



UPDATE & CONSULTATION ON
New gTLD Subsequent Procedures
Consensus Building on Recommendations

SECURITY and STABILITY

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Security & Stability: Consensus Building

Key Issues

- Rate of delegation of new gTLD into root
- Ban on Emojis at any level hereon

- What is the New gTLD Subsequent Procedures (“SubPro”)?
 - ❖ The set of rules and mechanisms applicable to the next round for New gTLDs, i.e. they DO NOT apply to legacy TLDs, ccTLDs, or delegated new gTLDs or those still unresolved from the 2012 application round
 - ❖ “An update” to the 2012 Round rules and mechanisms



RELATED SubPro Areas/Topics include:

From a DNS security & stability aspect POV

- Internationalized Domain Names
- Name Collisions
- Registry System Testing



COMPETITION, CONSUMER CHOICE & TRUST (CCT) RECOMMENDATIONS

- None

Background on Security & Stability: Root Zone Scaling

Policy Goals on Delegation Rates

- The New gTLD Program should be [introduced] in an ongoing, **orderly, timely and predictable** manner.
- New gTLDs should be delegated into the root zone in a manner that **minimizes the risk of harming the operational stability, security and global interoperability of the Internet.**

Implementation of 2012 Round

- ICANN Org’s Oct 2010 paper, “Delegation Rate Scenario for New gTLDs”¹ – predicted that ICANN Org able to process 924 evaluations per annum (rounded up to a max of 1,000 delegations per annum)
- So, the technical community used 1,000 delegations/year as the basis of analysis in studying the impact on Root Server Operations and Provisioning due to new gTLDs (~root zone scaling)² – concluded that 1,000 delegations/year would not pose a security and stability threat, but didn’t seek to determine a max rate.
- Based on these, ICANN Org committed to delegate no more than 1,000 gTLDs per year.

[1] <https://archive.icann.org/en/topics/new-gtlds/delegation-rate-scenarios-new-gtlds-06oct10-en.pdf>

[2] <http://newgtlds.icann.org/about/historical-documentation/root-scaling-27jun12-en.pdf>

Impact of SubPro Recommendations * as at 24 May 2020

SubPro PDP WG

Affirmation #1

- WG affirms Principle A from the 2007 policy, which states: “New generic top-level domains (gTLDs) must be introduced in an orderly, timely and predictable way.”
- WG affirms Recommendation 4 from the 2007 policy, which states: “Strings must not cause any technical instability.”

Recommendation #2

- ICANN must honor and review the principle of conservatism when adding new gTLDs to the root zone.
- ICANN must focus on the rate of change for the root zone over smaller periods of time (e.g., monthly) rather than the total number of delegated strings for a given calendar year.

WG’s Rationale

- In delegating new gTLDs, WG agrees with the RSSAC that “trouble free access to the root zone is one of the very few things that are critical for all Internet users,” and therefore, ICANN should honor the principle of conservatism when adding new gTLDs to the root zone.
- WG supports both the **RSSAC and SSAC advice that an overall cap of 1,000 annually is not the appropriate measure of stability, rather, it is the rate of delegation (adding names to the root).** – RSSAC031³ & SAC100⁴
- WG recommends that further work be done on establishment of an appropriate rate of delegation from a technical standpoint. Although WG discussed operational and community concerns about the ability to evaluate new gTLDs it noted that the recommendations in this section relate only to the technical concerns of rating or capping the adding new gTLDs to the root zone, from a Security and Stability risk assessed perspective.

* From SubPro PDP WG, not limited to recommendations, but also affirmations and implementation guidance

[3] RSSAC031 - <https://www.icann.org/en/system/files/files/rssac-031-02feb18-en.pdf>

[4] SAC100 - <https://www.icann.org/en/system/files/files/sac-100-en.pdf>

Impact of SubPro Recommendations

SubPro PDP WG

Recommendation #2 (Cont'd)

Implementation Guidance

- The **number of TLDs delegated in the root zone should not increase by more than approximately 5 percent per month**, with the understanding that there may be minor variations from time-to-time.
- **ICANN should structure its obligations to new gTLD registries so that it can delay their addition to the root zone in case of DNS service instabilities.** Objective criteria should be developed to determine what could be classified as a “service instability.”
- ICANN should investigate and catalog the long term obligations for root zone operators of maintaining a larger root zone.
- OCTO should consult with PTI, the RZ Manager, the root operators via RSSAC, and the larger DNS technical community on the implementation of these recommendations.
- ICANN should continue developing the monitoring and early warning capability with respect to root zone scaling.

WG's Rationale

- WG supports the recommendations proposed by the SSAC that ICANN should structure its obligations to new gTLD registries so that it can delay their addition to the root zone in case of DNS service instabilities.
- WG also agrees with the **SSAC recommendation that ICANN should investigate and catalog the long term obligations of maintaining a larger root zone.** In addition, WG recommends that OCTO consult with PTI, the Root Zone Manager, the root operators via RSSAC, and the larger DNS technical community on these recommendations.
- With respect to an early warning system, WG notes the ICANN Org comments that the **ICANN OCTO** is researching the design of an **“early warning system” that could monitor several aspects of the root server system.**
- ICANN Org noted that It is possible, though not assured, that such a system could monitor for possible signs of stress on various aspects of the root server system that could result from increased size of the root zone
- WG notes that ICANN Org emphasized that this research is in a very early, exploratory stage, and the design of any possible “early warning system”, as well as its capabilities, are still unknown.

Impact of SubPro Recommendations

RSSAC & SSAC Advice on Root Scaling

For At-Large Consensus Building

RSSAC031³

- Rate of change more important than absolute magnitude – based on historical trends & RSSAC operational experience, strongly recommends number of TLDs delegated in the RZ should not increase by more than about 5% per month, with minor variations from time-to-time being understandable.
- RZ is uniquely a shared resource upon which all Internet users rely. For this reason, RSSAC believes it will continue to be important to limit the rate of additions of new gTLDs.

SAC100⁴

- ICANN should structure its obligations to new gTLD registries so that it can delay their addition to the RZ in case of DNS service instabilities.
- ICANN should investigate and catalog the long term obligations or maintaining a larger RZ.

Affirmation #1, Recommendation #1 & Implementation Guidance collectively

Impact

- New gTLDs must be introduced in an orderly, timely and predictable way
- Honor the principle of conservatism when adding new gTLDs to the root zone – IG where delegations should not increase by more than approx. 5%/month.
- ICANN to structure its obligations to new gTLD registries so that it can delay their addition to the root zone in case of DNS service instabilities
- ICANN should investigate and catalog the long term obligations for root zone operators of maintaining a larger root zone.
- OCTO should consult with PTI, the RZ Manager, the root operators via RSSAC, and the larger DNS technical community on the implementation of these recommendations.
- ICANN should continue developing the monitoring and early warning capability with respect to root zone scaling.

Additional intervention

- **Any concerns?**

[3] RSSAC031 - <https://www.icann.org/en/system/files/files/rssac-031-02feb18-en.pdf>

[4] SAC100 - <https://www.icann.org/en/system/files/files/sac-100-en.pdf>

Impact of SubPro Recommendations

SubPro PDP WG

Recommendation #3

- In connection to affirmation of 2007 policy's Recommendation 4, **Emoji in domain names, at any level, must not be allowed.**

Implementation Guidance

- The application submission system should do all feasible algorithmic checking of TLDs, including against RZ-LGRs and ASCII string requirements, to better ensure that only valid ASCII and IDN TLDs can be submitted.
- A proposed TLD might be algorithmically found to be valid, algorithmically found to be invalid, or verifying its validity may not be possible using algorithmic checking.
- Only in the latter case, when a proposed TLD doesn't fit all the conditions for automatic checking, a manual review should occur to validate or invalidate the TLD.

WG's Rationale

- **WG supports the SSAC position that emoji in domain names at any level should not be allowed** - WG noted that recommendations relating to already registered emoji SLDs would not be in its jurisdiction.

WG's Rationale (Cont'd)

- WG agreed that the application submission system should do all feasible algorithmic checking of TLDs –
 - ICANN Org agreed that from a system development perspective, automation could be built into the application system to check applied-for gTLDs against specific lists, such as the Reserved Names list, ISO-3166 list, and the Root Zone LGR.
 - ICANN Org noted that some level of algorithmic checking of applied-for gTLDs is also possible, though the availability of a deterministic list of labels and whether the RZ-LGR is defined for the scripts of these labels would determine the complexity of the implementation of algorithmic checks.

For At-Large Consensus Building

Impact

- **No emoji at any level allowed in SubPro.**
- Application system to do auto-checks for emoji as feasible, with manual review override if necessary.

Additional intervention

- **Any further concerns?**