

Security & Stability Advisory Committee Public Meeting

15 March 2012



Agenda

- 8:30 to 8:45 am Overview -- Patrik Fältström, SSAC Chair
- 8:45 to 9:00 am SAC052: SSAC Advisory on Delegation of Single-Character Internationalized Domain Name Top-Level Domains -- Patrik Fältström
- 9:00 to 9:15 am SAC053: SSAC Report on Dotless Domains -- Patrik Fältström
- 9:15 to 9:30 am Measuring Outcomes - Ram Mohan, SSAC Liaison to the ICANN Board

Overview

- Security and Stability Advisory Committee
- Formed in 2001-2002
 - Decision to start: late 2001
 - First Operation: early 2002
- Provides guidance to ICANN Board, Supporting Organizations and Advisory Committees, staff and general community
- Guidance areas are related to ICANN's mission, DNS, addressing, etc.

SSAC Charter/Mission

The role of the Security and Stability Advisory Committee ("SSAC") is to advise the ICANN community and Board on matters relating to the security and integrity of the Internet's naming and address allocation systems.

See: <http://www.icann.org/en/committees/security/charter-15sep11-en.htm>

SSAC Membership

- Members as of 16 March 2012: 38*
- Changes in 2012:
 - 2 New Members and 1 Departing Member
- Changes in 2011:
 - 4 New Members and 4 Departing Members
- Changes in 2010:
 - 5 New Members and 5 Departing Members
 - ICANN Bylaws change appointing members to staggered terms of 1, 2, and 3 years, which necessitates an Annual Review Process to reappoint members when their terms end

*Pending Board new appointments

Recent Publications

Published in 2012:

- [SAC053] SSAC Report on Dotless Domains
- [SAC052] SSAC Advisory on Delegation of Single-Character Internationalized Domain Name Top-Level Domains

Published in 2011:

- [SAC051] SSAC Report on WHOIS Terminology and Structure
- [SAC050] SSAC Advisory on DNS Blocking - Benefits Versus Harms
- [SAC049] DNS Zone Risk Analysis
- [SAC048] SSAC Comment on the Definition of Orphan Glue
- [SAC047] SSAC Comment on the ICANN gTLD Registry Transition Processes Model

2012 Work Plan

Current Work Parties/Working Groups/ Committees

- Membership Committee
- Internationalized Registration Data Working Group (IRD-WG)
- Domain Name System (DNS) Security and Stability Analysis Working Group (DSSA-WG)
- Impact of DNS Blocking Work Party
- Root Key Rollover Work Party

2012 Work Plan, Cont.

- **Public Meetings and Collaboration**
 - Regular meetings with law enforcement agencies
 - Briefings to Supporting Organizations and Advisory Committees at ICANN meetings
 - Briefings with other community groups as requested
- **Other Work Parties Identified for Future Work:**
 - Public interest (No Fee) Domain Holding Pen
 - Security and Stability Issues Relating to New gTLDs
 - Deployment of IPv6 in addition to IPv4

Key Messages: SAC050 Blocking

- Consider the possible harm that an intervention might cause.
- Do not adversely affect Internet users outside of the organization's policy domain.
- All technical approaches to DNS blocking and attempts to circumvent will impact:
 - Security and/or stability of users and applications; and
 - Coherency or universal resolvability of the namespace.

Key Messages: SAC051 WHOIS Taxonomy

The ICANN community should:

1. Adopt the terminology outlined in SAC051.
2. Evaluate and adopt a replacement domain name registration data access protocol that supports the query and display of Internationalized Domain Name Registration Data (DNRD) as well as addressing the relevant recommendations in SAC 003, SAC 027 and SAC 033.
3. Develop a uniform and standard framework for accessing DNRD that would provide mechanisms to define and implement a range of verification methods, credential services, and access control capabilities.

ICANN Proposed Roadmap to Implement SAC 051

- **28 October 2011 Board Directs ICANN Staff to:**
 - Produce, in consultation with the community, a roadmap for the coordination of the technical and policy discussions necessary to implement the recommendations outlined in SAC 051.
 - Forward SAC 051 to ICANN's Advisory Committees and Supporting Organizations for their advice, if any, with regards to implementing the SSAC recommendations, and to forward SAC 051 to the Whois Review Team.
- **18 February 2012:**
 - Draft roadmap posted for public comment at: <http://www.icann.org/en/news/public-comment/sac-051-draft-roadmap-18feb12-en.htm>
- **15 March 2012:** Public Workshop “Replacement of WHOIS,” Boungainvillea Room, 1300-1400

SAC 052 SSAC Advisory on Delegation of Single-Character IDN TLDs

- The SSAC recommends a very conservative approach to the delegation of single-character IDN top-level domains.
 - Delegation of all single-character IDN TLDs in all scripts should be *disallowed* by default.
 - Exceptions may be made for some scripts, but only after careful consideration of potential confusability both within and across scripts.
- ICANN should review the Findings of this report, and any policies that it adopts in response to Recommendation 1, no later than one year after the three work items mentioned above have been completed.

SAC 053 Dotless Domains

Dotless domains will not be universally reachable, and the SSAC recommends strongly against their use. The SSAC also recommends that the use of DNS resource records such as A, AAAA, and MX in the apex of a Top-Level Domain (TLD) be contractually prohibited where appropriate and strongly discouraged in all cases.

Questions

SAC52: SSAC Advisory on the Delegation of Single Character IDN Top Level Domains



Background

- Currently TLDs consisted of 2 or more characters (gTLD ≥ 3 , ccTLD = 2).
- Recent discussion to allow single character TLDs (JIG).
- The ICANN Board asked SSAC for advice about the security and stability aspect of delegating single Character IDN TLDs (2011.08.28.16).
- Question also sent to ALAC and GAC.
- SAC052 SSAC Advisory on the Delegation of Single-Character Internationalized Domain Name Top-Level Domains is the SSAC's response to the Board.

Findings

- Finding 1: Single-character TLDs are more likely to cause user confusion than TLDs with more than one character.
- Finding 2: No other significant security concerns are apparent with the delegation of single-character TLDs.
- Finding 3: Current work on string similarity and variant issues has not been completed.

Recommendations

- The SSAC recommends a very conservative approach to the delegation of single-character IDN top-level domains.
 - Delegation of all single-character IDN TLDs in all scripts should be *disallowed* by default.
 - Exceptions may be made for some scripts, but only after careful consideration of potential confusability both within and across scripts.

Recommendations, Cont.

- The SSAC notes that because important relevant work on string similarity, IDN variant issues, and TLD label syntax is currently underway within ICANN, the IETF, and other bodies, ICANN should review the Findings of this report, and any policies that it adopts in response to Recommendation 1, no later than one year after the three work items mentioned above have been completed.



Questions?



SAC53: SSAC Report on Dotless Domains



Background

- A frequently asked question by new gTLD applicants is: *If I register "dot BRAND", will I be able to use the label "BRAND" alone in a URL (http://BRAND) or an email address (user@BRAND)? What will happen if I do?*
- The SSAC calls a domain name that consists of a single label a "*dotless domain.*"

SSAC Findings

- The resolution of dotless domain names are *not* consistent or universal:
 - Web Browsers
 - Local Area Network issues
 - DNS Stub Resolvers
 - Email

As an Illustration

- When a browser is presented with a dotless domain (BRAND), it might:

Potential Behavior	Result
Add popular domain suffix (.com, .co.uk)	No Guarantee of resolution
Append the DNS “search path” if specified (.company.com)	No Guarantee of resolution
Submit the query to search engine	No Guarantee of resolution
Submit the query directly to DNS	Guaranteed

SSAC Findings (cont.)

- Dotless hosting violates a longstanding assumption that a dotless hostname is within an organization's trust sphere, and could present further problems to security and the ability to route traffic.

Recommendations

- Dotless domains will not be universally reachable, and the SSAC recommends strongly against their use.
- The SSAC also recommends that the use of DNS resource records such as A, AAAA, and MX in the apex of a Top-Level Domain (TLD) be contractually prohibited where appropriate and strongly discouraged in all cases.

Questions?



SSAC Outcomes Implementation Status



Goals

- To understand if the work the SSAC is doing is having the “intended effect”
- To improve SSAC work practices based on measuring outcomes of our existing work



What is the “Intended Effect”?

- Are we providing advice in the areas outlined in the SSAC Charter; and
- Is our advice being used by the ICANN community
 - Supporting Organizations
 - The Board of Directors

SSAC Work Results in Substantive Board Resolutions

- 2003: Message from SSAC to ICANN Board on SiteFinder contributed to the Board Decision on this issue
- 2009:
 - SAC 037 resulted in the creation of joint GNSO-SSAC Working Group on internationalized Registration Data
 - SAC 041 (along with SAC 006, SAC 015, SAC 032) resulted in Board action banning DNS redirection and synthesized DNS responses in new TLDs
- 2010: SAC 045 resulted in changes to the draft applicant guidebook.
- 2011*: SAC 047, 48 resulted in changes to the draft applicant guidebook. *(not through Board resolutions)

Implementation Status

- #1: Create an additional link on the SSAC web site table (document category) showing where each focus area/ category falls in the Charter. Status: Completed
- #2: Create a new web page on the SSAC web site tracking actions resulting from SSAC documents published since 2009. Status: In Development
- #3: Survey ICANN constituencies (GNSO, CCNSO, ALAC, GAC) to determine if and how they have used our papers to build any of their documents. Status: In Development
- #4: Review Google link statistics periodically for each document. Status: In Development.

Revised Document Categories including Links to Charter Tasks

Board
ALAC
ASO
ccNSO
GAC
GNSO
IETF
NRO
NomCom
RSSAC
SSAC
Charter
Discussions
Documents
Presentations
Projects

SSAC Reports and Advisories | listed according to study category

By Issue Date and Number | **By Category and Charter Task**

Addressing: Charter Tasks 1 and 2

Report #	Document	Year	Type
SAC043	SSAC Comment on the JAS Report on the IANA Process for Implementing Root Zone Change Requests and on the IANA Explanatory Memoranda	2010	Comment
SAC021	Survey of IPv6 Support Among Commercial Firewalls	2007	Report
SAC012	SSAC Comments to the ICANN Board of Directors on Proposed Global Policy for Allocation of IPv6 Address Space	2006	Comment
SAC004	Securing The Edge	2002	Report

DNS (Domain Name System) Abuse: Charter Tasks 1, 2, and 5

Report #	Document	Year	Type
SAC048	SSAC Comment on the Orphan Glue Records in the Draft Applicant Guidebook	2011	Comment
SAC045	Invalid Top Level Domain Queries at the Root Level of the Domain Name System	2010	Report
SAC041	Recommendation to Prohibit Use of Redirection and Synthesized Responses by New TLDs	2009	Advisory
SAC032	Preliminary Report on DNS Response Modification	2008	Advisory

Documents by Category and Charter Task

New link to charter, tasks are listed for each category

Questions?

