role should be of evangelist of SSR functions and facilitate through its multistakeholder nature, the interaction between all entities concerned. She also stated that ICANN should foster research and participation within the community. This is similar to a comment made that ICANN should facilitate interoperability.

Chapin observed that it may be tempting to be as specific as possible in defining coordination, but ICANN's coordination role is not something that can be narrowly prescribed.

Limits to the Coordination Role

On the limits of the coordination role, Sozonov stated that the limit might be set by the bottom-up process, from reasonable demands by Internet users and infrastructure participants, and in response to demand by governmental bodies for the system to be coordinated without compromising its wholeness and stability.

The ccNSO suggests that ICANN's role and activities related to coordination and engagement be structured on the basis of the characteristics of ICANN's specific relationships with others. These characteristics would be determined by the nature or absence of a partnership, contractual relationship or other arrangement that ICANN has with the relevant entity, and the policy remit of the related Supporting Organization or stakeholder group structure. The ccNSO states that "information sharing, mutual assistance and capability building could be the major focus of the activities going forward."

LACTLD stated that the limits on the coordination role come from the national competent legal authorities.

ALAC stated that the limits of the coordination role were appropriately described in the draft statement.

On the limits of coordination, CSIRT Panama suggests that obstacles be identified that may be hindering compliance with the mission and objectives of ICANN. CSIRT Panama agreed that ICANN had no coordination role in Internet surveillance, combatting criminal behaviour, espionage or information warfare as this requires international cooperation between international organizations and nations.

Siddiqa Ishtiaq asked how domain related issues are addressed in regional and country levels and about the relationship between ICANN and regional/national authorities in Pakistan.

MCIT Afghanistan noted that the process for coordination is probably the most vital part of the action to be performed.

Chapin pointed to the "shared responsibility among the community of multi-stakeholder participants in the Internet ecosystem" as a core value, and referenced the Bylaws language "the specific way in which [it applies]...to each new situation will necessarily depend on many factors that cannot be fully anticipated or enumerated."

Defining "ensure Security and Stability of the Global Internet's unique identifier systems"

On the definition of ensuring security and stability, Sozonov noted that this may mean ensuring that the Internet works as just, secure and stable system. LACTLD stated that this "implied developing capacities for those stakeholders involved in the system so that they are able to respond to these problems with clear and aligned shared standards."

ALAC considered the definition provided in the draft statement to be appropriate descriptions of the meaning, but that additional elements would more comprehensively answer the question from a functional perspective. The DNS Security & Stability Analysis Working Group (DSSA) identified the following functions in a Security Management Framework:

- Risk Assessment

- Risk Planning

- Standards, Tools and Techniques

- Audit and Compliance

- Education and Awareness

- Front-line Response

ALAC suggested that these functions be incorporated into the definition.

To CSIRT Panama, this definition meant that ICANN is "in power to maintain and ensure the functional service at all times regardless of the resources and keeping in mind the fulfillment of an agreement."

MCIT Afghanistan suggested a five question approach, asking:

1. Who ensures the security and stability of the unique identifiers?

2. What will be needed to ensure the security and stability of the global Internet's unique identifier systems?

3. Where will the process reside?

4. When will it be instituted (on an as-needed basis, or periodically, or regularly scheduled)?

5. ICANN must clearly articulate how it "ensure the security and stability of the unique identifiers."

Chapin stated that it is important to use the terms "Internet unique identifiers" and "Internet unique identifier systems" carefully and precisely. He observed that in "almost every case, ICANN's role involves the latter, not the former." He said that the first paragraph of the draft statement should refer to the "Internet's unique identifier systems" rather than to the "Internet's unique identifiers," but the first bullet point under ICANN's technical mission includes should be "coordinating the allocation of the Internet's unique identifiers," not "…identifier systems."

The ISPCP noted that the use of the word "ensure" leads to discussion of assigning responsibility without corresponding authority. "Neither ICANN the corporation nor some amorphously defined 'multi-stakeholder model' currently has the authority needed to **guarantee** the security and stability of the naming and numbering systems. The remedy to this management mistake is simple in theory, although much harder in practice. Either grant the authority or remove the responsibility."

The ISPCP states that collaboration is a powerful tool to meet ICANN's coordination responsibilities, but is one of many, including audit and compliance. They suggested "guarantee" and "verify" definitions for "ensure" be incorporated into language.

Responses to the Questions on Recommendation 3 (now Recommendation 4 in the SSR RT Final Report)

Three questions were suggested to focus consideration of the recommendation to document and clearly define the nature of the SSR relationships ICANN has in the community and interdependencies between organizations in the Internet ecosystem:

1. What is ICANN's role with root server operators? This relates to Recommendation 1, Question 1.

2. Should ICANN develop a process for transitioning a root server should a root server operator cease that role?

3. What is ICANN's scope of responsibility for addressing an attack against root servers, or "against the DNS" in general?

The ISPCP was reluctant to answer these questions and supports the approach in the SSR RT Report to document and understand the complex dependencies and interwoven relationships between ICANN and other entities in the Internet ecosystem. They suggested ICANN look more broadly to produce a description of who does what in the community, and use this description to find agreement as to who is responsible and accountable for what part. The DSSA Working Group Phase 1 Report was cited as an example. Staff notes that the description of entities in the ISPCP comment is useful and will be utilized in the next phase of action on the SSR RT recommendations.

ALAC pointed to the Security Management Framework developed by the DSSA as a means for mapping ICANN's SSR relationships functionally and organizationally.

The ccNSO agreed that "the community would be better served by a clearer articulation of the roles and responsibilities of various groups within and outside of ICANN that play important SSR roles." The ccNSO suggested that ICANN "start with a description of all relevant entities and their roles and responsibilities and reflect ICANN's relationship with these entities in the different areas listed…the ccNSO Council is committed to assist ICANN in further defining and documenting its role with the ccNSO, ccTLD community at large and ccTLDs."

Dyn stated that they understood the SSR RT report to be asking for clear articulation of principles, and for development of "detailed and bureaucratic process rules." Dyn disagreed with the questions that might lead to creation of a general process for moving operation away from a root server operator.

ICANN's role with root server operators

Sozonov stated that ICANN's coordination role might resemble, but not be limited to, the role in the ICANN-registry mechanism. His comment implies a contractual relationship between ICANN and root server operators.

Former ICANN Board member Roberto Gaetano provided input in his individual capacity on the questions related to root server operators. "For the security, stability and reliability of the Internet, the coordination of the root server operators, and their collaboration, is of the paramount importance. The keyword here is 'accountability.'"

In discussing ICANN's role, Gaetano stated

> "My vision is that ICANN fully embraces the multistakeholder approach. The consensus of the stakeholders is what gives ICANN the accountability, and therefore the authority to coordinate these issues. Some might argue, and they might be not completely wrong, that ICANN is not there yet. However, "we" (as ICANN is "all of us") are getting there.
>
> An ICANN that is *fully* a multistakeholder-based organization (fully inclusive geopolitically, balancing commercial and noncommercial interests, balancing supplier and consumer interests, establishing - and *enforcing* - contracts that are fair to the whole community) will have the

authority to assume the role of coordinator of the root server operations, managing the transition should an operator cease, but also to enforce rules that improve Internet SSR, like DNSSEC."

The RySG concurred with the ISPCP comment and stated that specific responses to these questions required a broad based discussion among interested parties.

Chapin observed that ICANN operates L-root and thus "participates in the community of individuals and organizations that collectively operate the root server system. This is not an SSR role as such, except to the extent that every root server operator is concerned about the security, stability and resiliency of its own operation."

He also stated that "geographic and organizational decentralization of the root system reflect a deliberate design decision in favor of diversity and minimal fate-sharing coordination, which confers substantial security, stability and resiliency benefits on the global Internet. ICANN's coordination role with respect to root server operations should therefore be carefully constrained so as not to forfeit those benefits."

Should ICANN develop a process for transitioning a root server operator

Sozonov noted that in light of an ICANN-registry mechanism, ICANN might develop a root server transition process or use other existing practices if a root server operator ceases that role.

Gaetano stated that so far, root server operators have done an excellent job and questions like transitioning a root server operator have never been an issue. "However, with the fast development of the Internet, we need to think globally and be 'future proof.' So the main question hidden in this report is whether the current root server operators coordination mechanism is the optimal solution in the long term."

Gaetano asked whether the current root server operators were accountable to the Internet community for SSR issues.

What is ICANN's scope of responsibility for addressing an attack against root servers

According to Sozonov, "it does not seem to be reasonable for now if ICANN would have to accept full responsibility for addressing an attack against root servers or 'against the DNS' in general, since such attacks are malicious activity with different reasons and targets." He noted that if and after ICANN adopted an ICANN-registry mechanism to ensure stability at the root server operator level, protective resources could be deployed to exercise defense of the DNS or root servers.

This was not specifically addressed by other commenters.

Next Steps

The draft statement will be updated based on the feedback received following the ICANN meeting in Toronto. The comments received on the statement will also inform the proposed implementation for the SSR Review Team recommendations.

ICANN is hosting an open, moderated panel discussion on ICANN's role and remit in SSR with remote participation on 15 October 2012 between 1:30-2:45pm Toronto local time. See also http://www.timeanddate.com/worldclock/fixedtime.html?iso=20121015T1330&p1=250&ah=1&am=15.

This session will further encourage community discussion of the high-level questions raised during the public comment period on ICANN's role and remit in SSR.

Comments Received

Andrei Kolesnikov, ccTLDs .RU and .РФ - http://forum.icann.org/lists/draft-ssr-role-remit/msg00017.html

Lyman Chapin - http://forum.icann.org/lists/draft-ssr-role-remit/msg00016.html

Islamic Republic of Afghanistan Ministry of Communications & IT - http://forum.icann.org/lists/draft-ssr-role-remit/msg00015.html

Cristina Ledesma - http://forum.icann.org/lists/draft-ssr-role-remit/msg00014.html

Andrew Sullivan/Dyn - http://forum.icann.org/lists/draft-ssr-role-remit/msg00013.html

Inputs without attribution – http://forum.icann.org/lists/draft-ssr-role-remit/msg00012.html

ccNSO Council – http://forum.icann.org/lists/draft-ssr-role-remit/msg00011.html

Rossella Mattioli – http://forum.icann.org/lists/draft-ssr-role-remit/msg00010.html

ALAC Reply Comments – http://forum.icann.org/lists/draft-ssr-role-remit/msg00009.html

RySG Reply Comments – http://forum.icann.org/lists/draft-ssr-role-remit/msg00008.html

Roberto Gaetano – http://forum.icann.org/lists/draft-ssr-role-remit/msg00007.html

CSIRT Panama – http://forum.icann.org/lists/draft-ssr-role-remit/msg00006.html

Community inputs from ICANN Prague – http://forum.icann.org/lists/draft-ssr-role-remit/msg00005.html

Siddiqa Ishtiaq – http://forum.icann.org/lists/draft-ssr-role-remit/msg00004.html

ALAC – http://forum.icann.org/lists/draft-ssr-role-remit/msg00003.html

LACTLD – http://forum.icann.org/lists/draft-ssr-role-remit/msg00002.html

GNSO ISPCP Constituency – http://forum.icann.org/lists/draft-ssr-role-remit/msg00001.html

Alexei Sozonov – http://forum.icann.org/lists/draft-ssr-role-remit/msg00000.html