



**Independent Review of the
ICANN Root Server System Advisory
Committee (RSSAC)**

Final Report
Executive Summary*

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*The original English version is the authoritative document.



Executive Summary

Independent Organizational Review

This report presents the findings and recommendations of an independent organizational review of the ICANN Root Server System Advisory Committee (RSSAC), which was undertaken in accordance with the ICANN Bylaws¹ in order to determine

- (i) whether [the RSSAC] has a continuing purpose in the ICANN structure;
- (ii) if so, whether any change in structure or operations is desirable to improve its effectiveness; and
- (iii) whether [the RSSAC] is accountable to its constituencies, stakeholder groups, organizations, and other stakeholders.

In fulfilling this mandate, the Independent Examiner has made every effort to focus its recommendations on what the RSSAC should reconsider or do differently within its remit or how the RSSAC might alter its charter or operating procedures to meet new expectations from the ICANN community.²

The Root Server System Advisory Committee

The RSSAC is an ICANN Advisory Committee, created “to advise the ICANN community and Board on matters relating to the operation, administration, security, and integrity of the Internet’s Root Server System (RSS)”.³ Its voting members are defined by its operational procedures⁴ to be representatives of the Root Server Operators (RSOs)—the independent organizations that maintain and operate the worldwide server infrastructure that resolves names at the root of the Domain Name

¹ ICANN Bylaws, Article 4, Section 4.4

(<https://www.icann.org/resources/pages/governance/bylaws-en/#article4.4>)

² RSSAC032, “Feedback on the Independent Review of the Root Server System Advisory Committee (RSSAC) Assessment Report for Public Consultation,” 28 March 2018

(<https://www.icann.org/en/system/files/files/rssac-032-28mar18-en.pdf>)

³ ICANN Bylaws, Article 12, Section 12.2(c)

(<https://www.icann.org/resources/pages/governance/bylaws-en/#article12>)

⁴ <https://www.icann.org/en/system/files/files/rssac-000-op-procedures-23oct17-en.pdf>

System (DNS). It is important to recognize, however, that the RSSAC is not an “association” of the RSOs.⁵

Assessment and Recommendations

The results of our review of the RSSAC are presented in two parts:

- (i) our **findings** concerning the context, role and purpose, structure, operation, and outcomes of the RSSAC, which represent the raw data collected from all sources subjected to a formal qualitative analysis, were initially published in the *Assessment Report for Public Consultation*,⁶ and are presented in **Error! Reference source not found.**of this report; and
- (ii) our **recommendations** for changes to the structure or operation of the RSSAC, which follow from the findings augmented by public consultation, were initially published in the *Draft Final Report for Public Comment*,⁷ and are presented in **Error! Reference source not found.**of this report.

It is important to emphasize that our methodology for this review does not require perfect representation across the ICANN community from either those interviewed or those surveyed. We have not, for example, drawn conclusions based simply on the frequency with which we heard a particular opinion during our interviews or through the survey instrument. Similarly, our use of direct quotations is intended to illustrate findings that are based on multiple sources, not to give undue weight or significance to the opinion of one individual.

Principal Findings

The principal findings of our review represent a high-level summary of our assessment focused on the three areas of **purpose**, **effectiveness**, and **accountability** identified in the Bylaws mandate for organizational reviews. All of the findings presented in this report are supported by the evidence compiled from extensive personal interviews, a public on-line survey, and the documentary record.

⁵ See RSSAC033, “RSSAC Statement on the Distinction Between RSSAC and Root-Ops” (<https://www.icann.org/en/system/files/files/rssac-033-24apr18-en.pdf>), for a detailed explanation of this distinction.

⁶ <https://www.icann.org/en/system/files/files/rssac-review-assessment-report-22feb18-en.pdf>

⁷ <https://www.icann.org/en/system/files/files/independent-review-rssac-report-draft-final-26apr18-en.pdf>

- 1** The ongoing RSSAC reformation that began in 2013—revised RSSAC charter, new operating procedures, and creation of the RSSAC Caucus—has substantially improved the structure and operation of the RSSAC.

Implementing changes recommended by the prior review has significantly improved the effectiveness of the RSSAC. The addition of staff support and travel funding has increased RSSAC and Caucus work quality and meeting participation.

- 2** The RSSAC has become more open, transparent, and accessible since the last review, but this has not been widely recognized by outside observers.

The RSSAC's focus on technical root server issues and deliberate non-participation in other ICANN activities have concentrated its impact on a small technical audience of DNS experts. It is still widely perceived to be closed and secretive, and less transparent than other ICANN ACs and SOs.

- 3** As the only visible interface between ICANN and the RSOs, the RSSAC is expected to deal with every root service issue that arises within ICANN, whether or not the issue is properly within its scope.

The RSSAC's scope is limited to providing information and advice about the root server system, but because it is the only visible point of contact between ICANN and the RSOs many in the ICANN community imagine that its role is (or should be) much broader. The RSSAC is expected to deal with every root service issue that arises within ICANN, whether or not the issue is properly within its scope, simply because it appears to be the only available interface between ICANN and the root server operators.

- 4** The RSSAC's ability to serve as a shared space for RSO-ICANN communication and cooperation is complicated by a persistent legacy of distrust of ICANN by some of its members.

The RSSAC is paradoxically both a statutory part of ICANN and a group with some members who persistently distrust ICANN, pushing back forcefully on its real or perceived infringement on their exclusive responsibility for all matters concerning root system operations. The tension between the RSSAC and some of its member organizations has the potential to interfere with the clarity and authority of RSSAC advice.

- 5** The current RSSAC membership model excludes non-RSO participants and their different skills and perspectives.

The RSSAC membership model excludes both serving-side root service participants (*e.g.*, non-RSO anycast instance providers and public DNS resolvers) and provisioning-side interested parties (*e.g.*, TLD registries and the ccNSO). It also denies the RSSAC the benefit of skills and perspectives beyond those that can be provided by the root server operators.

- 6** The RSSAC's continuing purpose in the ICANN structure may include serving as the focal point for issues of mutual concern to ICANN and the RSOs, such as future operational and funding scenarios for serving the root.

The RSSAC is developing advice and recommendations concerning the future evolution of the root server system and how it might be supported, but this work is being conducted entirely by RSO representatives who will be directly affected by it. Many people outside of the RSSAC either don't know that it's working on root service evolution and other strategic policy issues or believe that its focus is misdirected.

- 7** Because RSSAC members do not agree on who its stakeholders should be, it is not clear for what and to whom it should be accountable.

Although its charter does not explicitly identify its stakeholders, its statement of RSSAC's role implies that they are the ICANN Board and community. Its members, however, do not agree on what this means in practice. The RSSAC has occasionally found it difficult to reach agreement on issues such as service level agreements and reporting for the root server system in the absence of a consensus accountability framework for itself and its members. A major stumbling block has been disagreement about ICANN's role in such a framework.

- 8** The relative roles and responsibilities of the RSSAC, the RSSAC Caucus, the RZERC, and the SSAC are unclear to both members and non-members.

In many cases even members of one of these groups could not distinguish its responsibilities from those of the others.

Principal Recommendations

The principal recommendations of our review focus on the three dimensions of **purpose, effectiveness, and accountability** described in the Bylaws mandate for organizational reviews. They follow directly from our findings.

- 1** Modify the RSSAC membership criteria to allow the RSSAC to recruit a variety of skills, perspectives, and interests that include but are not limited to those available from the root server operator organizations.

The statutory “RSO representatives only” membership criterion handicaps the RSSAC in at least the following ways:

- it encourages the (erroneous but widespread) perception that the RSSAC is an “association” of RSOs;
- it excludes viewpoints and expertise that might contribute to the fulfillment of the RSSAC’s mission but are not readily available from the RSO organizations;
- it excludes stakeholders with direct involvement in serving the root, including non-RSO anycast instance providers and public DNS resolvers;
- it excludes stakeholders with provisioning-side interest in the way in which the root is served, including TLD registries and the ccNSO; and
- it obliges every RSO to participate regardless of its willingness or ability to do so.

As long as its membership is defined to be representatives and alternates from the RSOs the RSSAC will be perceived by many to be an advisory committee of the root server operators, not the root server system, and its advice will be interpreted—erroneously—as advice from the RSOs.

- 2** Resolve the apparent mismatch between the charter and operational procedures of the RSSAC and the requirements and expectations of the ICANN Board and Community for interaction with the root server system.⁸

⁸ We note that the publication of RSSAC037, “A Proposed Governance Model for the DNS Root Server System” (<https://www.icann.org/resources/files/1216341-2018-06-15-en>), is a clear and welcome first step in the direction suggested by this Recommendation.

The RSSAC is the only group within ICANN that connects it to the system of root servers that implements the “serving” side of the DNS root registry.⁹ As such, it is the default target for every root service issue that arises within ICANN—whether or not the issue is properly within its scope—simply because it appears to be the only available interface between ICANN and the root server operators.

To the extent that ICANN either is or is widely held to be responsible for the reliable and secure operation of the root, it requires a relationship with the serving side of the root registry that extends beyond the “exchange of information” limits of the RSSAC charter. The nature of that relationship is primarily an RSO/Board issue, not an RSSAC issue, and therefore out of scope for the present review. But the apparent mismatch between what ICANN needs from an interface to the root server system and what the RSSAC is currently chartered to provide suggests that either the RSSAC scope should be expanded or the attention and expectations of the Board and Community should be explicitly redirected away from the RSSAC to some other group.

3 Formalize the responsibilities of the RSSAC to the ICANN Board and Community in a work plan that is periodically reviewed and published, and hold the RSSAC accountable for work plan deliverables.

Because the root server system is poorly understood by most outsiders, the Board and Community generally do not know what advice to expect or solicit from the RSSAC. The exercise of constructing and periodically revisiting a formal work plan would align the understanding and expectations of both the Board and the RSSAC, and enable the Board to hold the RSSAC accountable for specific deliverables rather than general undefined advice. It would also help to dispel the erroneous impression that the RSSAC is an “association” of the RSOs, in which the distinction between RSSAC accountability and RSO accountability is too often lost.

4 Develop and implement a leadership training and succession plan.

The membership criteria for the RSSAC do not actively select for leadership skills, but as the evolution of the RSSAC since its reformation in 2014 demonstrates, leadership matters. We found that the leadership changes that followed the 2013-14 RSSAC restructuring substantially improved the management and operation of the committee.

⁹ See Figure 2 in Section II.2.1.3 of this report.

To secure these improvements, the RSSAC should deliberately plan for succession in its leadership roles.

5 Engage more actively with the rest of ICANN and its Community.

The RSSAC could fulfill its charter mandate to “[c]ommunicate on matters relating to the operation of the Root Servers and their multiple instances with the Internet technical community and the ICANN community”¹⁰ more effectively if it engaged more visibly with other ICANN Advisory Committees, Supporting Organizations, review teams, and task forces. Doing so would also help to dispel the community perception that the RSSAC is a closed and secretive group, which we found to be persistent despite the RSSAC’s objectively considerable progress toward greater openness and transparency.

6 Clarify the role and responsibility of the RSSAC with respect to other groups with adjacent or overlapping remits, including the SSAC, the RZERC, and the RSSAC Caucus.

Although their charter and operating procedure documents attempt to define the roles and responsibilities of these groups clearly, our research found both *de facto* and *de jure* confusion and ambiguity that affect the RSSAC’s ability to effectively fulfill its role. Only the RSSAC and RSSAC Caucus charters and operating procedures are within the scope of the RSSAC, but clarity in these documents with respect to roles and responsibilities would be easier to achieve in collaboration with the SSAC and the RZERC.

¹⁰ ICANN Bylaws Article 12 Section 12.2(c)(i)(A)
(<https://www.icann.org/resources/pages/governance/bylaws-en#article12>).