Name Collision Occurrence Management Framework

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#ICANN50
Agenda

- Introduction & Background
- SSAC Comment Concerning JAS Phase One Report (SAC066)
- ICANN Proposal
- Questions & Answers
Introduction & Background
Name Collision Basics

Private network configured in such a way that could “leak” the request to the public Domain Name System, when using a name in a private network that does not exist in the public DNS.
Private network configured in such a way that could “leak” the request to the public Domain Name System, when using a name in a private network matching a name in the public DNS.

User tries to access a service on a private network when connected to the Internet outside of that network.
Background

7 October 2013: NGPC adopted the New gTLD Collision Occurrence Management plan

• Plan Overview
  o Defer delegating .home and .corp indefinitely
  o Commission a study to develop a Name Collision Occurrence Management Framework ("the Framework")
  o Each new gTLD registry to implement a Collision Occurrence Assessment based on the Framework
  o Provide Alternate Path to Delegation for eligible strings
  o Conduct Outreach Campaign
Development Process

- November 2013: ICANN engaged JAS Global Advisors to develop a report with recommendations
- JAS draft phase one report underwent public comment from 26 February to 21 April 2014
- SSAC Comment Concerning JAS phase one report (SAC066) published on 6 June 2014
- Final phase one version of the JAS report was published on 10 June 2014
- ICANN developed a proposal to be considered by the NGPC as the Framework
26 February: Version 1 of JAS phase one report published for public comment

10 June: Final version of JAS phase 1 report published

6 June: SSAC advice on JAS report published

20 - 22 June: Board reviews ICANN proposal for the Framework

Jan  Feb  Mar  Apr  May  Jun

2014
JAS Report on Namespace Collisions

• JAS concludes: “We do not find that the addition of new Top-Level Domains (TLDs) fundamentally or significantly increases or changes the risks associated with DNS namespace collisions.”
  o Risk in New TLD space concentrated in .home, .corp, and .mail
  o Controlled Interruption approach substantially mitigates risk in all other New TLDs
  o JAS’ assessments and recommendations in the Phase One report will not change in the Phase Two report
SAC066: SSAC Comment on JAS Phase I Report on Mitigating the Risk of DNS Namespace Collisions

Patrik Fältström
Chair of the Security and Stability Advisory Committee
Background

• “Namespace collision”: where a name that is defined and used in one namespace may also appear in another.

• Unexpected behavior may result where the intended use of the name is not the same in both namespaces.

• The SSAC provides feedback to JAS Advisors’ Phase I Mitigation Report

• Work started early April, ~8 weeks to reach consensus, report published in early June.
Background - Evaluations

• Calculation of “best” solutions
  • Same or different formula
  • Same or different result

• Principle Requirements from SSAC point of view:
  • Effective Communication
  • Measurability
  • Minimum Harm
Operational Recommendations

Summary

ICANN should:

• Expand the range of situations that would trigger an emergency response.

• Instead of a single controlled interruption period, introduce rolling interruption periods, broken by periods of normal operation.

• Perform an evaluation of potential notification approaches prior to implementing any notification approach.
Operational Recommendations Summary, Cont.

ICANN should:

• Implement a notification approach that accommodates IPv6-only hosts as well as IPv4-only or dual-stack hosts.

• Provide clarity to registries on the rules and the method of allocation of blocked names after the conclusion of the test period.
Strategic Recommendations
Summary

ICANN should:

• Consider not taking any actions solely based on the JAS Phase One Report.

• In due course publish information about not yet disclosed issues.

• Seek to provide stronger justification for extrapolating findings based on one kind of measurement or data gathering to other situations.
ICANN Staff Proposal
ICANN Proposal Development

• Proposal incorporates inputs from multiple parties:
  o JAS Global Advisors phase one report “Mitigating the Risk of DNS Namespace Collisions”
  o Public Comment on JAS phase one report
  o SSAC Comment Concerning JAS phase one report (SAC066)
• To be presented to the NGPC for consideration
• To serve as the Name Collision Occurrence Management Framework contemplated by the 7 October 2013 Plan
Registry Requirements
General Requirements

• Name collision report handling
  o Respond within 2 hours
  o Available for the life of the TLD

• Controlled Interruption for 90 days
  o Continuous interruption (i.e., not intermittent)
  o Use loopback address (127.0.53.53)
  o Add IPv6 option when available
SLD Controlled Interruption

• Default option for TLDs delegated before proposal adoption
• MX, SRV and A records for the SLDs in block list
• Release of names in SLD block list
  o Names can be allocated at any time (e.g., during Sunrise)
  o Names cannot be activated in the DNS until after controlled interruption
  o No requirement that names undergo Sunrise, only Claims
Wildcarded Controlled Interruption

- Mandatory for TLDs delegated *after* proposal adoption
- Option available to those delegated before proposal adoption, but only if TLD has no active names
- Apex and wildcard MX, SRV, TXT and A records
- No activation of names
- RDDS (e.g., whois.nic.<tld>) and other obligations remain while in controlled interruption
ICANN Responsibilities
ICANN Implementation

• Defer delegating .mail indefinitely (like .corp and .home) and work within the IETF to reserve those names

• Produce information materials on name collision
  o Make this information available on key web searches

• Work within IETF to identify IPv6 option

• Work with root server / TLD operators to measure and store data that can be used for name collision study and prevention in the future
ICANN Implementation (cont.)

• Limit emergency response regarding name collision where there is clear and present danger to human life

• Develop EBERO-like mechanism to cover registry unresponsiveness in regard to name collision reports

• Develop last-resort procedure to remove TLD causing harm (i.e., a dotless name)
Alignment of the ICANN Proposal with SAC066
More Similarities Than Differences

• ICANN proposal in alignment with majority of SSAC recommendations, including:
  o Evaluate potential notification approaches against SSAC requirements (at least) prior to implementing approach (rec 3)
  o Implement notification approach that accommodates IPv6-only hosts as well as IPv4-only or dual-stack hosts (rec 4)
  o Provide clarity to registries on rules and method of allocation of blocked names after conclusion of test period (rec 5)
  o Consider inputs beyond JAS phase one report before acting. If action will be taken, communicate this clearly to the community (rec 6)
More Similarities Than Differences (cont.)

• ICANN proposal in alignment with SSAC recommendations (cont.)
  o Publish information in due course about not yet disclosed issues (rec 7)
  o Provide stronger justification for extrapolating findings based on one kind of measurement or data gathering to another situation (rec 8)

• Exceptions
  o Expand emergency response beyond clear and present danger to human life (rec 1)
  o Utilize "rolling" controlled interruption (rec 2)
Clear and Present Danger to Human Life

• SSAC recommends expanding emergency response beyond clear and present danger to human life

• ICANN proposes to limit emergency response to situations that present clear and present danger to human life
  o Severity can be measured from multiple points of view; necessarily, there will be a decision between various impacted parties
  o Commercial interests could attempt to “game” a broader mechanism for competitive advantage
  o Concepts like “national security,” “law and order” and “key economic processes” not easily agreeable on a global basis
  o Focus on human life is the only non-debatable option
Controlled Interruption Period

- SSAC recommends a rolling controlled interruption
  - But acknowledges that every approach to controlled interruption involves balancing trade-offs and exercising judgment
- ICANN proposes continuous controlled interruption
  - Easier to diagnose and troubleshoot
  - Lower operational risk to implement
  - Mechanism already in place to find relief from name collisions
  - Better way to indicate the need for changes in an affected party’s network configuration
Next Step: NGPC to consider ICANN proposal
Questions & Answers

Read relevant reports & information:

• JAS Report on Namespace Collisions (final)

• SAC066

• Public Comment of draft JAS report
  o http://forum.icann.org/lists/comments-name-collision-26feb14/
Related Global Domains Division Sessions

Check schedule for times & locations: [http://london50.icann.org/schedule](http://london50.icann.org/schedule)

25 June 2014

- Thick Whois Consensus Policy Implementation Meeting
- IDN Variant TLDs Program
- Contractual Compliance Program Updates and Q&A
- TLD Acceptance
- Whiteboarding Session with IRTP - C IRT
- IDN Root Zone LGR Generation Panels Workshop
- ICANN’s Security, Stability & Resiliency Team Outreach Session
- New gTLD Registry Operator Engagement
- User Workshop for GDD Portal