Security & Stability Advisory Committee

Update of Activities

Topics

1. Overview of the SSAC and Activities -- Patrik Fältström, SSAC Chair
2. Public Comments on SAC053: SSAC Report on Dotless Domains
3. SAC056: SSAC Advisory on the Impacts of DNS Blocking
4. SAC055: SSAC Comment on WHOIS Review Team Final Report– Jim Galvin, SSAC Vice Chair

Security and Stability Advisory Committee (SSAC) Overview

- 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
- Charter: To advise the ICANN community and Board on matters relating to the security and integrity of the Internet's naming and address allocation systems.

SSAC Members

- Members: 38
- Changes in 2012:
  - 4 New Members and 3 Departing Members
- 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

2012 Activity Overview

Internal SSAC Work Committees/Work Parties

- SSAC Membership Committee
- Registration Data Validation Work Party
- Identifier Abuse Metrics Work Party
- Root Key Rollover Work Party

SSAC Community Committees/Working Groups

- DNSSEC Program Committee to Plan Workshops and Beginners' Sessions
- Domain Name System (DNS) Security and Stability Analysis Working Group (DSSA-WG)
- Board DNS Risk Management Framework Working Group

2012 Activities Overview, Cont.

Public Meetings and Collaboration at ICANN Meetings

- Regular meetings with law enforcement agency representatives

- Briefings to Supporting Organizations and Advisory Committees

- Briefings with other community groups as requested

2012 Publications

- [SAC056] SSAC Advisory on the Impacts of Content Blocking via the Domain Name System
- [SAC055] SSAC Comment on the WHOIS Review Team Final Report
- [SAC054] SSAC Report on the Domain Name Registration Data Model
- [SAC053] SSAC Report on Dotless Domains
- [SAC052] SSAC Advisory on Delegation of Single-Character Internationalized Domain Name Top-Level Domains
- SSAC Comment on the ICANN FY13 Budget: Impact on SSAC Productivity
- SSAC Comment on the ICANN Draft Roadmap to Implement SAC051

Public Comments on 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 is *not* consistent or universal
  - Web Browsers
  - Local Area Network issues
  - DNS Stub Resolvers
  - Email

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.

Next Steps

The Board passed a resolution that requests staff to:

- Consult with the relevant communities regarding the implementation of SAC053 recommendations.

- Provide a briefing paper by 9/31/2012 detailing the technical, policy and legal issues that may arise as a result of implementing SAC053 recommendations, listing the options, if any, for mitigating such issues.

Next Steps, Continued

- The ICANN staff opened a Public Forum on 24 August 2012 to request community input on the SSAC's recommendations.

- The Comment Period closed on 23 September.

- The Reply Period closes on 05 November.

- The SSAC is reviewing the comments.

SAC056: SSAC Advisory on the Impacts of Content Blocking via the Domain Name System

Background

- In June 2011 the SSAC published a paper on DNS blocking in response to questions from the GAC: SAC051: DNS Blocking: Benefits Versus Harms – An Advisory from the Security and Stability Advisory Committee on Blocking of Top Level Domains at the Domain Name System (14 June 2011)

- In 2012 the SSAC formed a Work Party to develop a broader Advisory on the Impacts of DNS Blocking.

- In October 2012 the SSAC published SAC056: SSAC Advisory on the Impacts of Content Blocking via the Domain Name System

Executive Summary

- DNS Blocking is a topic of interest in numerous Internet governance venues.

- Several governments have implemented it or are considering it.

- It can be easily bypassed, is likely to be largely ineffective, and is fraught with unanticipated consequences in the near term.

- It can present conflicts with the adoption of DNSSEC and could promote the subdivision of the Internet into separate enclaves.

Executive Summary, Cont.

Focus of the Advisory: Exploration of technical impacts related to DNS blocking including domain blocking via:
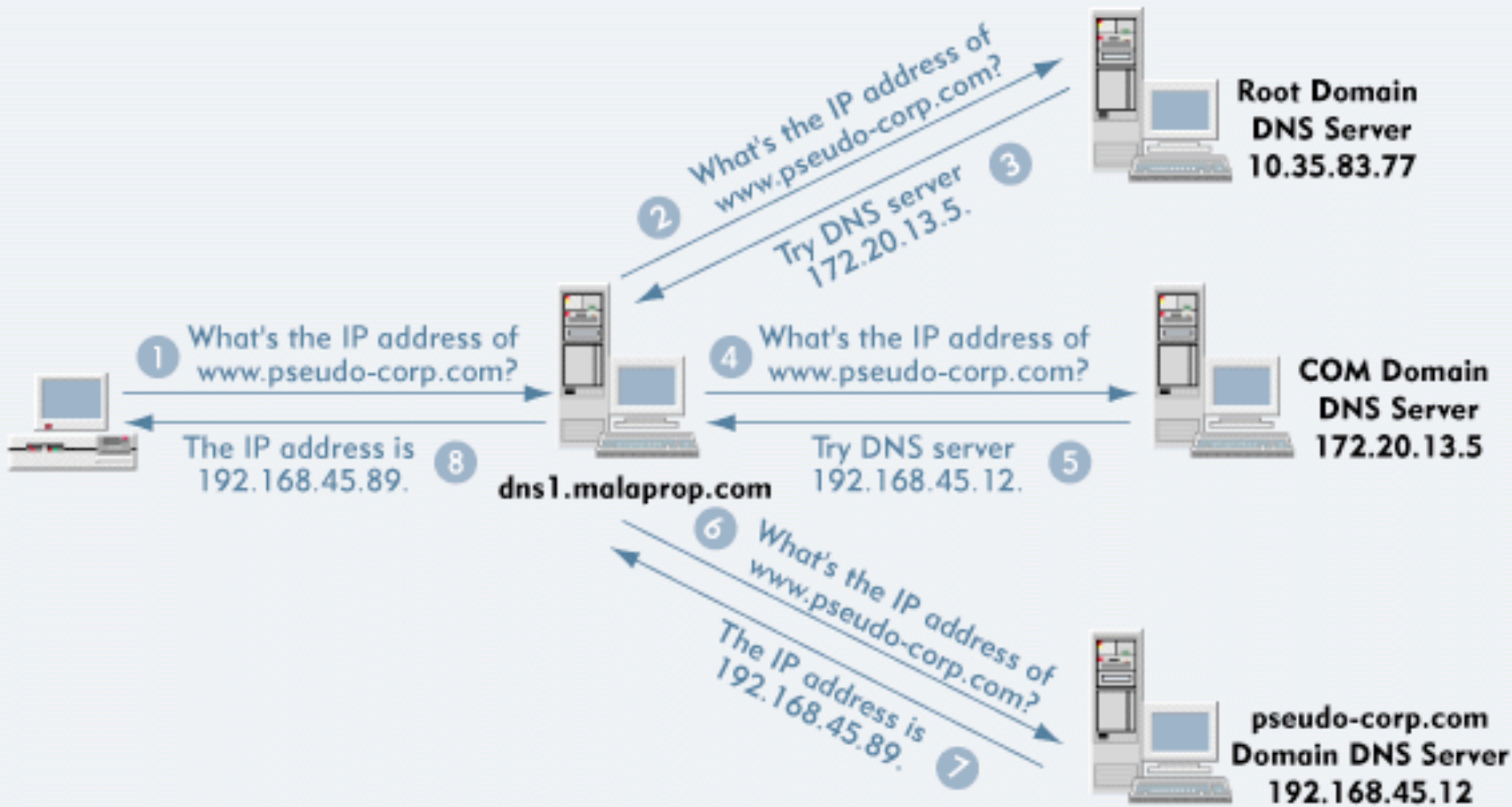
- A registry or registrar;

- An authoritative server;

- In a recursive resolver via redirection, non-existent domain name, a query refused response code, other response codes, or a query non-response.

Executive Summary, Cont.

Also, technical impacts related to

- DNS blocking in recursive resolvers and conflicts with DNSSEC;

- Conditioning end users toward more end-to-end encryption;

- Over-blocking;

- Typographical errors;

- Routing DNS traffic away from a nation that imposes blocking;

- Impacts of users switching resolvers; and

- Breaking Content Distribution Network (CDN) localization if users switch resolvers.

Illustration

Conclusions

- DNS Blocking carries a number of technical issues.

- Blocking at the DNS registry level (either directly or via a registrar) has
  - The fewest technical implications;
  - Can work with DNSSEC; but may
  - Run afoul of jurisdictional problems; or
  - Trigger long-term segmentation of the Internet name space.

Conclusions, Cont.

- Blocking at the resolver level is
  - Problematic in the face of DNSSEC; and
  - At worst could impede the deployment of DNSSEC.
- Governments and others should:
  - Take these issues into consideration; and
  - Fully understand the technical implications of developing policies and implementations using the DNS to block or otherwise filter Internet content.

SAC055: SSAC Comment on the WHOIS Policy Review Team Final Report

Background

- 11 May 2012: WHOIS Policy Review Team submits its Final Report and Recommendations to the ICANN Board.

- 23 June 2012: ICANN Board resolution encourages public input on the Final Report and requests that the ICANN Supporting Organizations and Advisory Committees provide input.

- 14 September 2012: SSAC publishes Comment on the WHOIS Review Team Report as its input to the Board.

SSAC Findings

- The foundational problem facing all "WHOIS" discussions is understanding the purpose of domain name registration data
  - Why is data collected?
  - What purpose will the data serve?
  - Who collects the data?
  - Where is the data stored?
  - Where is the data escrowed?
  - Who needs the data and why?
  - Who needs access to logs of access to the data and why?

SSAC Findings, Cont.

- SSAC believes that the formation of a properly authorized committee to drive solutions to these questions first, and derive a universal policy from those answers is the appropriate first step to address the WHOIS Review Team's report

SSAC Recommendations

ICANN Board Should:

- Clearly state that the development of a registration data policy asserting the purpose of domain name registration data is a critical priority; and

- Direct the CEO to create a registration data policy committee that includes the highest levels of executive engagement to develop the registration data policy that asserts the purpose of domain name registration data;

- Explicitly defer any other activity (within ICANN's remit) directed at finding a "solution" to "the WHOIS problem" until the registration data policy identified in (1) and (2) has been developed and accepted by the community.

Review Team Recommendation	SSAC Priority	SSAC Recommendation(s) on implementation options
1: Strategic Priority	High	CEO to create a domain name policy committee that includes the highest level of executive management.
2: Single WHOIS Policy	High	The Board to clearly states that the development of a single policy is a critical priority.
3: Outreach	Low	
4: Compliance	High	The Domain name Whois policy committee should develop clear targets for compliance with respects to registration data accuracy; performance provisions such as SLA must be considered as part of the compliance function.

Review Team Recommendation	SSAC Priority	SSAC Recommendation(s) on implementation options
5-9: Data Accuracy	Medium	An accuracy policy should define each data element and require that it be examined and indicate for each element a method for determining the accuracy of the data.
10: Data Access: Privacy & Proxy Services	Medium	No specific recommendation not already covered elsewhere.
11: Data Access: Common Interface	Low	

Review Team Recommendation	SSAC Priority	SSAC Recommendation(s) on implementation options
12-13: Internationalized Domain Names	Medium	Internationalization MUST be supported by default, not called out separately. The focus should be on Recommendation 2 from the IRD-WG final report:
14: Internationalized Domain Names	Low	Policies with respect to the accuracy of registration data should apply equally to all registration data without regard to whether it is internationalized or ASCII registration data.
15: Detailed and Comprehensive Plan	Low	
16: Annual Status Reports	Low	

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Questions and Discussion