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ICANN FIFTY
22-26 JUNE 2014

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23 June 2014

Name Collision Occurrence Management Framework

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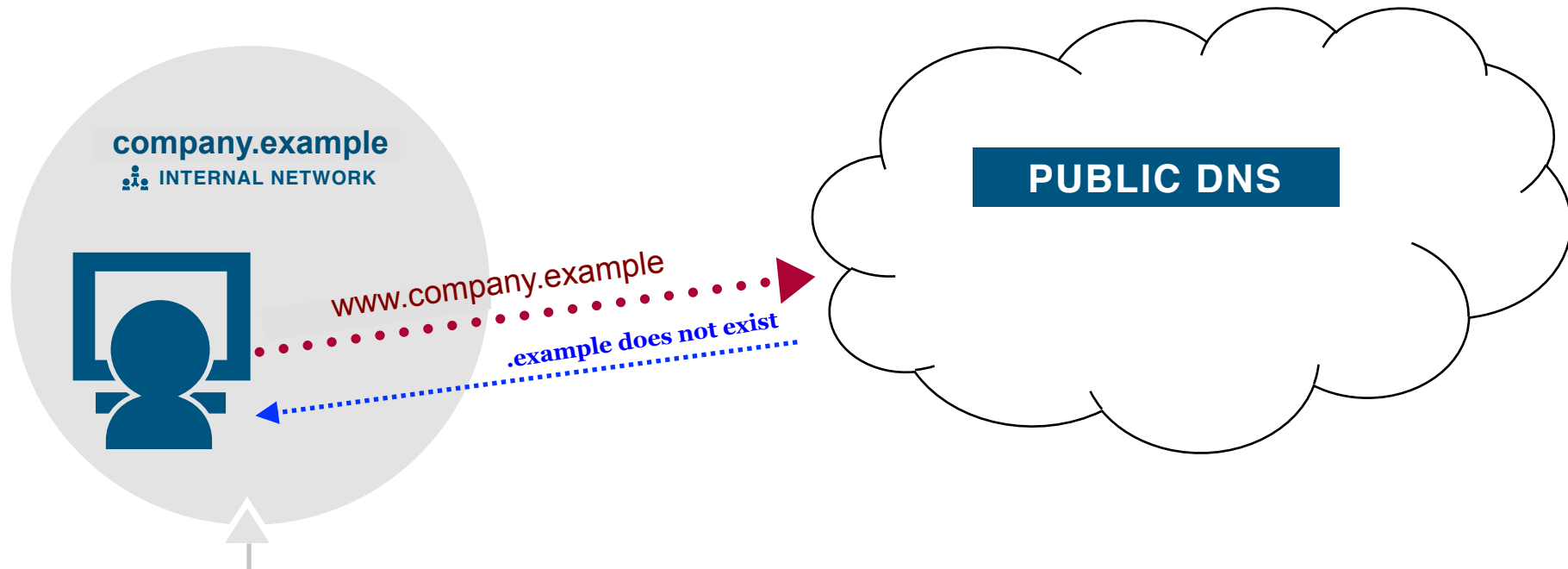Global Domains Division

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Agenda

- Introduction & Background

- SSAC Comment Concerning JAS Phase One Report (SAC066)

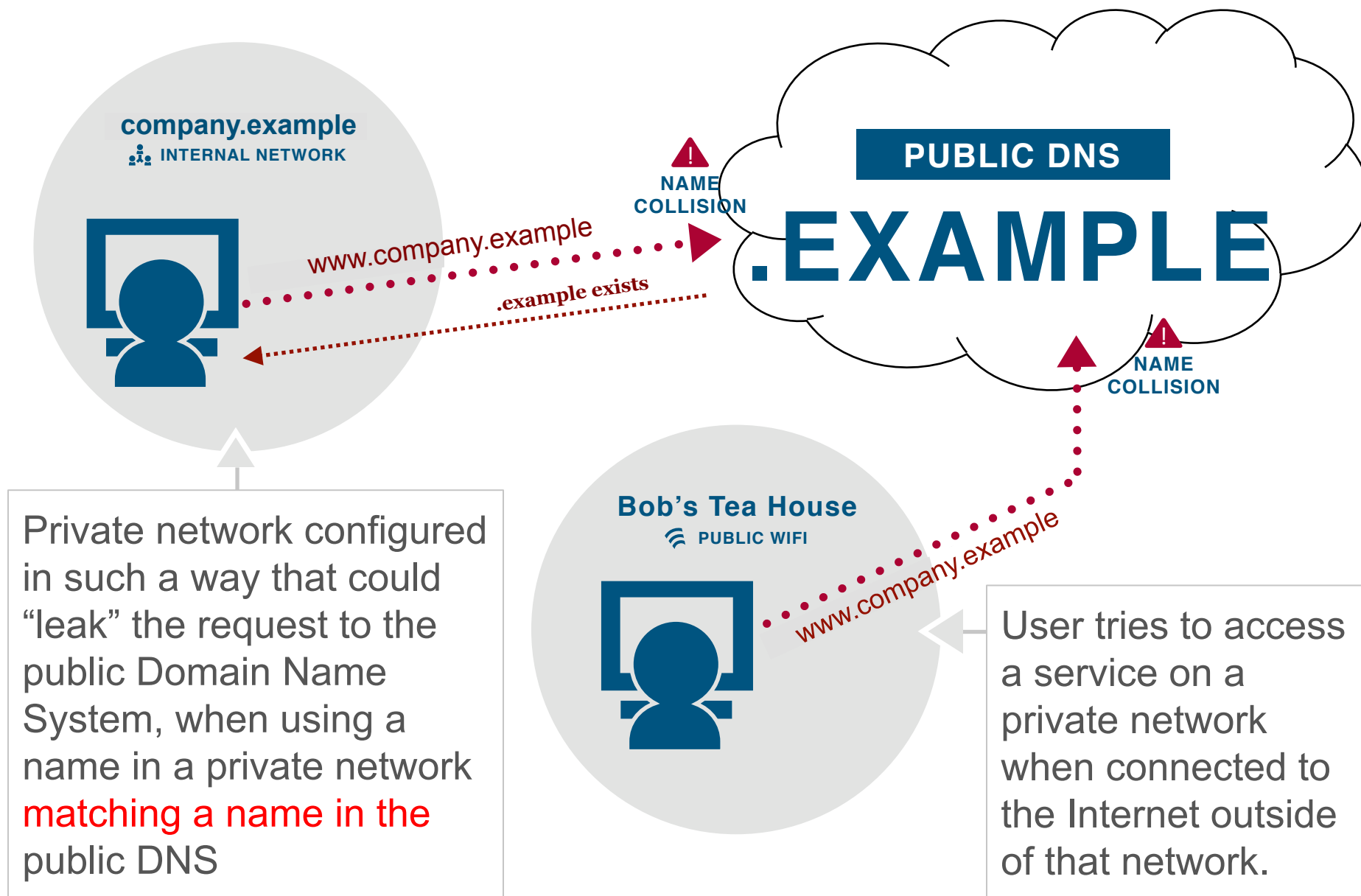- ICANN Proposal

- Questions & Answers

Introduction & Background

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Name Collision Basics

company.example
INTERNAL NETWORK

PUBLIC DNS

www.company.example

.example does not exist

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 exists in the public DNS**

Name Collision Basics

company.example
INTERNAL NETWORK

www.company.example

.example exists

! NAME COLLISION

PUBLIC DNS

.EXAMPLE

! NAME COLLISION

Bob's Tea House
PUBLIC WIFI

www.company.example

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
  - Defer delegating *.home* and *.corp* indefinitely
  - Commission a study to develop a Name Collision Occurrence Management Framework ("the Framework")
  - Each new gTLD registry to implement a Collision Occurrence Assessment based on the Framework
  - Provide Alternate Path to Delegation for eligible strings
  - 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

Important Dates

20 - 22 June: Board reviews ICANN proposal for 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

Jan   Feb   Mar   Apr   May   Jun

2014

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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*."

  - Risk in New TLD space concentrated in *.home*, *.corp*, and *.mail*

  - Controlled Interruption approach substantially mitigates risk in all other New TLDs

  - 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

ICANN

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:

  - JAS Global Advisors phase one report "Mitigating the Risk of DNS Namespace Collisions"

  - Public Comment on JAS phase one report

  - 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

  - Respond within 2 hours

  - Available for the life of the TLD

- Controlled Interruption for 90 days

  - Continuous interruption (i.e., not intermittent)

  - Use loopback address (127.0.53.53)

  - 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

  - Names can be allocated at any time (e.g., during Sunrise)

  - Names cannot be activated in the DNS until after controlled interruption

  - 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
  - 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:

  - Evaluate potential notification approaches against SSAC requirements (at least) prior to implementing approach (rec 3)

  - Implement notification approach that accommodates IPv6-only hosts as well as IPv4-only or dual-stack hosts (rec 4)

  - Provide clarity to registries on rules and method of allocation of blocked names after conclusion of test period (rec 5)

  - 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.)
  - Publish information in due course about not yet disclosed issues (rec 7)
  - Provide stronger justification for extrapolating findings based on one kind of measurement or data gathering to another situation (rec 8)

- Exceptions
  - Expand emergency response beyond clear and present danger to human life (rec 1)
  - 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

  - Severity can be measured from multiple points of view; necessarily, there will be a decision between various impacted parties

  - Commercial interests could attempt to "game" a broader mechanism for competitive advantage

  - Concepts like "national security," "law and order" and "key economic processes" not easily agreeable on a global basis

  - 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)
  - https://www.icann.org/en/system/files/files/name-collision-mitigation-study-06jun14-en.pdf

- SAC066
  - https://www.icann.org/en/system/files/files/sac-066-en.pdf

- Public Comment of draft JAS report
  - http://forum.icann.org/lists/comments-name-collision-26feb14/

Social Media

@ICANN   ICANNnews   ICANN

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Related Global Domains Division Sessions

Check schedule for times & locations: 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