

Board Technical Committee (BTC) Activity Report – 1 January through 30 June 2021

Section I – Completed Activities

Item	Description	Committee Completion Date	Accomplishments/Outcome
<p>Name Collision Analysis Project (NCAP)</p>	<p>Oversee the execution of Study-1 of the Name Collision Analysis Project.</p>	<p>25 March 2021</p>	<p>During the period under review, the Board acknowledged the completion of Study 1 and approved the proceeding with Study 2 (Board Resolutions 2021.03.25.11-14).</p>
<p>Follow up on Action Request Register (ARR) Update</p>	<p>To continue to follow the implementation of relevant Action Requests pending completion.</p>	<p>25 March 2021</p>	<p>Work was done by ICANN Org to close the open ARR items from 7 SSAC documents (SAC045, SAC062, SAC063, SAC065, SAC070, SAC073, and SAC102). The Board has approved the completion of work in its resolutions: 2021.05.12.07, 2021.05.12.08, 2021.05.12.16, 2021.05.12.09, 2021.05.12.10.</p> <p>The Board has also approved the implementation of recommendations from RSSAC028 and RSSAC047 in its resolutions 2021.03.25.01 – 2021.03.25.03 and 2021.03.25.04 – 2021.03.25.06.</p>

Section II – Activities in Progress

Item	Description	Committee Completion Date	Accomplishments/Outcome
Name Collision Analysis Project (NCAP) – Study 2	Oversee the work on NCAP Study-2, and regularly update the Board on its evolution.	Q2 2022	The Board approved Study-1 (Resolutions (2021.03.25.11, 12, 13 and 14)) and the work on Study-2 has started. After completion of Study 2, the Committee will consider and make a recommendation about whether Study 3 is necessary.
Evolution of the Root Server System governance: RSAAC037/038 implementation plan	The BTC to oversee and act as the Board Caucus group for the implementation of RSSAC037/038.	TBC	The work of the RSS Governance Working Group created by the Board to finalize the implementation of RSSAC037 is underway.
Root Zone Management (RZM) Evolution Study	<p>To conduct an analysis of whether and how to revise the existing RZM through two studies:</p> <ul style="list-style-type: none"> - The first study would evaluate the process as it is today and provide possible recommendations on incremental changes that could be made to make the process more robust. - The second study would not be limited to making incremental changes to the current approach but would instead consider a potential new radical approach for making changes to the content of the root zone. 	Q1 2022	A contractor is selected and work on the first study is proceeding as planned.
DNS Security Facilitation Initiative (DSFI-TSG)	The BTC to recommend to the Board a plan to launch a DNS Security Facilitation Initiative.	TBC	A community technical working group is setup to further study and propose a plan for the facilitation function with input from the community. Work of the committee is in progress and their draft report is expected before the end of 2021.
ICANN Managed Root Server (IMRS) Strategy	The BTC to oversee the finalization of the IMRS strategy document and work with ORG to produce a detailed technical analysis of Hyperlocal to help the Committee and Board looking at the questions raised by the Root Server System Advisory Committee.	Q4 2021/Q1 2022	The project group is working on a revised version of the strategy document (OCTO-16) taking into account inputs from the community.

Section III: Appendix – Resolutions Recommended by the BTC and Passed by the Board

PROPOSED RESOLUTIONS :

[Resolution 2021.05.12.07] - [SAC045: SSAC Advisory on Invalid Top Level Domain Queries at the Root Level of the Domain Name System \(DNS\)](#)

Whereas, on 2 November 2010, the ICANN Board passed a Name Collision related [Resolution](#), requesting ICANN's Security and Stability Advisory Committee (SSAC) to develop a plan for Board approval setting out studies of the issue of name collision, with many elements detailed.

Whereas, on 15 November 2010 the SSAC Advisory, [SAC045: SSAC Advisory on "Invalid Top Level Domain Queries at the Root Level of the Domain Name System"](#) was received by ICANN org.

Whereas, on 10 December 2010, the ICANN Board passed [Resolution 2010.12.10.22](#), which directed ICANN org's Chief Executive Officer (CEO) to implement SAC045.

Whereas, on 2 November 2017, developments in the New Generic Top Level Domain (gTLD) Program caused the ICANN Board to request, through [resolutions 2017.11.02.29 and 2017.11.02.31](#), that SSAC develop a new plan for Board approval setting out studies of the issue of name collision.

Whereas, in January 2018, the [SSAC Name Collision Analysis Project \(NCAP\) Work Party \("NCAP WP"\)](#) was formed and prepared a plan calling for three studies.

Whereas, on 28 February 2018, SSAC published "[SSAC Proposal for the Name Collision Analysis Project](#)", which proposed three consecutive studies to address the Board's request.

Whereas, the Office of the Chief Technical Officer (OCTO) proposed minor changes to the proposal and, after discussion between SSAC and OCTO, an [updated version of the proposal](#) was published in February 2019.

Whereas, in June 2018, after input from the Board, the ICANN org CEO assigned OCTO to be responsible for completing the NCAP studies.

Whereas, in November 2019, during a meeting with representatives of OCTO and SSAC, the SSAC representatives agreed that the remaining actions called for by SAC045 are covered by the NCAP.

Resolved (2021.05.12.07), the Board finds that the actions called for in SAC045 can be considered resolved by the NCAP and that the remaining item related to SAC045 being tracked in the ICANN org Action Request Registry may therefore be completed.

[Resolution 2021.05.12.08] - SAC062: Advisory Concerning the Mitigation of Name Collision

Whereas, on 7 November 2013, the Security and Stability Advisory Committee (SSAC) published [SAC062: SSAC Advisory Concerning the Mitigation of Name Collision Risk](#).

Whereas, on 21 November 2013, the [ICANN Board accepted this advice](#) and directed ICANN org to implement SAC062 per ICANN org's recommendation.

Whereas, ICANN org attempted to shepherd the Special-Use Domain Name delegation issues through an IETF process for updating [RFC 6761](#), as well as related discussions within the [Domain Name System Operations \(DNSOP\) Working Group](#), and discussions ended without any related decisions due to a lack of interest from these groups and the wider Internet community.

Whereas, on 20 July 2014, the ICANN Board New gTLD Program Committee (NGCP) [adopted](#) the [Name Collision Occurrence Management Framework](#) which considered the questions, as instructed, from Recommendations 2 and 3.

Resolved (2021.05.12.08), the Board finds that ICANN org has implemented all of SAC062's Recommendations, and considers SAC062 to be completed.

[Resolution 2021.05.12.09] - SAC065: SSAC Advisory on DDoS Attacks Leveraging DNS Infrastructure

Whereas, on 18 February 2014, SSAC published [SAC065: Security and Stability Advisory Committee \(SSAC\) Advisory on DDoS Attacks Leveraging DNS Infrastructure](#).

Whereas, on 24 June 2017, the [ICANN Board accepted this advice](#) and directed ICANN org to implement SAC065 per ICANN org's recommendation.

Whereas, ICANN org supported community efforts with several projects so that on 12 February 2020, SSAC agreed ICANN org had fulfilled the recommendation to the extent feasible.

Resolved (2021.05.12.09), the Board finds that ICANN org acted upon SAC065's Recommendation 1. The Board considers SAC065 to be completed.

[Resolution 2021.05.12.10] - SAC070: Security and Stability Advisory Committee (SSAC) Advisory on the Use of Static TLD / Suffix Lists

Whereas, on 28 May 2015, SSAC published [SAC070](#): SSAC Advisory on the Use of Static TLD / Suffix Lists.

Whereas, on 1 June 2016 the ICANN org and SSAC agreed through a Statement of Understanding that Recommendations 1, 2, 4b, and 4c had no actions for the Board.

Whereas, on 24 June 2017, [in Resolution 2017.06.24.19](#), the [ICANN Board accepted this advice](#) and directed the ICANN org to implement per the ICANN org's recommendation.

Whereas, on 18 May 2020, ICANN org published "[The Public Suffix List: A Guide for TLD Administrators](#)" (OCTO-011) which completed Recommendation 3.

Whereas, on 8 August 2017, the Universal Acceptance Steering Group (UASG) considered the SSAC advice in its document [UASG007](#), and ICANN org notified SSAC of the completion of the actions called for in Recommendation 4a.

Whereas, on 1 December 2019, the IANA team started hosting an [authoritative PSL for all TLDs](#) in the root zone, completing Recommendation 5.

Whereas, on 8 August 2017, the UASG considered SAC070's Recommendation 6 advice in [UASG007](#), and ICANN org notified SSAC of Recommendation's 6 completion.

Resolved (2021.05.12.10), the Board finds that the actions called for by the recommendations from SAC070 advising action for ICANN org, specifically Recommendations 3, 4a, 5, and 6, have been completed by ICANN org.

[Resolution 2021.05.12.16] - SAC063, SAC073 and SAC102 regarding the DNSSEC Key Rollover in the Root Zone

Whereas, on 7 November 2013, the Security and Stability Advisory Committee (SSAC) published [SAC063: SSAC Advisory on DNSSEC Key Rollover in the Root Zone](#), regarding performing the first root zone key signing key (KSK) rollover.

Whereas, on 5 October 2015 the SSAC published [SAC073: SSAC Comments on Root Zone Key Signing Key Rollover Plan - Design Teams Draft Report](#).

Whereas, on 24 June 2017, the [ICANN Board accepted the advice](#) of SAC063 and SAC073 based on ICANN org's analysis and directed the org to implement per the [org's recommendation](#).

Whereas, on 13 May 2018, after the initial KSK Rollover was delayed, in [Resolution 2018.05.13.09](#), the ICANN Board asked SSAC for advice on how to continue forward.

Whereas, on 20 August 2018, SSAC published [SAC102: SSAC Comment on the Updated Plan for Continuing the Root KSK Rollover](#), advising ICANN org to continue with the rollover.

Whereas, on 16 September 2018, the [ICANN Board accepted this advice](#) and directed ICANN org to proceed with the KSK rollover as described in the "[Updated Plan for Continuing the Root KSK Rollover](#)".

Whereas on [11 October 2018](#), ICANN org successfully completed the first rollover of the root zone KSK.

Resolved (2021.05.12.16), the Board finds that ICANN org acted upon all Recommendations from SAC063, SAC073, and SAC102, as is evidenced by the successful first KSK Rollover. The Board considers SAC063, SAC073, and SAC102 to be completed.

[Resolution 2021.03.25.01-03] - RSSAC028: Technical Analysis of the Naming Scheme Used For Individual Root Servers

Whereas, on 3 August 2017, the Root Server Advisory Committee (RSSAC) published [RSSAC028: Advisory on Technical Analysis of the Naming Scheme Used For Individual Root Servers](#).

Whereas, the work called for in RSSAC028 falls under ICANN's remit in ensuring the stable and secure operation of the Internet's system of unique identifiers as part of ICANN's mission.

Whereas, ICANN org has evaluated the feasibility of the RSSAC's advice in RSSAC028 and developed implementation recommendations for each advice item.

Whereas, the Board has considered ICANN org implementation recommendations relating to RSSAC028's Recommendations.

Resolved (2021.03.25.01), the Board accepts Recommendation 1, calling for the current naming scheme used in the root server system to remain unchanged until more studies have been conducted.

Resolved (2021.03.25.02), the Board accepts Recommendation 2, relating to conducting a study to understand the current behavior of DNS resolvers and how each naming scheme discussed in this document would affect these behaviors, and directs the ICANN President and CEO, or designee(s), to commence such a study.

Resolved (2021.03.25.03), the Board accepts Recommendation 3, relating to conducting a study to understand the feasibility and impact of node re-delegation attacks, and directs the ICANN President and CEO, or designee(s), to commence such a study.

<https://www.icann.org/resources/board-material/resolutions-2021-03-25-en#1.a>

[Resolutions 2021.03.25.04-06] - RSSAC047: RSSAC Advisory on Metrics for the DNS Root Servers and the Root Server System

Whereas, RSSAC047, RSSAC Advisory on Metrics for the DNS Root Servers and the Root Server System, published on 12 March 2020, recommends a set of metrics for the Domain Name System (DNS) root servers as well as for the root server system (RSS) and recommends the development of systems to collect those metrics.

Whereas, ICANN org has developed a prototype measurement system to provide data to the RSSAC Caucus to allow an informed recommendation on the metric thresholds, and the RSSAC and the RSSAC Caucus agreed upon four types of metrics to most accurately measure the performance of the root server operators (RSOs).

Whereas, the recommendations in RSSAC047 fall under ICANN org's remit to ensure the stable and secure operation of the Internet's unique identifier systems; and implementing the recommendations would further preserve and enhance the operational stability, reliability, security, and global interoperability of the Internet and ensure that new gTLDs are introduced in a secure and stable manner.

Resolved (2021.03.25.04), the Board accepts Recommendation 1, which calls for implementing a prototype measurement system for RSOs, and thanks ICANN org for already developing such a system to assist with defining the metrics outlined in RSSAC047.

Resolved (2021.03.25.05), the Board accepts Recommendation 2 to implement a more permanent measurement system after establishing and using the prototype measurement system from Recommendation 1, and directs the ICANN President and CEO, or designee(s), to implement such a system.

Resolved (2021.03.25.06), the Board directs the President and CEO, or his designee(s), to implement and operate the measurement system described in Recommendation 2.

<https://www.icann.org/resources/board-material/resolutions-2021-03-25-en#1.b>

[Resolutions 2021.03.25.11-14] - Accepting Name Collision Analysis Project (NCAP) Study 1 and Proceeding with Study 2

Whereas, in 2017 the Board passed resolutions 2017.11.02.29 - 2017.11.02.31 asking a series of questions about name collisions.

Whereas, the ICANN Security and Stability Advisory Committee (SSAC) responded with a proposal for three studies intended to address the Board's questions.

Whereas, SSAC and the Office of the Chief Technology Officer (OCTO) within ICANN org worked together to produce a mutually agreed revised proposal for NCAP Study 1.

Whereas, in April 2019 the Board directed ICANN org to proceed with NCAP Study 1 and authorized the associated expenditures for that purpose.

Whereas, ICANN org engaged Scarfone Cybersecurity, an independent contractor, to research and write NCAP Study 1.

Whereas, on 30 June 2020, ICANN org sent the final version of NCAP Study 1 to the Board Technical Committee (BTC) after two public comment periods on the draft and final versions of the report.

Whereas, NCAP Study 1 recommended that NCAP Studies 2 and 3 not proceed as currently designed.

Whereas, the NCAP Discussion Group (DG) revised the design of NCAP Study 2 to take into account the issues raised by NCAP Study 1.

Whereas, on 5 February 2021, the NCAP DG leadership presented the revised design of NCAP Study 2 to the BTC for approval.

Resolved (2021.03.25.11), the Board reiterates its thanks to the SSAC for its work in responding to the November 2017 resolution and developing an initial proposal for the NCAP and subsequent revisions to that proposal.

Resolved (2021.03.25.12), the Board thanks the NCAP DG for its contributions to NCAP Study 1.

Resolved (2021.03.25.13), the Board affirms the continued relevance of the nine questions related to name collisions presented in Board resolutions 2017.11.02.29 - 2017.11.02.31, especially questions (7) and (8) concerning criteria for identifying collision strings and determining if collision strings are safe to be delegated.

Resolved (2021.03.25.14), the Board directs the NCAP DG to proceed with Study 2 as redesigned, and directs the President and CEO, or his designee(s), to participate in Study 2 in the manner indicated in the redesigned proposal.

<https://www.icann.org/resources/board-material/resolutions-2021-03-25-en#2.b>