

SAC134

SSAC Comments on the Initial Report on gTLD Integrations with Alternative Naming Systems

A Comment from the ICANN Security and Stability Advisory Committee (SSAC)
19 September 2026

Preface

This is a public comment to the ICANN organization from the ICANN Security and Stability Advisory Committee (SSAC) in response to a call for comments for the initial report of the Technical Study Group (TSG) on gTLD Integrations with Alternative Naming Systems.

The SSAC focuses on matters relating to the security and integrity of the Internet's naming and address allocation systems. This includes operational matters (e.g., pertaining to the correct and reliable operation of the root zone publication system), technical administration matters (e.g., pertaining to address allocation and Internet number assignment), and registration matters (e.g., pertaining to registry and registrar services). SSAC engages in ongoing threat assessment and risk analysis of the Internet naming and address allocation services to assess where the principal threats to stability and security lie, and advises the ICANN community accordingly. The SSAC has no authority to regulate, enforce, or adjudicate. Those functions belong to other parties, and the advice offered here should be evaluated on its merits. SSAC members participate as individuals, not as representatives of their employers or other organizations. SSAC consensus on a document occurs when the listed authors agree on the content and recommendations with no final objections from the remainder of the SSAC, with the exception of any withdrawals included at the end of the document.

1 Introduction

The ICANN Security and Stability Advisory Committee (SSAC) thanks the ICANN organization (org) for the opportunity to comment on the initial report of the Technical Study Group (TSG) on gTLD Integrations with Alternative Naming Systems.¹ The SSAC appreciates the considerable work put forth by the members of the TSG during the meetings and deliberations during the compressed period of time leading up to the publication of the Draft.² The SSAC understands and respects the various challenges faced by the members of the TSG in addressing the stated problem. The subject matter is both complex and subtle, and the implications of the final Report are expected to have significant impact over the coming years across the ICANN Community. The SSAC is encouraged by the overall tone and tenor of the Draft and looks forward to the final Report having largely the same style.

In parallel with the TSG's effort, the SSAC has related work in progress within its Responsible Integration into the DNS Ecosystem (RIDE) work party (WP). While the TSG was convened to inform ICANN org's evaluation of a proposed registry service under the Registry Services Evaluation Policy (RSEP), the SSAC's work is considering integration practices more generally across a wider range of participants and does not seek to prescribe the criteria for that evaluation.

Broadly, the SSAC supports the conclusions of the Draft. The SSAC's support assumes that integration does not introduce dependencies that impair the availability, integrity, or normal operational duties of the global DNS. Failure or degradation of an alternative naming system should not adversely impact continued operations of the corresponding global DNS. The SSAC also is not commenting on any policy or remit issues that may arise for ICANN as a result of the integration of an alternative naming system into the global DNS. The remainder of this comment will articulate particular points of support, along with suggestions for improvement.

2 Comments of Support

The SSAC concurs with the "Same Party" aspects of the "string+controller model" described in §4.4 of the Draft. During the activities within the WP, the group noted various challenges related to defining "same party" (at times termed "same entity"). Notably, some blockchain-based alternative naming systems may consider anonymity as a "feature," which runs counter to accountability models that are foundational to the ICANN registration model.

The SSAC found the use of the "DNS-name" and "alt-name" terminology introduced in §3 of the Draft to be a helpful clarifier for avoiding ambiguity in this document. While this might seem

¹ "Initial Report of the TSG on gTLD Integrations with Alternative Naming Systems," ICANN Public Comment, <https://www.icann.org/en/public-comment/proceeding/initial-report-of-the-tsg-on-gtld-integrations-with-alternative-naming-systems-10-08-2026>

² "Report of the Technical Study Group: gTLD Integrations with Alternative Naming Systems," <https://itp.cdn.icann.org/en/files/generic-top-level-domains-gtlds/tsg-gtld-integrations-with-alternative-naming-systems-initial-report-10-08-2026-en.pdf>

trivial, the nomenclature is likely to provide long-term benefits, especially when this document is quoted out of context.

The SSAC concurs with the points made at various spots in the Draft related to the overarching principle of name status synchronization between the DNS-name and the alt-name(s).

Specifically, that this principle is described within these sections of the Draft:

- §6.1: The requirement that the “registry wishing to provide integration of different naming systems MUST ensure that there is one, eventually-consistent source of truth,” noted as the Unified Source of Truth (USoT) in the Draft.
- §8.5: The expectation that “if a service is deactivated for external reasons (e.g. abuse, court order) in one naming system, the registry MUST disable the name, on the prudential principle that a danger to the Internet from a given name in one naming system is a danger in all naming systems (particularly if the naming systems are integrated).”
- §8.6: The expectation that “suspensions MUST apply to all naming systems simultaneously.”

3 Suggestions for Improvement

The SSAC appreciates that the TSG was tasked with this important yet imposing task within a brief period of time. What follows in this section are intended as collaborative optimizations for the TSG to consider when preparing its final Report.

- §3.1: The SSAC concurs with the point made in the Draft related to maintaining name status synchronization between a DNS-name and its corresponding alt-name(s). The Report would benefit from additional clarifying text to help understand the distinction between “name disabled” and “name deactivated,” especially as these terms relate to mechanisms described in §8.4 and §8.5. It should also be noted that, while there is a definition for an “activated” name to contrast a “deactivated” name, there is not a definition for an “enabled” name (the opposite of “disabled” name).
- §4.6: The SSAC concurs with the general approach described in §4.6 on Establishing Registry Control of Alternative Systems. The SSAC suggests that the Report be expanded with text that describes the need for ongoing measurements and demonstrates that such controls remain in place.
- §6.1 - 6.2: The SSAC suggests that the final Report more clearly address the consequences of allowing operation of the DNS registry to depend upon consensus or availability in an alternative naming system. In particular, failure, delay, partition, or loss of consensus in an alternative naming system should not prevent the registry from continuing to handle otherwise-valid DNS registration, renewal, update, transfer, resolution, or other existing registry operations.

- §7.1: There is no counterpart in the alternative naming system of the “critical registry functions” currently defined. The report concludes that integration cannot survive the Emergency Back-End Registry Operator (EBERO) mechanism. Considerations to ensure stability and predictability for registrants in both the DNS and the alternative namespace upon registry failure should remain an important area to seek a solution.
- §9.3: The SSAC notes that the Draft acknowledges it is "not immediately obvious how policies like Uniform Rapid Suspension might work or how the Uniform Dispute Resolution Policy can operate" when registrants rely solely on an alt-name with no standard registrant contact data. Given that URS and UDRP are core security and consumer-protection mechanisms within the ICANN framework, the SSAC suggests the final Report require any registry operator seeking alt-naming-system-primary integration to demonstrate a functioning equivalent to these mechanisms as a condition of RSEP approval, rather than leaving this as an open question.
- §10: The SSAC concurs with the general list of security issues identified in §10. The SSAC would like the TSG to consider that the technical community is in the early stages of developing and operating such technical integrations as are being contemplated in the Report. The TSG should consider suggesting a mechanism for establishing a post-launch review of the security and stability considerations related to such integrations. Such a review would allow for revisions to operational practices which would benefit from the experience of the launch and operation of the integration.

There is no requirement for designers of alternative naming systems to coordinate with other naming system designers. Therefore, name collisions between different naming systems are inevitable. Ambiguity in Internet name resolution³ is likely to give unexpected results and therefore undermines trust in the integrity of services on the Internet. Because few controls exist in the alternative name space to guarantee the uniqueness of a string, alt-names unpaired with DNS-names creates a new area for significant consumer confusion, exploitation, and abuse.

- §10.1: The SSAC concurs with the general conclusions of §10.1. Based on SSAC’s present understanding, alt-names are rejected by Public Suffix List (PSL) policy. Also based on the SSAC’s present understanding, the PSL will include the IANA list of TLDs, with certain exceptions. If the TSG is contemplating that there is a prohibition on lower-level (deeper subdomain) valid space within the PRIVATE section of the PSL, such a prohibition or process doesn't currently exist and would need definition. Members of the SSAC would be happy to engage with the TSG on this topic.
- §10.2: The SSAC concurs with the general set of concerns identified in the Draft related to the complexities of integration in the context of Internationalized Domain Names

³ “SAC123: SSAC Report on the Evolution of Internet Name Resolution,”
<https://itp.cdn.icann.org/en/files/security-and-stability-advisory-committee-ssac-reports/sac-123-15-12-2023-en.pdf>

(IDNs). In particular, the SSAC notes that the Draft includes the statement that variant generation or Label Generation Rule (LGR) processing “MUST occur prior to integration of the naming systems.”

In this context, as of this writing, Extensible Provisioning Protocol (EPP) does not, by default, support anything other than singular object provisioning for variants. The Internet Engineering Task Force (IETF) is working on an extension to allow for set (multiple object) provisioning that will, presumably, also work for Latin diacritics, which would be helpful in multiple-namespace scenarios.⁴ Consequently, registry operators are currently left to determine how to manage these concerns, as it is not presently clear how provisioning of alternate namespaces into the Shared Registration System (SRS) database would be handled. Incorporating the foregoing into a clarification could enhance the Report.

4 Acknowledgments, Disclosures of Interest, and Withdrawals

In the interest of transparency, these sections provide the reader with information about aspects of the SSAC process. The Acknowledgements section lists the SSAC members, outside experts, and ICANN staff who co-authored or contributed directly to this particular document or who provided reviews. The Disclosures of Interest section points to the biographies of all SSAC members, which disclose any interests that might represent a conflict—real, apparent, or potential—with a member's participation in the preparation of this comment. The Withdrawals section identifies individuals who have recused themselves from the discussion of the topic with which this comment is concerned. Except for members listed in the Withdrawals section, this document has the consensus approval of all of the members of SSAC.

4.1 Acknowledgments

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⁴ “Same Entity Set Support for EPP,” IETF Internet Draft, <https://datatracker.ietf.org/doc/draft-ietf-regext-epp-same-entity/>

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4.2 Disclosures of Interest

SSAC member biographical information and Disclosures of Interest at the time of publication are available at: <https://www.icann.org/en/ssac/members/archive/13-07-2026>.

4.3 Withdrawals

There were no withdrawals.