At-Large Continuous Data-Driven Analysis of Root Server System Stability Draft Report Workspace

Public Comment Close	Statement Name	Status	Assignee (s)	Call for Comments Open	Call for Comments Close	Vote Open	Vote Close	Date of Submission	Staff Contact and Email	Statement Number
22 December 2016	Continuous Data-Driven Analysis of Root Server System Stability Draft Report	ADOPTED 12Y, 0N, 0A	Seun Ojedeji John Laprise	29 November 2016	14 December 2016	18 December 2016	21 December 2016	22 December 2016	Eleeza Agopian eleeza.agopian@icann.org	AL-ALAC-ST-1216-03-00-EN

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Brief Overview

Purpose: ICANN commissioned this study in response to a recommendation from the Governmental Advisory Committee to examine the impact of root zone scaling and affirm that the delegation of new gTLDs did not jeopardize the security or stability of the root DNS system. The ICANN Board of Directors adopted this recommendation and committed to defer delegation of new gTLDs in future rounds until it is determined that the Program did not have an adverse impact on the system.

Current Status: The CDAR consortium considered public comments submitted after it published its study methodology in December 2015 to produce this draft report. The report considers findings based on the measurements that were included in the study methodology and provides recommendations based on its conclusions.

Next Steps: The CDAR team will incorporate feedback from public comments as it produces a final report, scheduled for publication in April 2017.

Section I: Description, Explanation, and Purpose

ICANN commissioned the CDAR study, which was conducted by independent research organization TNO and its consortium partners, SIDN and NLnet Labs. The findings will help the ICANN community determine if additional steps are required to safeguard the root DNS system's security and stability.

The study includes several key findings and recommendations:

The study did not find any evidence that the delegation of new gTLDs degraded the security and stability of the root DNS system. In the current new gTLD program the rate of delegation has been kept at a gradual rate to ensure that mitigation actions can be taken in a timely manner in case signs of degradation are observed. The study's authors advise that the rate of new gTLDdelegations should remain gradual.

They also recommended continuous monitoring of a set of risk parameters, most importantly the volume of DNS queries across all root servers, and the increase in the amount of processing required of root name servers, which would reduce the amount of traffic the servers can handle.

Representatives from the CDAR research consortium will discuss the reported findings and solicit feedback during a session at ICANN57: https://icann572016.sched.org/event/8dQQ/root-stability-study-workshop

Section II: Background

The CDAR study is part of a series of [reviews](#) assessing whether the objectives of the New gTLDProgram are being met. The Governmental Advisory Committee (GAC), recommended to the ICANN Board of Directors a study to determine Goals include enhanced competition, consumer choice and consumer trust and increased rights protection protections. The reviews will also explore the effectiveness of the application and evaluation process.

Section III: Relevant Resources

- [Continuous Data-driven Analysis of Root Server System Stability Draft Report](#)
- [Revised ICANN Notes on: the GAC New gTLDs Scorecard, and GAC Comments to Board Response](#)
- [Continuous Data-driven Analysis of Root Server System Stability Study Plan Public Comments](#)

Section IV: Additional Information

Section V: Reports

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FINAL VERSION TO BE SUBMITTED IF RATIFIED

The final version to be submitted, if the draft is ratified, will be placed here by upon completion of the vote.

AL-ALAC-ST-1216-03-00-EN.pdf

FINAL DRAFT VERSION TO BE VOTED UPON BY THE ALAC

The final draft version to be voted upon by the ALAC will be placed here before the vote is to begin.

We concur with the report's recommendations including gradual delegation of new gTLDs, continuous monitoring of the impact of new gTLDs, and continuous monitoring of the identified risk parameters as well as its recommendations regarding areas of potential risk.

Additionally, special note should be taken of the report's warning about the impact on stability of removing new gTLDs from the root. This may be an area of future research.

Finally, the report notes that the report was unable to identify causes for a number of related phenomena such as the growth in the total number of queries that are sent to the root, specifically in the growth of the invalid queries which we believe should pose a concern. While acknowledging the complexity of the DNS root system, nevertheless these problems merit further research including but not limited to referral to SSAC and RSSAC as appropriate. We would recommend to explore possible provisioning of a dedicated space on the ICANN website that tracks the performance status /health of the root going forward.

FIRST DRAFT SUBMITTED

The first draft submitted will be placed here before the call for comments begins.

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