SSAC Activities Update

Rod Rasmussen, SSAC Chair | ICANN69 | October 2020

Agenda

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Security and Stability Advisory Committee (SSAC)

Who We Are

- 35 Members

- Appointed by the ICANN Board

What We Do

Role: Advise the ICANN community and Board on matters relating to the security and integrity of the Internet's naming and address allocation systems.

What is Our Expertise

- Addressing and Routing
- Domain Name System (DNS)
- DNS Security Extensions (DNSSEC)
- Domain Registry/Registrar Operations
- DNS Abuse & Cybercrime
- Internationalization (Domain Names and Data)
- Internet Service/Access Provider
- ICANN Policy and Operations

How We Advise
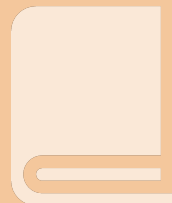
113 Publications since 2002

Security and Stability Advisory Committee (SSAC)

ICANN's Mission & Commitments

◎ Ensure the stable and secure operation of the Internet's unique identifier systems.

◎ Preserve and enhance the administration of the DNS and the operational stability, reliability, security, global interoperability, resilience, and openness of the DNS and the Internet.

SSAC Publication Process

Form Work Party → **Research and Writing**

↓

Review and Approve

←

Publish

Consideration of SSAC Advice

(to the ICANN Board)

SSAC Submits Advice to ICANN Board

↓

Board Acknowledges & Studies the Advice

↓

Board Takes Formal Action on the Advice

1. Policy Development Process

3. Dissemination of Advice to Affected Parties

2. Staff Implementation with Public Consultation

4. Chose different solutions (explain why advice is not followed)

ICANN

Security and Stability Advisory Committee (SSAC)

Recent Publications

[SAC113]: SSAC Advisory on Private-Use TLDs

[SAC112]: Minority Statement on the Final Report of the Temporary Specification for gTLD Registration Data Phase 2 Expedited Policy Development Process (EPDP)

ICANN | SSAC
Security and Stability Advisory Committee

Outreach

ssac.icann.org and SSAC Intro: www.icann.org/news/multimedia/621

www.facebook.com/pages/SSAC/432173130235645

SAC067 SSAC Advisory on Maintaining the Security and Stability of the IANA Functions Through the Stewardship Transition and SAC068 SSAC Report on the IANA Functions Contract: www.icann.org/news/multimedia/729

SAC113: SSAC Advisory on Private-Use TLDs

Warren Kumari

Private-Use TLDs

- Previous SSAC advice is to use a sub-domain of a public domain name for internal, or private use, and that is still the best practice

- However, many enterprises and device vendors make ad hoc use of TLDs that are not present in the root zone when they intend the name for private use only

- DNS has no explicit provision for internally-scoped names

- The SSAC recommends that the ICANN Board ensure a string is identified using criteria provided.

- SAC113 does not recommend a specific string for reservation

Private-Use TLDs

- SSAC proposes the string must meet the following criteria:

  ○ Valid DNS label

  ○ Not already delegated in the root zone

  ○ Not confusingly similar to another TLD in existence

  ○ Relatively short, memorable, and meaningful

- The SSAC believes that the reservation of a private string will help in the following ways:

  ○ Reduce the ad hoc usage

  ○ Provide greater predictability for network administrators and equipment vendors

  ○ Over time, reduce erroneous queries to root servers

SSAC Responses to Public Comment Opportunities

- Final Report of the Temporary Specification for gTLD Registration Data Phase 2 Expedited Policy Development Process (EPDP)

- New gTLD Subsequent Procedures Draft Final Report

SAC112: Minority Statement on the Final Report of the Temporary Specification for gTLD Registration Data Phase 2 Expedited Policy Development Process (EPDP)

Ben Butler/Tara Whalen

Minority Statement on the Final Report of the Temp Spec

- SSAC cannot endorse the Final Report as it currently stands

- SSAC believes that a much better system is possible within the limitations imposed by the GDPR and that the EPDP has not provided outcomes that are reasonably suitable for security and stability

- The Final Report does not recommend a commitment to finish unaddressed charter items

- The SSAC objects to four specific recommendations:

  - Recommendation 6: Priority Levels

  - Recommendation 10: Determining Variable SLAs for response time for SSAD

  - Recommendation 12: Disclosure Requirement

  - Recommendation 14: Financial Sustainability

New gTLD Subsequent Procedures Draft Final Report

Rod Rasmussen

New gTLD Subsequent Procedures Draft Final Report

- The SSAC did not have sufficient time to respond to the PDP's specific questions and draft a comment in the recent Public Comment period for the GNSO New gTLD Subsequent Procedures Draft Final Report

- The SSAC is planning to meet with the PDP Leadership to discuss the SSAC's areas of highest concern

- SSAC is focusing its current analysis in the following areas:

  - Expansion of TLDs that the SubPro team did not cover in the draft Final Report

  - How the draft Final Report addressed previous SSAC advice on New gTLD Subsequent Procedures

- The SSAC will provide a comment to the GNSO Council and ICANN Board as appropriate

Name Collision Analysis Project

James Galvin and Patrik Fältström (SSAC co-chairs)
Matt Thomas (community co-Chair)

Name Collision Analysis Project Update

- ICANN Board tasked SSAC to conduct studies to present data, analysis and points of view, and provide advice to the Board on name collisions

  - Specific advice regarding .home/.corp/.mail

  - General advice regarding name collisions going forward

- Studies to be conducted in a thorough and inclusive manner that includes other technical experts

  - 25 discussion group members, including 13 SSAC work party members

  - 23 community observers

Name Collision Analysis Project Update

- May 2020: Proposed Final Report for Study One was put out for Public Comment through 17 June 2020

- June 2020: Final Report for Study One submitted to the ICANN Board for consideration

  - A recommendation from the contractor who completed the work is that the design of Studies 2 and 3 be reviewed

  - NCAP Discussion Group agrees

- October 2020: The NCAP Discussion Group is currently developing a revised proposal for Study 2 that will be submitted to the Board for its review and support so that analysis may continue and the SSAC can answer the Board's questions.

Updates on SSAC Current Work Parties

Current Work

- Name Collision Analysis Project

- Studying Abuse in the DNS

- Routing Security

- SSAC Organizational Review Implementation

- Scan of Threats to Internet Naming and Addressing (Ongoing)

- Tracking SSAC Advice tot he Board (Ongoing)

- DNSSEC and Security Workshops (Ongoing)

- Membership Committee (Ongoing)

DNS Abuse

- SSAC will not provide a formal definition of "abuse" but will provide a framework for different parties to utilize in abuse handling and prioritization

- Initial efforts are close to completion with a document that outlines potential efforts to standardize community strategies and processes surrounding abuse identification and mitigation

- The SSAC Report will cover the following topics:

    ○ Primary Point of Responsibility for Abuse Resolution

    ○ Evidentiary Standards

    ○ Escalation Paths

    ○ Reasonable Time Frames for Action

    ○ Availability and Quality of Contact Information

Routing Security

- Topic identified in the initial threat assessment at the SSAC's September 2019 workshop
- Work party will examine the security and stability implications of route hijacking on the Internet's routing system and domain name system
- This will include an examination of Resource Public Key Infrastructure (RPKI), a relatively new registry tool intended to provide greater levels of assurance and utility to an IP address registry
- The SSAC seeks to document the routing security space in an effort to help the larger ICANN and Internet policy communities understand relevant technologies and the issues surrounding them

Threats to Internet Naming and Addressing

- SSAC initiated an environmental scan of threats and risks to the DNS in the following categories:

    - DNS Security: Protocol, infrastructure, namespace

    - Domain Name Abuse

    - Addressing and Routing

    - Registration Services

- At its September 2019 workshop the SSAC held an exercise to assess each threat/risk and rank items by event probability and potential event impact

- SSAC is continuing its threat identification, assessment, and ranking exercise to inform future work parties and membership recruitment efforts

Topics of Interest/Possible New Work

- Evolution of DNS Resolution

    ○ Alternative protocols

    ○ Resolverless DNS

    ○ Operational concentration of the DNS infrastructure

- DNSSEC DS key management and other registrar/registry control issues

- Concerns of overloading HTTPS for other privacy issues

- Examination of SSR-related data in the ICANN ecosystem

Tracking SSAC Advice

- The SSAC recently conducted a thorough review of all advice items tracked in ICANN's Action Request Register (ARR) and developed some follow up actions
- Some of the SSAC advice was passed on to other SOs to consider, but it is unclear what happens after that, as it is then no longer within the remit of the ICANN Org or Board
- The SSAC has also been meeting with ICANN org OCTO and GDS departments to discuss implementation of SSAC advice
- Moving forward, the SSAC seeks to make more actionable recommendations to the ICANN Board as well as developing a way to track advice that is passed onto other SOs

SSAC Skills and Potential New Member Outreach

Julie Hammer

SSAC Member Skills

- The skills of SSAC members span the following categories:
  - Domain Name System
  - Security
  - Abuse
  - Root Server System
  - IP Addressing/Routing
  - Registration Services
  - Internationalized Domain Names
  - Information Technology
  - Non-Technical (e.g., legal, risk management, business skills)
- The SSAC Skills Survey is used to document the skills of all existing and potential SSAC Members

SSAC New Member Outreach

- SSAC is looking for motivated professionals who have skills in the SSAC skills categories and, in particular, expertise or background in:
  - ISP operations
  - Large-scale measurement
  - Registrar Operations
  - Browser Development/Testing
  - Mobile Apps Development/Testing
  - Low bandwidth resource constrained Internet connectivity
  - Red Team experience
  - Risk management
  - Law Enforcement experience
- The SSAC is interested in increasing membership from Africa, Latin America, and Asia-Pacific

SSAC Contact for Potential New Members

- Individuals who are interested in enquiring about SSAC membership should:
  - Contact Rod or Julie,
  - Contact any member of SSAC Support Staff, or
  - Send an email to ssac-staff@icann.org

Questions to the Community

- What topics would you like SSAC to consider as work items?

- What would you like SSAC to comment on?

Thank you