22 May 2017

Subject: SAC094: SSAC Response to the Request for Advice Relating to the 2012 New gTLD Round

To: Avri Doria and Jeff Neuman, Working Group Co-Chairs
Policy Development Process (PDP) Working Group on New gTLD Subsequent Procedures

On 22 March 2017, the Internet Corporation for Assigned Names and Numbers (ICANN) opened a public comment forum to obtain input on the Community Comment 2 (CC2) questionnaire developed by the GNSO's Policy Development Process Working Group that is evaluating what changes or additions need to be made to existing new gTLD policy recommendations.[1]

The SSAC thanks the Working Group for this opportunity to provide input. Per its Charter,[2] the Security and Stability Advisory Committee (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), administrative matters (e.g., pertaining to address allocation and Internet number assignment), and registration matters (e.g., pertaining to registry and registrar services). The SSAC engages in 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.

Several SSAC reports and advisories consider topics or issues related to new TLDs. You can review a list of our publications as an indexed list and also by category.[3] In addition, please see the attached table in which the SSAC has identified publications and excerpted text that may address topic areas and/or questions in the CC2 questionnaire. The Board Advice Status also is indicated with links to the Board Advice Table. The SSAC is looking forward to reviewing Working Group documents as the work progresses and also is prepared to answer specific questions as needed for the Working Group's deliberations.

[1] See https://www.icann.org/public-comments/cc2-new-gtld-subsequent-procedures-2017-03-22-en.
[2] See https://www.icann.org/groups/ssac/charter.
[3] See https://www.icann.org/groups/ssac/documents and https://www.icann.org/groups/ssac/documents-by-category.

In particular, due to the short deadline for responses in the public forum, the SSAC was unable to develop new advice that may pertain to topic areas or questions in the CC2 questionnaire. If further advice is forthcoming that may be relevant the SSAC will point the Working Group to applicable SSAC publications.

Patrik Fältström
SSAC Chair

Attachments:
Attachment 1: Selected SSAC Advice
Attachment 2: Community Comment 2 Letter

2.2 Reserved Names	
2.2.3 – Special Use Domain Names: Do you think Special Use Domain Names should be added to the Applicant Guidebook section on reserved names at the top level to prevent applicants applying for such labels?	
SSAC Publication	**Applicable Text**
See SAC045: Invalid Top Level Domain Queries at the Root Level of the Domain Name System (15 November 2010 with corrections) at: https://www.icann.org/en/groups/ssac/documents/sac-045-en.pdf **Board Advice Status: CLOSED** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation (2):** The SSAC recommends that ICANN consider the following in the context of the new gTLD program. • Prohibit the delegation of certain TLD strings. RFC 2606, "Reserved Top Level Domain Names," currently prohibits a list of strings, including test, example, invalid, and localhost.[4] ICANN should coordinate with the community to identify a more complete set of principles than the amount of traffic observed at the root as invalid queries as the basis for prohibiting the delegation of additional strings to those already identified in RFC 2606. • Alert the applicant during the string evaluation process about the pre-existence of invalid TLD queries to the applicant's string. ICANN should coordinate with the community to identify a threshold of traffic observed at the root as the basis for such notification. • Define circumstances where a previously delegated string may be re-used, or prohibit the practice.
See SAC062: SSAC Advisory Concerning the Mitigation of Name Collision Risk (07 November 2013) at: https://www.icann.org/en/groups/ssac/documents/sac-062-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1**: ICANN should work with the wider Internet community, including at least the IAB and the IETF, to identify (1) what strings are appropriate to reserve for private namespace use and (2) what type of private namespace use is appropriate (*i.e.*, at the TLD level only or at any additional lower level).

[4] See RFC 2606, "Reserved Top Level Domain Names," <http://www.faqs.org/rfcs/rfc2606.html>.

SSAC Publication	Applicable Text
See SAC090: SSAC Advisory on the Stability of the Domain Namespace (22 December 2016) at: https://www.icann.org/en/system/files/files/sac-090-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1:** The SSAC recommends that the ICANN Board of Directors take appropriate steps to establish definitive and unambiguous criteria for determining whether or not a syntactically valid domain name label could be a top-level domain name in the global DNS. **Recommendation 2:** The SSAC recommends that the scope of the work presented in Recommendation 1 include at least the following issues and questions: 1) In the Applicant Guidebook for the most recent round of new generic Top Level Domain (gTLD) applications,[5] ICANN cited or created several lists of strings that could not be applied-for new gTLD names, such as the "reserved names" listed in Section 2.2.1.2.1, the "ineligible strings" listed in Section 2.2.1.2.3, the two-character ISO 3166 codes proscribed by reference in Section 2.2.1.3.2 Part III, and the geographic names proscribed by reference in Section 2.2.1.4. More recently, the IETF has placed a small number of potential gTLD strings into a Special-Use Domain Names Registry.[6] As described in RFC 6761[7], a string that is placed into this registry is expected to be processed in a defined "special" way that is different from the normal process of DNS resolution. Should ICANN formalize in policy the status of the names on these lists? If so: i) How should ICANN respond to changes that other parties may make to lists that are recognized by ICANN but are outside the scope of ICANN's direct influence? ii) How should ICANN respond to a change in a recognized list that occurs during a round of new gTLD applications? 2) The IETF is an example of a group outside of ICANN that maintains a list of "special use" names.[8] What should ICANN's response be to groups outside of ICANN that assert standing for their list of special names? 3) Some names that are not on any formal list are regularly presented to the global DNS for resolution as TLDs. These so-called "private use" names are independently selected by individuals and organizations that intend for them to be resolved only within a defined private context. As such they are harmlessly discarded by the global DNS—until they collide with a delegated use of the same name as a new ICANN-recognized gTLD. Should ICANN formalize in policy the status of "private use" names? If so: i) How should ICANN deal with private use names such as .corp, .home, and .mail that already are known to collide on a large scale with formal applications for the same names as new ICANN-recognized gTLDs?

[5] See https://newgtlds.icann.org/en/applicants/agb/guidebook-full-04jun12-en.pdf.
[6] See https://www.iana.org/assignments/special-use-domain-names/special-use-domain-names.xhtml.
[7] See RFC 6761, "Special-Use Domain Names" at: https://datatracker.ietf.org/doc/rfc6761.
[8] See https://www.iana.org/assignments/special-use-domain-names/special-use-domain- names.xhtml.

	ii) How should ICANN discover and respond to future collisions between private use names and proposed new ICANN-recognized gTLDs? **Recommendation 3:** Pursuant to its finding that lack of adequate coordination among the activities of different groups contributes to domain namespace instability, the SSAC recommends that the ICANN Board of Directors establish effective means of collaboration on these issues with relevant groups outside of ICANN, including the IETF. **Recommendation 4:** The SSAC recommends that ICANN complete this work before making any decision to add new TLD names to the global DNS.

3.4 String Similarity	
3.4.2 Should the approach for string similarity in gTLDs be harmonized with the way in which they are handled in ccTLDs (ccNSO IDN ccTLD Fast Track Process is described here: https://www.icann.org/resources/pages/fast-track-2012-02-25-en**)?**	
SSAC Publication	**Applicable Text**
See SAC060: SSAC Comment on Examining the User Experience Implications of Active Variant TLDs Report (23 July 2013) at: https://www.icann.org/en/groups/ssac/documents/sac-060-en.pdf **Board Advice Status: CLOSED: 1,5,6,7,10,11,12,13,14; OPEN - IN IMPLEMENTATION 2,3,4,8,9** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1:** The root zone must use one and only one set of Label Generation Rules (LGR). **Recommendation 2:** ICANN must maintain a secure, stable and objective process to resolve cases where some members of the community (e.g., an applicant for a TLD) do not agree with the result of the LGR calculations. **Recommendation 3:** ICANN should concentrate foremost on the rules for the root zone. **Recommendation 4:** ICANN should coordinate and encourage adoption of these rules at the second and higher levels as a starting point by: • Updating the IDN Implementation Guidelines and recognizing that a modified version of these rules or a review or appeals process must be required to address special cases for the first and second levels; • Maintaining and publishing a central repository of rules for second level domains (2LD) for all Top Level Domains (TLDs), encouraging TLD operators to publish their LGRs publicly in the repository maintained by ICANN; and • Conducting specific training and outreach sessions in cooperation with generic TLD (gTLD) and country code TLD (ccTLD) operators who intend to launch Internationalized Domain Name (IDN) 2LDs or IDN TLDs, with a focus on consistency of user experience. The outreach should include among others registrants, end users and application developers. **Recommendation 5:** Be very conservative on code points allowed in the root zone. **Recommendation 6:** Because the implications of removing delegations from the root zone can have significant non-local impact, new rules added to LGR must, as far as possible, be backward compatible so that new versions of the LGR do not produce incompatible results with historical (existent) activations. **Recommendation 7:** Should ICANN decide to implement safeguards, it should seek to distinguish two types of failure modes when a user expects a variant to work, but it is not implemented: denial of service versus misconnection. **Recommendation 8:** A process should be developed to activate variants from allocable variants in LGR.

	Recommendation 9: ICANN must ensure Emergency Back-End Registry Operator (EBERO) providers support variant TLDs, and that parity exists for variant support in all relevant systems and functions associated with new TLD components. **Recommendation 10:** In the current design of rights protection related to the Trademark Clearinghouse (TMCH) process there is a risk of homographic attacks. The roles of the involved parties, specifically registrars, registries and TMCH, related to matching must be made clear. **Recommendation 11:** When registries calculate variant sets for use in validation during registrations, such calculations must be done against all the implemented LGRs covering that script in which the label is applied for. **Recommendation 12:** The matching algorithm for TMCH must be improved. **Recommendation 13:** The TMCH must add support for IDN variant TLDs. Particularly during the TM Claims service a name registered under a TLD that has allocated variant TLDs should trigger trademark holder notifications for the registration of the name in all its allocated variant TLDs. **Recommendation 14:** ICANN should ensure that the number of strings that are activated is conservative.
SSAC Publication	**Applicable Text**
See SAC084: SSAC Comments on Guidelines for the Extended Process Similarity Review Panel for the IDN ccTLD Fast Track Process (31 August 2016) at: https://www.icann.org/en/system/files/files/sac-084-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-	**Introduction:** The Security and Stability Advisory Committee (SSAC) provides this brief comment on the "Proposed Guidelines for the Extended Process Similarity Review Panel (EPSRP) for the Internationalized Domain Name (IDN) country code Top Level Domain (ccTLD) Fast Track Process"[9] and the related "Draft observations and recommendations of the country code Names Supporting Organization (ccNSO) Working Group on the EPSRP review."[10] The SSAC is aware of multiple issues with Internet Corporation for Assigned Names and Numbers (ICANN's) current collection of plans for handling IDNs in the Domain Name System (DNS) tree close to the root and will address them separately. This comment focuses specifically on the EPSRP, and some very basic issues that have been exposed in a review of these proposed guidelines. The primary goal appears to be swift approval of whatever string is proposed by an applicant, rather than conservative evaluation of the security and stability consequences to the global DNS root and its users—not just

[9] See Revised Guidelines for the Extended Process Similarity Review Panel (EPSRP) for the IDN ccTLD Fast Track Process, 23 June 2016. <https://ccnso.icann.org/workinggroups/proposed-epsrp-guidelines-23jun16-en.pdf>.
[10] See ccNSO Working Group on the EPSRP review – Draft observation and recommendations, 23 June 2016. <https://community.icann.org/download/attachments/56989606/ccNSO Working Group-observations-CONSOLIDATED-23062016.pdf>.

en.pdf and https://features.icann.org/board-advice	the applicant's national or linguistic community—of approving the string as a top-level domain name label. The SSAC finds this to be diametrically opposed to ICANN's mission[11] to "facilitate the openness, interoperability, resilience, security and stability of the DNS." Design Principles: Request for Comment (RFC) 6912,[12] "Principles for Unicode Code Point Inclusion in Labels in the DNS," describes "...a set of principles that can be used to guide the decision of whether a Unicode code point may be wisely included in the repertoire of permissible code points in a U-label in a zone." The SSAC believes that some of these principles, as restated below, also apply to decisions concerning the inclusion of IDN labels in the root zone: ● ***Conservatism Principle:*** Because the root zone of the global DNS is a shared resource, the decision to add a label to the root should be governed by a conservative bias in favor of minimizing the risk to users (regardless of the language or script they are using and whether the label will be a gTLD or a ccTLD) and minimizing the potential for the need to make decisions that later must be changed or overridden in painful or incompatible ways. In order to minimize risk, doubts should always be resolved in favor of rejecting a label for inclusion rather than in favor of including it. ● ***Inclusion Principle:*** A TLD label should be added to the root zone only if it is known to be "safe" in terms of usability and confusability. This is particularly important for labels whose form as normally presented to a user[13] contains non-ASCII characters because the number and kinds of possibilities for usability and confusability problems is much greater. ● ***Stability Principle:*** The list of permitted labels in the root zone should change at a rate that does not negatively impact the stability of the root of the DNS, and usually only in the direction of permitting an addition as time and experience indicate that inclusion of such a TLD label is both safe and consistent with these principles. These principles have been reflected in ICANN IDN guidelines that have been in place for more than a decade,[14] in past SSAC advisories on IDNs,[15] in input documents to ICANN's Root Zone Label Generation Rules (LGRs),[16]

[11] See BYLAWS FOR INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS, 27 May 2016. <https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf>.
[12] See RFC 6912: Principles for Unicode Code Point Inclusion in Labels in the DNS, <https://tools.ietf.org/html/rfc6912>.
[13] In IDNA (RFC 3490) terminology, the canonical user-presentation form of a label is known as a "U-label."
[14] See Guidelines for the Implementation of Internationalized Domain Names, Version 3.0, <https://www.icann.org/resources/pages/idn-guidelines-2011-09-02-en>.
[15] See SAC060: SSAC Comment on Examining the User Experience Implications of Active Variant TLDs Report, <https://www.icann.org/en/system/files/files/sac-060-en.pdf>.

	and as overall principles for the IDN ccNSO Policy Development Process.[17] The conservatism principle was also a cornerstone to the IDN ccTLD Fast Track Process.[18] Adherence to these principles is critical for the continued interoperability and stability of the DNS root zone and deviation would increase the risk of root zone instability. **Findings:** The SSAC finds that the observation document's focus on detailed timelines and a series of process driven steps to make judgements on the confusability of a string is not feasible. Tight deadlines and turnaround times for various steps of the process disregard the complexities involved in the evaluation of labels in scripts that may require extensive study and analysis prior to any conclusions being reached. The primary goal appears to be swift approval of whatever string is proposed by an applicant, rather than conservative evaluation of the security and stability consequences to the global DNS root and its users—not just the applicant's national or linguistic community—of approving the string as a top-level domain name label. The SSAC finds this to be diametrically opposed to ICANN's mission[19] to "facilitate the openness, interoperability, resilience, security and stability of the DNS." **Recommendation:** The SSAC recommends that the ICANN Board *not* accept the proposed guidelines for the EPSRP, as those guidelines represent a threat to the security and stability of the DNS. The Board should request a review of the EPSRP to determine why its proposed guidelines do not respect the principles of conservativism, inclusion, and stability.

[16] Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels, <https://www.icann.org/en/system/files/files/draft-lgr-procedure-20mar13-en.pdf>.
[17] Final Report IDN ccNSO Policy Development Process, 29 March 2013. Principle 3: Preserve security, stability and interoperability of the DNS. To the extent different, additional rules are implemented for IDN ccTLDs these rules should: Preserve and ensure the security and stability of the DNS; Ensure adherence with the RFC 5890, RFC 5891, RFC 5892, RFC 5893 and ICANN IDN guidelines. Take into account and be guided by the Principles for Unicode Code Point Inclusion in Labels in the DNS Root. <https://ccnso.icann.org/workinggroups/idn-ccpdp-final-29mar13-en.pdf>.
[18] Module 3 of Final Implementation Plan for IDN ccTLD Fast Track Process, <https://www.icann.org/en/system/files/files/idn-cctld-implementation-plan-05nov13-en.pdf>.
[19] BYLAWS FOR INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS, 27 May 2016. <https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf>.

SSAC Publication	Applicable Text
See SAC089: SSAC Response to ccNSO Comments on SAC084 (12 December 2016) at: https://www.icann.org/en/system/files/files/sac-089-en.pdf **Board Advice Status: OPEN – PENDING CLOSURE** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	Dear Katrina, The SSAC would like to thank the ccNSO again for its feedback on SAC084. Please see below for the SSAC's detailed response to your comments. Per its Charter,1 the Security and Stability Advisory Committee (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), administrative matters (e.g., pertaining to address allocation and Internet number assignment), and registration matters (e.g., pertaining to registry and registrar services). The SSAC engages in 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. While the SSAC responses focus on the substantive content issues raised by the ccNSO, the SSAC acknowledges that the some of the criticisms in the ccNSO Comment on SAC084 related to two matters of process: first that SAC084 was sent straight to the Board and this was perceived as "bypassing" the Community; and second that SSAC does not have formal "representatives" on working groups such as this. With regard to the first, the SSAC's practice has always been that any formal SSAC document is made available to the ICANN Board prior to its public release. This is the case irrespective of whether the recommendations are directed to the ICANN Board or not. This practice was not intended to display any disrespect to the ccNSO in this instance. With regard to the second, the small size of the SSAC precludes its formal participation in many of the ICANN Community working groups, although SSAC members may choose to participate in their individual capacity. Any formal views of the SSAC are expressed in formal documents after achieving consensus within the SSAC. _____ 1 See SSAC Charter, <https://www.icann.org/groups/ssac/charter>. We welcome further dialog if questions and issues remain. Patrik Fältström Chair, ICANN Security and Stability Advisory Committee (SSAC) on behalf of the SSAC

4.1 Internationalized Domain Names	
4.1.1 Do you agree or disagree with allowing 1-char IDN TLDs, in specific combinations of scripts and languages where a single character can mean a whole idea or a whole word (ideograms or ideographs)?	
SSAC Publication	**Applicable Text**
See SAC052: SSAC Advisory on Single-Character Internationalized Domain Name Top-Level Domains (31 January 2012) at: https://www.icann.org/en/groups/ssac/documents/sac-052-en.pdf **Board Advice Status: CLOSED** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1: Given the potential for user confusion and the currently unfinished work on string similarity and IDN variants, SSAC recommends a very conservative approach to the delegation of single-character IDN top-level domains.** In particular, until ICANN completes its work on user confusion/string similarity and IDN variants, SSAC recommends: 1. Delegation of all single-character IDN TLDs in all scripts should be disallowed by default. 2. Exceptions may be made for some scripts, but only after careful consideration of potential confusability both within and across scripts. Such consideration should invite comments from the technical and linguistic community, and from ICANN's advisory committees. 3. Single-character TLD applications in an exceptionally allowed script should be accepted only when there is clear evidence that there is no risk of user confusion. Each applied-for single-character TLD label must be explicitly examined across scripts to ensure that there is absolutely no possibility of user confusion within or across scripts. 4. ICANN should consult with the technical and linguistic community to determine which scripts, if any, should be restricted with respect to the delegation of single-character TLDs, and how any such restrictions should be defined, and how such restrictions may be relaxed if appropriate. 5. ICANN should take into consideration the outcome of the IETF work on the creation of a concise specification of the TLD label syntax based on existing syntax documentation, extended minimally to accommodate IDNs.[20] 6. ICANN should consider adopting the following guidelines regarding its consideration of which scripts and code points could be accepted as exceptions: a) The code point must be PVALID according to IDNA2008. b) The code point is from one of the following Unicode categories: lower case letter (Ll), upper case letter (Lu), and other letter (Lo) as defined by the Unicode Standard[21] c) Some single-character IDN TLDs are composed of multiple Unicode code points, which may include non Lx-class codepoints. These should be subjected to a more stringent technical and confusability analysis, whose criteria should be well defined and made public.

[20] See L. J. Liman and Joe Abley, "Top Level Domain Name Specification", IETF Work in Progress (draft-liman-tld-names-06), (2011), <http://tools.ietf.org/html/draft-liman-tld-names>.
[21] See The Unicode Consortium, "The Unicode Standard, Version 6.0", (Mountain View, CA: The Unicode Consortium, 2011. ISBN 978-1-936213-01-6): <http://www.unicode.org/versions/Unicode6.0.0/>.

	d) The script in which an exception is made and a single character IDN is allowed should not have characters that are intrinsically confusable with characters of another script (for example, Latin/Greek/Cyrillic, Lao/Thai, etc.). e) The existing and extended rules of confusability must be met. Single-character code points must explicitly be examined across scripts. Denial of a single-character TLD application does not imply blocking of the script; similarly, acceptance of a single-character TLD application does not imply acceptance of the script. f) If a script is allowed, a distinct and explicit specification of which subset of the script is available for single-character TLDs should be required prior to the acceptance of a single-character TLD application. By default all characters are disallowed, even when a script is allowed, and an explicit single-character-TLD-allowed list must be generated for each case. **Recommendation 2: Because important relevant work on string similarity, IDN variant issues, and TLD label syntax is currently underway within ICANN, the IETF, and other bodies, ICANN should review the Findings of this report, and any policies that it adopts in response to Recommendation 1, no later than one year after the three work items mentioned above have been completed.**

4.1.4 - Should the process of allowing 1-char IDN TLDs and IDN Variant TLDs be coordinated and/or harmonized with ccTLDs? If so, to what extent?	
SSAC Publication	**Applicable Text**
See SAC060: SSAC Comment on Examining the User Experience Implications of Active Variant TLDs Report (23 July 2013) at: https://www.icann.org/en/groups/ssac/documents/sac-060-en.pdf **Board Advice Status: CLOSED 1,5,6,7,10,11,12,13,14; OPEN - IN IMPLEMENTATION 2,3,4,8,9** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1:** The root zone must use one and only one set of Label Generation Rules (LGR). **Recommendation 2:** ICANN must maintain a secure, stable and objective process to resolve cases where some members of the community (e.g., an applicant for a TLD) do not agree with the result of the LGR calculations. **Recommendation 3:** ICANN should concentrate foremost on the rules for the root zone. **Recommendation 4:** ICANN should coordinate and encourage adoption of these rules at the second and higher levels as a starting point by: • Updating the IDN Implementation Guidelines and recognizing that a modified version of these rules or a review or appeals process must be required to address special cases for the first and second levels; • Maintaining and publishing a central repository of rules for second level domains (2LD) for all Top Level Domains (TLDs), encouraging TLD operators to publish their LGRs publicly in the repository maintained by ICANN; and • Conducting specific training and outreach sessions in cooperation with generic TLD (gTLD) and country code TLD (ccTLD) operators who intend to launch Internationalized Domain Name (IDN) 2LDs or IDN TLDs, with a focus on consistency of user experience. The outreach should include among others registrants, end users and application developers. **Recommendation 5:** Be very conservative on code points allowed in the root zone. **Recommendation 6:** Because the implications of removing delegations from the root zone can have significant non-local impact, new rules added to LGR must, as far as possible, be backward compatible so that new versions of the LGR do not produce incompatible results with historical (existent) activations. **Recommendation 7:** Should ICANN decide to implement safeguards, it should seek to distinguish two types of failure modes when a user expects a variant to work, but it is not implemented: denial of service versus misconnection. **Recommendation 8:** A process should be developed to activate variants from allocable variants in LGR. **Recommendation 9:** ICANN must ensure Emergency Back-End Registry Operator (EBERO) providers support variant TLDs, and that parity exists for variant support in all relevant systems and functions associated with new TLD components. **Recommendation 10:** In the current design of rights protection related to the Trademark Clearinghouse (TMCH) process there is a risk of homographic attacks. The roles of the involved parties, specifically registrars, registries and TMCH, related to matching must be made clear. **Recommendation 11:** When registries calculate variant sets for use in validation during registrations, such calculations must be done against all the implemented LGRs covering that script in which the label is applied for. **Recommendation 12:** The matching algorithm for TMCH must be improved. **Recommendation 13:** The TMCH must add support for IDN variant TLDs. Particularly during the TM Claims service a name registered under a TLD that has allocated variant TLDs should trigger trademark holder

	notifications for the registration of the name in all its allocated variant TLDs. **Recommendation 14:** ICANN should ensure that the number of strings that are activated is conservative.
SSAC Publication	**Applicable Text**
See SAC084: SSAC Comments on Guidelines for the Extended Process Similarity Review Panel for the IDN ccTLD Fast Track Process (31 August 2016) at: https://www.icann.org/en/system/files/files/sac-084-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Introduction:** The Security and Stability Advisory Committee (SSAC) provides this brief comment on the "Proposed Guidelines for the Extended Process Similarity Review Panel (EPSRP) for the Internationalized Domain Name (IDN) country code Top Level Domain (ccTLD) Fast Track Process"[22] and the related "Draft observations and recommendations of the country code Names Supporting Organization (ccNSO) Working Group on the EPSRP review."[23] The SSAC is aware of multiple issues with Internet Corporation for Assigned Names and Numbers (ICANN's) current collection of plans for handling IDNs in the Domain Name System (DNS) tree close to the root and will address them separately. This comment focuses specifically on the EPSRP, and some very basic issues that have been exposed in a review of these proposed guidelines. The primary goal appears to be swift approval of whatever string is proposed by an applicant, rather than conservative evaluation of the security and stability consequences to the global DNS root and its users—not just the applicant's national or linguistic community—of approving the string as a top-level domain name label. The SSAC finds this to be diametrically opposed to ICANN's mission[24] to "facilitate the openness, interoperability, resilience, security and stability of the DNS." Design Principles: Request for Comment (RFC) 6912,[25] "Principles for Unicode Code Point Inclusion in Labels in the DNS," describes "...a set of principles that can be used to guide the decision of whether a Unicode code point may be wisely included in the repertoire of permissible code points in a U-label in a zone." The SSAC believes that some of these principles, as restated below, also apply to decisions concerning the inclusion of IDN labels in the root zone: ● ***Conservatism Principle:*** Because the root zone of the global DNS is a shared resource, the decision to add a label to the root should be governed by a conservative bias in favor of minimizing the risk to users

[22] See Revised Guidelines for the Extended Process Similarity Review Panel (EPSRP) for the IDN ccTLD Fast Track Process, 23 June 2016. <https://ccnso.icann.org/workinggroups/proposed-epsrp-guidelines-23jun16-en.pdf>.
[23] See ccNSO Working Group on the EPSRP review – Draft observation and recommendations, 23 June 2016. <https://community.icann.org/download/attachments/56989606/ccNSO Working Group-observations-CONSOLIDATED-23062016.pdf>.
[24] See BYLAWS FOR INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS, 27 May 2016. <https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf>.
[25] See RFC 6912: Principles for Unicode Code Point Inclusion in Labels in the DNS, <https://tools.ietf.org/html/rfc6912>.

	(regardless of the language or script they are using and whether the label will be a gTLD or a ccTLD) and minimizing the potential for the need to make decisions that later must be changed or overridden in painful or incompatible ways. In order to minimize risk, doubts should always be resolved in favor of rejecting a label for inclusion rather than in favor of including it. ● ***Inclusion Principle:*** A TLD label should be added to the root zone only if it is known to be "safe" in terms of usability and confusability. This is particularly important for labels whose form as normally presented to a user[26] contains non-ASCII characters because the number and kinds of possibilities for usability and confusability problems is much greater. ● ***Stability Principle:*** The list of permitted labels in the root zone should change at a rate that does not negatively impact the stability of the root of the DNS, and usually only in the direction of permitting an addition as time and experience indicate that inclusion of such a TLD label is both safe and consistent with these principles. These principles have been reflected in ICANN IDN guidelines that have been in place for more than a decade,[27] in past SSAC advisories on IDNs,[28] in input documents to ICANN's Root Zone Label Generation Rules (LGRs),[29] and as overall principles for the IDN ccNSO Policy Development Process.[30] The conservatism principle was also a cornerstone to the IDN ccTLD Fast Track Process.[31] Adherence to these principles is critical for the continued interoperability and stability of the DNS root zone and deviation would increase the risk of root zone instability. **Findings:** The SSAC finds that the observation document's focus on detailed timelines and a series of process driven steps to make judgements on the confusability of a string is not feasible. Tight deadlines and turnaround times for various steps of the process disregard the complexities involved in the evaluation of labels in scripts that may require extensive study and analysis prior to any conclusions being reached.

[26] In IDNA (RFC 3490) terminology, the canonical user-presentation form of a label is known as a "U-label."
[27] See Guidelines for the Implementation of Internationalized Domain Names, Version 3.0, <https://www.icann.org/resources/pages/idn-guidelines-2011-09-02-en>.
[28] See SAC060: SSAC Comment on Examining the User Experience Implications of Active Variant TLDs Report, <https://www.icann.org/en/system/files/files/sac-060-en.pdf>.
[29] See Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels, <https://www.icann.org/en/system/files/files/draft-lgr-procedure-20mar13-en.pdf>.
[30] See Final Report IDN ccNSO Policy Development Process, 29 March 2013. Principle 3: Preserve security, stability and interoperability of the DNS. To the extent different, additional rules are implemented for IDN ccTLDs these rules should: Preserve and ensure the security and stability of the DNS; Ensure adherence with the RFC 5890, RFC 5891, RFC 5892, RFC 5893 and ICANN IDN guidelines. Take into account and be guided by the Principles for Unicode Code Point Inclusion in Labels in the DNS Root. <https://ccnso.icann.org/workinggroups/idn-ccpdp-final-29mar13-en.pdf>.
[31] See Module 3 of Final Implementation Plan for IDN ccTLD Fast Track Process, <https://www.icann.org/en/system/files/files/idn-cctld-implementation-plan-05nov13-en.pdf>.

	The primary goal appears to be swift approval of whatever string is proposed by an applicant, rather than conservative evaluation of the security and stability consequences to the global DNS root and its users—not just the applicant's national or linguistic community—of approving the string as a top-level domain name label. The SSAC finds this to be diametrically opposed to ICANN's mission[32] to "facilitate the openness, interoperability, resilience, security and stability of the DNS." **Recommendation:** The SSAC recommends that the ICANN Board *not* accept the proposed guidelines for the EPSRP, as those guidelines represent a threat to the security and stability of the DNS. The Board should request a review of the EPSRP to determine why its proposed guidelines do not respect the principles of conservativism, inclusion, and stability.
SSAC Publication	**Applicable Text**
See SAC089: SSAC Response to ccNSO Comments on SAC084 (12 December 2016) at: https://www.icann.org/en/system/files/files/sac-089-en.pdf **Board Advice Status: OPEN – PENDING CLOSURE** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	Dear Katrina, The SSAC would like to thank the ccNSO again for its feedback on SAC084. Please see below for the SSAC's detailed response to your comments. Per its Charter,1 the Security and Stability Advisory Committee (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), administrative matters (e.g., pertaining to address allocation and Internet number assignment), and registration matters (e.g., pertaining to registry and registrar services). The SSAC engages in 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. While the SSAC responses focus on the substantive content issues raised by the ccNSO, the SSAC acknowledges that the some of the criticisms in the ccNSO Comment on SAC084 related to two matters of process: first that SAC084 was sent straight to the Board and this was perceived as "bypassing" the Community; and second that SSAC does not have formal "representatives" on working groups such as this. With regard to the first, the SSAC's practice has always been that any formal SSAC document is made available to the ICANN Board prior to its public release. This is the case irrespective of whether the recommendations are directed to the ICANN Board or not. This practice was not intended to display any disrespect to the ccNSO in this instance. With regard to the second, the small size of the SSAC precludes its formal participation in many of the ICANN Community working groups, although SSAC members may choose to participate in their individual capacity. Any formal views of the

[32] See BYLAWS FOR INTERNET CORPORATION FOR ASSIGNED NAMES AND NUMBERS, 27 May 2016, <https://www.icann.org/en/system/files/files/adopted-bylaws-27may16-en.pdf>.

	SSAC are expressed in formal documents after achieving consensus within the SSAC. _____ 1 See SSAC Charter https://www.icann.org/groups/ssac/charter. We welcome further dialog if questions and issues remain. Patrik Fältström Chair, ICANN Security and Stability Advisory Committee (SSAC) on behalf of the SSAC

4.4 Name Collisions	
4.4.1 What general guidance for namespace collisions would you like the community to consider for subsequent procedures, and why? **4.4.2 Were there non-applied for strings that would fall into a high risk category that you would suggest not be allowed in subsequent procedures? If yes, which ones and why? Should a Name Collision based evaluation be incorporated into the process for subsequent procedures? What data sources could/should be used for analyzing namespace collisions for subsequent procedures?**	
SSAC Publication	**Applicable Text**
See SAC045: Invalid Top Level Domain Queries at the Root Level of the Domain Name System (15 November 2010 with corrections) at: https://www.icann.org/en/groups/ssac/documents/sac-045-en.pdf **Board Advice Status: CLOSED** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation (2):** The SSAC recommends that ICANN consider the following in the context of the new gTLD program. • Prohibit the delegation of certain TLD strings. RFC 2606, "Reserved Top Level Domain Names," currently prohibits a list of strings, including test, example, invalid, and localhost.[33] ICANN should coordinate with the community to identify a more complete set of principles than the amount of traffic observed at the root as invalid queries as the basis for prohibiting the delegation of additional strings to those already identified in RFC 2606. • Alert the applicant during the string evaluation process about the pre-existence of invalid TLD queries to the applicant's string. ICANN should coordinate with the community to identify a threshold of traffic observed at the root as the basis for such notification. Define circumstances where a previously delegated string may be re-used, or prohibit the practice.

[33] See RFC 2606, "Reserved Top Level Domain Names," <http://www.faqs.org/rfcs/rfc2606.html>.

SSAC Publication	Applicable Text
See SAC062: SSAC Advisory Concerning the Mitigation of Name Collision Risk (07 November 2013) at: https://www.icann.org/en/groups/ssac/documents/sac-062-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1:** ICANN should work with the wider Internet community, including at least the IAB and the IETF, to identify (1) what strings are appropriate to reserve for private namespace use and (2) what type of private namespace use is appropriate (*i.e.*, at the TLD level only or at any additional lower level). **Recommendation 2:** ICANN should explicitly consider the following questions regarding trial delegation and clearly articulate what choices have been made and why as part of its decision as to whether or not to delegate any TLD on a trial basis: • *Purpose of the trial:* What type of trial is to be conducted? What data are to be collected? • *Operation of the trial:* Should ICANN (or a designated agent) operate the trial or should the applicant operate it? • *Emergency Rollback:* What are the emergency rollback decision and execution procedures for any delegation in the root, and have the root zone partners exercised these capabilities? • *Termination of the trial:* What are the criteria for terminating the trial (both normal and emergency criteria)? What is to be done with the data collected? Who makes the decision on what the next step in the delegation process is? **Recommendation 3:** ICANN should explicitly consider under what circumstances un-delegation of a TLD is the appropriate mitigation for a security or stability issue. In the case where a TLD has an established namespace, ICANN should clearly identify why the risk and harm of the TLD remaining in the root zone is greater than the risk and harm of removing a viable and in-use namespace from the DNS. Finally, ICANN should work in consultation with the community, in particular the root zone management partners, to create additional processes or update existing processes to accommodate the potential need for rapid reversal of the delegation of a TLD. **Root Server System Monitoring:** The SSAC notes the NGPC decision recommends to the ICANN Board that: "…it direct the ICANN President and CEO to develop a long term plan to manage name collision risks related to the delegation of new TLDs, and to work with the community to develop a long-term plan to retain and measure root-server data."[34] The SSAC supports this recommendation and views it as consistent with previous SSAC recommendations to establish measurement, monitoring and data sharing capability for the root server system.[35] Additionally, the SSAC believes that such a capability must be defined and deployed promptly. The capability must be sufficiently flexible to accommodate additional data that might need to be collected and analyzed for name conflict/avoidance as well as other future requirements.

[34] See NGPC Resolution, <http://www.icann.org/en/groups/board/documents/resolutions-new-gtld-07oct13-en.htm#1.a>.

[35] See Recommendation 4 in SAC 046, < https://www.icann.org/en/groups/ssac/documents/sac-046-en.pdf>.

	Furthermore, the establishment of instrumentation capabilities across the root server system in order to collect longer-term data regarding applied-for strings and other content-level behaviors going forward would be of clear benefit.
SSAC Publication	**Applicable Text**
See SAC066: SSAC Comment Concerning JAS Phase One Report on Mitigating the Risk of DNS Namespace Collisions (06 June 2014) at: https://www.icann.org/en/system/files/files/sac-066-en.pdf **Board Advice Status: CLOSED** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	The Security and Stability Advisory Committee (SSAC) has reviewed the Report prepared for ICANN by JAS Global Advisors (herein referred to as the "JAS") entitled "Mitigating the Risk of DNS Namespace Collisions: A Study on Namespace Collisions in the Global Internet DNS Namespace and a Framework for Risk Mitigation, Phase One Report." It has identified eight issues, and makes recommendations in relation to each of them. A summary of the recommendations is provided below; context, motivation, and discussion are provided in the sections that follow. The recommendations fall into two categories: those related to operational considerations and those related to strategic considerations. Operational Recommendations: • The Internet Corporation for Assigned Names and Numbers (ICANN) should expand the range of situations that would trigger an emergency response, for example national security, emergency preparedness, critical infrastructure, key economic processes, commerce, and the preservation of law and order. • Instead of a single controlled interruption period, ICANN should introduce rolling interruption periods, broken by periods of normal operation, to allow affected end-user systems to continue to function during the 120-day test period with less risk of catastrophic business impact. • ICANN should perform an evaluation of potential notification approaches against at least the requirements provided by the SSAC prior to implementing any notification approach. • ICANN should implement a notification approach that accommodates Internet Protocol Version 6 (IPv6)-only hosts as well as IP Version 4 (IPv4)-only or dual-stack hosts.

	• ICANN should provide clarity to registries on the rules and the method of allocation of blocked names after the conclusion of the test period. Strategic Recommendations: • ICANN should consider not taking any actions solely based on the JAS Phase One Report. If action is planned to be taken before the entire report is published, communications to the community should be provided to indicate this clearly. • ICANN should in due course publish information about not yet disclosed issues. • ICANN should seek to provide stronger justification for extrapolating findings based on one kind of measurement or data gathering to other situations.
SSAC Publication	**Applicable Text**
See SAC090: SSAC Advisory on the Stability of the Domain Namespace (22 December 2016) at: https://www.icann.org/en/system/files/files/sac-090-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	**Recommendation 1:** The SSAC recommends that the ICANN Board of Directors take appropriate steps to establish definitive and unambiguous criteria for determining whether or not a syntactically valid domain name label could be a top-level domain name in the global DNS. **Recommendation 2:** The SSAC recommends that the scope of the work presented in Recommendation 1 include at least the following issues and questions: 4) In the Applicant Guidebook for the most recent round of new generic Top Level Domain (gTLD) applications,[36] ICANN cited or created several lists of strings that could not be applied-for new gTLD names, such as the "reserved names" listed in Section 2.2.1.2.1, the "ineligible strings" listed in Section 2.2.1.2.3, the two-character ISO 3166 codes proscribed by reference in Section 2.2.1.3.2 Part III, and the geographic names proscribed by reference in Section 2.2.1.4. More recently, the IETF has placed a small number of potential gTLD strings into a Special-Use Domain Names Registry.[37] As described in RFC 6761[38], a string that is placed into this registry is expected to be processed in a defined "special" way that is different from the normal process of DNS resolution. Should ICANN formalize in policy the status of the names on these lists? If so: iii) How should ICANN respond to changes that other parties may make to lists that are recognized by ICANN but are outside the scope of ICANN's direct influence? iv) How should ICANN respond to a change in a recognized list that occurs during a round of new

[36] See gTLD Applicant Guidebook, <https://newgtlds.icann.org/en/applicants/agb/guidebook-full-04jun12-en.pdf>.
[37] See Special-Use Domain Names, <https://www.iana.org/assignments/special-use-domain-names/special-use-domain-names.xhtml>.
[38] See RFC 6761, "Special-Use Domain Names", <https://datatracker.ietf.org/doc/rfc6761>.

	gTLD applications? 5) The IETF is an example of a group outside of ICANN that maintains a list of "special use" names.[39] What should ICANN's response be to groups outside of ICANN that assert standing for their list of special names? 6) Some names that are not on any formal list are regularly presented to the global DNS for resolution as TLDs. These so-called "private use" names are independently selected by individuals and organizations that intend for them to be resolved only within a defined private context. As such they are harmlessly discarded by the global DNS—until they collide with a delegated use of the same name as a new ICANN-recognized gTLD. Should ICANN formalize in policy the status of "private use" names? If so: i) How should ICANN deal with private use names such as .corp, .home, and .mail that already are known to collide on a large scale with formal applications for the same names as new ICANN-recognized gTLDs? ii) How should ICANN discover and respond to future collisions between private use names and proposed new ICANN-recognized gTLDs? **Recommendation 3:** Pursuant to its finding that lack of adequate coordination among the activities of different groups contributes to domain namespace instability, the SSAC recommends that the ICANN Board of Directors establish effective means of collaboration on these issues with relevant groups outside of ICANN, including the IETF. **Recommendation 4:** The SSAC recommends that ICANN complete this work before making any decision to add new TLD names to the global DNS.

[39] See Special-Use Domain Names, <https://www.iana.org/assignments/special-use-domain-names/special-use-domain- names.xhtml.≥

4.5 Security and Stability	
4.5.1 Considering that, different from the 2012-round, we now have Top-Level Label Generation Rules available for most, if not all, scripts and languages, does the per-label security and stability review still makes sense?	
SSAC Publication	**Applicable Text**
See SAC084: SSAC Comments on Guidelines for the Extended Process Similarity Review Panel for the IDN ccTLD Fast Track Process (31 August 2016) at: https://www.icann.org/en/system/files/files/sac-084-en.pdf **Board Advice Status: OPEN – UNDER REVIEW** See Board Advice Status Report and Definitions at: https://www.icann.org/en/system/files/files/board-advice-status-report-pdf-30apr17-en.pdf and https://features.icann.org/board-advice	Design Principles: Request for Comment (RFC) 6912,[40] "Principles for Unicode Code Point Inclusion in Labels in the DNS," describes "...a set of principles that can be used to guide the decision of whether a Unicode code point may be wisely included in the repertoire of permissible code points in a U-label in a zone." The SSAC believes that some of these principles, as restated below, also apply to decisions concerning the inclusion of IDN labels in the root zone: ***Conservatism Principle:*** Because the root zone of the global DNS is a shared resource, the decision to add a label to the root should be governed by a conservative bias in favor of minimizing the risk to users (regardless of the language or script they are using and whether the label will be a gTLD or a ccTLD) and minimizing the potential for the need to make decisions that later must be changed or overridden in painful or incompatible ways. In order to minimize risk, doubts should always be resolved in favor of rejecting a label for inclusion rather than in favor of including it. ***Inclusion Principle:*** A TLD label should be added to the root zone only if it is known to be "safe" in terms of usability and confusability. This is particularly important for labels whose form as normally presented to a user[41] contains non-ASCII characters because the number and kinds of possibilities for usability and confusability problems is much greater. ***Stability Principle:*** The list of permitted labels in the root zone should change at a rate that does not negatively impact the stability of the root of the DNS, and usually only in the direction of permitting an addition as time and experience indicate that inclusion of such a TLD label is both safe and consistent with these principles. These principles have been reflected in ICANN IDN guidelines that have been in place for more than a decade,[42] in past SSAC advisories on IDNs,[43] in input documents to ICANN's Root Zone Label Generation Rules (LGRs),[44]

[40] See RFC 6912: Principles for Unicode Code Point Inclusion in Labels in the DNS, <https://tools.ietf.org/html/rfc6912>.
[41] In IDNA (RFC 3490) terminology, the canonical user-presentation form of a label is known as a "U-label."
[42] See Guidelines for the Implementation of Internationalized Domain Names, Version 3.0, <https://www.icann.org/resources/pages/idn-guidelines-2011-09-02-en>.
[43] See SAC060: SSAC Comment on Examining the User Experience Implications of Active Variant TLDs Report, <https://www.icann.org/en/system/files/files/sac-060-en.pdf>.
[44] See Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels, https://www.icann.org/en/system/files/files/draft-lgr-procedure-20mar13-en.pdf>.<<.

	and as overall principles for the IDN ccNSO Policy Development Process.[45] The conservatism principle was also a cornerstone to the IDN ccTLD Fast Track Process.[46] Adherence to these principles is critical for the continued interoperability and stability of the DNS root zone and deviation would increase the risk of root zone instability.
4.5.2 Considering the already published CDAR study and comments to that study, do you have any comments regarding root zone scaling?	
SSAC Publication	**Applicable Text**
See SSAC Letter to the ICANN Board on the New Generic Top Level Domain (gTLD) Process (02 July 2012) at: https://www.icann.org/en/news/correspondence/faltstrom-to-icann-board-02jul12-en.pdf **Board Advice Status:** NOT LISTED IN THE BOARD ADVICE TABLE.	To: ICANN Board From: Security and Stability Advisory Committee (SSAC) Via: SSAC Liaison to the ICANN Board Subject: The New Generic Top Level Domain (gTLD) Process This letter provides an update on the SSAC's views on the status of the new gTLD process and takes note of concerns expressed by other ICANN organizations. In particular, we have examined the letter from the Chair of the Governmental Advisory Committee (GAC) to the Chair of the Board of ICANN, dated 17 June 2012. We believe there are at least three distinct issues to be considered. First, the SSAC does not have any formal view with respect to the issue of batching the review of applications. We do not believe a process for ordering applications bears upon the security and stability of the Internet. Second, the SSAC believes that questions regarding the maximum number of new TLDs that can be added to the root zone are misplaced. The proper concern is to ensure that the overall root zone publication system is audited and monitored to confirm that its resources can support an increase without degradation in the current service level. Third, "SAC 042 – SSAC Comment on the Root Scaling Study Team Report and the TNO Report" noted concerns with a potential combinatorial effect of adding Internet Protocol Version 6 (IPv6), DNS Security Extensions (DNSSEC), and new gTLDs to the root zone at essentially the same time. Since IPv6 and DNSSEC records have already been added to the root zone, the SSAC does not now believe the combinatorial issue is a concern. In addition, we would like to reiterate and emphasize the recommendations of "SAC 046 - Report of the Security and Stability Advisory Committee on Root Scaling":

[45] See Final Report IDN ccNSO Policy Development Process, 29 March 2013. Principle 3: Preserve security, stability and interoperability of the DNS. To the extent different, additional rules are implemented for IDN ccTLDs these rules should: Preserve and ensure the security and stability of the DNS; Ensure adherence with the RFC 5890, RFC 5891, RFC 5892, RFC 5893 and ICANN IDN guidelines. Take into account and be guided by the Principles for Unicode Code Point Inclusion in Labels in the DNS Root. <https://ccnso.icann.org/workinggroups/idn-ccpdp-final-29mar13-en.pdf>.

[46] See Module 3 of Final Implementation Plan for IDN ccTLD Fast Track Process, <https://www.icann.org/en/system/files/files/idn-cctld-implementation-plan-05nov13-en.pdf>.

	Recommendation (1): Formalize and publicly document the interactions between ICANN and the root server operators with respect to root zone scaling. ICANN and the root server operators may choose to utilize RSSAC to facilitate this interaction. Recommendation (2): ICANN, U.S. Dept. of Commerce, National Telecommunications and Information Administration (NTIA), and VeriSign should publish statements, or a joint statement, that they are materially prepared for the proposed changes. Recommendation (3): ICANN should publish estimates of expected and maximum growth rates of TLDs, including IDNs and their variants, and solicit public feedback on these estimates, with the end goal of being as transparent as possible about the justification for these estimates. Recommendation (4): ICANN should update its "Plan for Enhancing Internet Security, Stability, and Resiliency," to include actual measurement, monitoring, and data-sharing capability of root zone performance, in cooperation with RSSAC and other root zone management participants to define the specific measurements, monitoring, and data sharing framework. Recommendation (5): ICANN should commission and incent interdisciplinary studies of security and stability implications from expanding the root zone more than an order of magnitude, particularly for enterprises and other user communities who may implement strong assumptions about the number of TLDs that may conflict with future allocations. We note with some concern that there has been no visible progress on or discussion of these recommendations at this point in the implementation of the new gTLD program. In accordance with our usual practice, 48 hours after this document is sent to the Board, ICANN Staff will post this letter to the SSAC web site. The SSAC welcomes comments from the Board concerning this note and thanks the Board for its consideration. Patrik Fältström Chair, ICANN Security and Stability Advisory Committee

20 March 2017

Dear Mr. Fälström,

We write to you as the Co-Chairs of the GNSO's New gTLD Subsequent Procedures Working Group (WG), which was chartered by the GNSO Council to conduct a Policy Development Process (PDP) to determine what, if any changes may need to be made to the existing *Introduction of New Generic Top-Level Domains* policy recommendations from 8 August 2007 as well as the final Applicant Guidebook dated June 2012. As the original policy recommendations as adopted by the GNSO Council and ICANN Board have "been designed to produce systemized and ongoing mechanisms for applicants to propose new top-level domains," those policy recommendations remain in place for subsequent rounds of the New gTLD Program unless the GNSO Council would decide to modify those policy recommendations via a policy development process. We are now writing to seek your input on several questions as part of the Group's second Community Comment process.

1. Background on the New gTLD Subsequent Procedures PDP WG

In June of 2014, the GNSO Council created the New gTLD Subsequent Procedures Discussion Group, which was focused on reflecting upon the experiences gained from the 2012 New gTLD round and identifying a recommended set of subjects that should be further analyzed in an Issue Report. At the ICANN53 meeting, the GNSO Council approved a motion to request that an Issue Report be drafted by ICANN staff, basing the report on the set of deliverables developed by the Discussion Group, to further analyze issues identified and help determine if changes or adjustments are needed for subsequent new gTLD procedures. The Final Issue Report was submitted to the GNSO Council for its consideration on 4 December 2015 and a PDP on New gTLD Subsequent Procedures was initiated on 17 December 2015.

The PDP WG has been meeting on a regular basis since February 2016. The PDP WG began its deliberations by preliminarily considering a set of 6 subjects that it considers high level and foundational in nature (which the PDP WG called overarching issues). As the GNSO's PDP Manual mandates that each PDP WG reach out at an early stage to all GNSO Stakeholder Groups and Constituencies to seek their input, and encourages WGs to seek input from ICANN's Supporting Organizations and Advisory Committees as well, the PDP WG sent a request to the community (i.e., Community Comment 1) on 9 June 2016. The PDP WG appreciates input provided by the community, which it has considered and will integrate into the outcomes and deliverables related to the 6 overarching issues.

The PDP WG has created a set of 4 sub-team Work Tracks (WTs) that are addressing the remaining subjects within its Charter. This communication, Community Comment 2 (CC2), is in relation to these subjects now under consideration. We are now writing to solicit feedback on certain questions and issues that stem from our Charter and the initial deliberations of the WTs.

The PDP WG is aware of other efforts related to New gTLDs that are underway within the community that we are coordinating with to answer a number of other questions related to the New gTLD Program. The PDP WG has identified the following initiatives that may have an influence on the outcomes of this WG.

- Competition, Consumer Trust & Consumer Choice Review Team (CCT-RT)
- PDP on Next-Generation gTLD Registration Directory Services
- PDP on IGO-INGO Access to Curative Rights Protection Mechanisms
- Non-PDP CWG on the Use of Country and Territory Names as TLDs
- PDP Review of All Rights Protection Mechanisms in All gTLDs
- CCT-RT and the associated New gTLD Program Reviews
- The Governmental Advisory Committee (GAC) working groups on the topics of: a) public safety, b) underserved regions, and c) geographic names.
- Security and Stability Advisory Committee (SSAC) reviews of guidance provided regarding the New gTLD Program and determinations of whether new recommendations are needed.

In some circumstances, the PDP WG has not begun work, nor is it specifically seeking input at this juncture on several of the topics being considered by the groups above.

2. Community Comment Request: Survey on the subjects under consideration by the 4 WTs

The subjects that the PDP WG's four WTs are considering at this stage are listed below. Each subject and specific questions on which the PDP WG seeks your input are included as Annex A. Your input is critical in enabling these subjects to be considered fully and achieving a thoughtful outcome, which could include new policy recommendations, amendments to existing policy recommendations, or implementation guidance to be considered in the future. ***The PDP WG recognizes that this survey is extensive and understands that respondents may want to only provide answers to certain questions that relate to its own particular interests or concerns. To enhance the PDP WG's ability to consider all comments received, the PDP WG would like to encourage you to reference the specific question number, where applicable, when providing your responses.*** The subjects, as identified in this WG's charter, are:

Work Track/Section	Subject
1.1	Registry Services Provider Accreditation Programs
1.2	Applicant Support
1.3	Clarity of Application Process
1.4	Application Fees
1.5	Variable Fees
1.6	Application Submission Period
1.7	Application Queuing
1.8	Systems
1.9	Communications
1.10	Applicant Guidebook
2.1	Base Registry Agreement
2.2	Reserved Names
2.3	Registrant Protections
2.4	Closed Generics
2.5	Applicant Terms and Conditions
2.6	Registrar Non Discrimination & Registry / Registrar Separation

2.7	TLD Rollout
2.8	Contractual Compliance
2.9	Global Public Interest
3.1	Objections
3.2	New gTLD Applicant Freedom of Expression
3.3	Community Applications and Community Priority Evaluations
3.4	String Similarity (Evaluations)
3.5	Accountability Mechanisms
4.1	Internationalized Domain Names
4.2	Universal Acceptance
4.3	Applicant Reviews
4.4	Name Collisions
4.5	Security and Stability

We look forward to any comments and any input that you and the organization you Chair are able to provide to our WG. If possible, please forward your comments and input to us by May 1, 2017 so that we may fully consider it in our further deliberations.

Best regards,

Avri Doria and Jeff Neuman (WG Co-Chairs)