

Name Collision Analysis Project Study 1: Understanding the Current State of Name Collisions

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Status of This Document: This is the input from the Name Collision Analysis Project Discussion Group (NCAP DG) to ICANN Office of CTO (OCTO) on the description of NCAP study one, to understand the current state of name collisions.

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Introduction

Name collision is not a new issue and much work has been done on it before. Past work is likely to have utility going forward for this project and so needs to be thoroughly examined and the pertinent issues brought forward. In addition, given the work that has already taken place, some people know much about this issue while others know little and so the output needs to include a means to bring the latter group up to speed quickly.

Study Goals

1. Examine all prior work on the issue of name collisions and produce a summary report that brings forward important knowledge from prior work into this study, and which can act as a primer for those new to the subject.
2. Create a list of datasets used in past studies, identify gaps, if any, and list additional data that would be required to successfully complete Studies 2 and 3.
3. Decide if the project should proceed based on the results of the survey of prior work and the availability of data.

Study Tasks

1. Finalise the definition of name collision, which is currently:
 - a. In scope and subject of data studies
 - i. User Alice uses .EXAMPLE in a private context and .EXAMPLE is now delegated in the public DNS. User Alice suffers adverse impact as a result.
 - ii. Registrant Alice uses EXAMPLE as a label anywhere except as a private use TLD, and relies on search list processing where the label EXAMPLE is the terminal label, as an intermediate step in that search list processing.
(e.g. User searches for dashboard.example.com by typing in dashboard.example)
.EXAMPLE is now registered in the public DNS and the search list processing behaviour of Alice now changes.
 - b. In scope but will be addressed with general advice and not subject of data studies
 - i. Registrant Alice uses EXAMPLE.COM (or EXAMPLE.TLD where TLD is any current TLD in the public DNS) and .EXAMPLE is now registered in the public DNS. Registrant Alice now receives multiple queries as a result of search list processing of users of domains under .EXAMPLE
 - ii. Registrant Alice uses .EXAMPLE as a TLD in the public DNS and then lets the registration expire. Registrant Bob then registers and delegates .EXAMPLE. Traffic intended for Alice's use of .EXAMPLE is now received by Bob's use of .EXAMPLE
 - iii. Registrant Alice uses EXAMPLE.COM and then lets the registration expire. Registrant Bob then registers and delegates EXAMPLE.COM. Traffic intended for Alice's use of EXAMPLE.COM is now received by Bob's use of EXAMPLE.COM
 - c. Out of scope
 - i. Registrant Alice uses .EXAMPLE as a TLD in the public DNS. Registrant Bob registers and delegates .EXAMPLE as a TLD in the public DNS. Alice now receives **bit flip** traffic intended for Bob and vice versa.
 - ii. General IDN confusion issues
2. Undertake a public consultation of the finalised definition of name collision developed in task 1 and revise if required.
3. Review and analyze past studies and work on name collision.
 - a. The prior work to be assessed should meet at least one of the criteria below:
 - i. Peer reviewed paper
 - ii. Report/Analysis based on data

- iii. Qualitative research on name collision experience
 - iv. Proposed or agreed technical standards
 - b. Specific prior work that meets the criteria above and should be included
 - i. JAS^{1,2} and Interisle³ reports on name collision
 - ii. Two data requests to ICANN
 - iii. The name collision section of the final published PDP report, if it is available in time⁴
 - iv. Technical presentations, including all those given at the Workshop on Root Causes and Mitigation of Name Collisions⁵
 - v. Any relevant correspondence to/with ICANN (contractor to read summary first)
 - vi. Analysis of the impact of SiteFinder that meets the criteria above
- 4. Produce a written report from the reviewed material that:
 - a. provides an explanation of the issue,
 - b. summarises the known (evidenced) harm of name collisions,
 - c. lists all the relevant previous work on the subject using the criteria in task 3,
 - d. documents any mitigations/actions taken so far, specifically including controlled interruption, and the technical impact of those mitigations only (no examination to be undertaken of the non-technical impacts such as resourcing or costs), and
 - e. includes any important points that should be brought forward for this project.

“Important points” include but are not limited to

 - i. questions about the data used,
 - ii. the methodology applied,
 - iii. any technical gaps that should be considered, and
 - iv. any competitive or opposing recommendations that may be identified.
- 5. Present the report as widely as possible to ensure strong community engagement.
- 6. Identify datasets used in past studies and determine if those datasets are still available and any constraints there may be regarding access.
- 7. Identify gaps in the datasets used by previous studies, resulting in a list of additional datasets or data providers that would be necessary to successfully complete Studies 2 and 3.
- 8. Assess the potential availability of these additional datasets.

¹ <https://www.icann.org/en/system/files/files/name-collision-mitigation-final-28oct15-en.pdf>

² <https://www.icann.org/en/system/files/files/name-collision-mitigation-study-06jun14-en.pdf>

³ <https://www.icann.org/en/system/files/files/name-collision-02aug13-en.pdf>

⁴ See <https://gnso.icann.org/en/group-activities/active/new-gtld-subsequent-procedures>

⁵ Proceedings of the Workshop available at <http://namecollisions.net/program/index.html>

9. Produce a report on the results of Study 1.
10. Undertake an informal public consultation on the results of Study 1.
11. Evaluate and recommend to the Board how to proceed with name collision research as a result of Study 1.

Study Deliverables

1. Definition of name collision in the DNS
2. Report on the informal public consultation on the definition of name collision
3. Report on past work on name collision in the DNS
4. Final report on Study 1, including:
 - a. A list of gaps in data and additional data sets required to continue with Studies 2 and 3
 - b. A determination, based on the results of Study 1, if completion of Studies 2 and 3 would be possible and would accomplish the Board's request, and, if so, a recommendation on how to proceed with name collision research
5. Report on the informal public consultation on the final report on Study 1

Roles and Responsibilities

1. SSAC provides high-level technical oversight and has final responsibility for the study.
2. OCTO has responsibility to ensure that project deliverables are completed and provides day-to-day technical and management oversight. OCTO anticipates that most study deliverables will be outsourced, with RFP processes to select and engage appropriate vendors.
3. Other ICANN staff will provide project management and secretariat support.

Duration of the Study

The estimated duration for the study is approximately six months, including public consultations.