



17 November 2017

Subject: SAC099: SSAC Response to the ICANN Internationalized Domain Name (IDN) Guidelines Working Group

Dear ICANN IDN Guidelines Working Group,

In response to your question on 27 July (see Attachment 1), the Security and Stability Advisory Committee (SSAC) in general agrees with you and provides the following response.

Delegation records and other infrastructure records, although not generally used by end users, are very important for the Domain Name System (DNS) to work reliably, in particular for zones with many delegations to third party zone administrators. Consequently, it is wise to adopt the robustness principle (“be conservative in what you do, be liberal in what you accept from others” see Request for Comments (RFC) 761) and the conservatism principle (see SAC084).

The SSAC recommends that for normal infrastructure records and other records identifying hosts:

- It should be either:
 - a traditional label, i.e., a string consisting of American Standard Code for Information Interchange (ASCII) letters, digits, and the hyphen with the further restrictions that a hyphen cannot appear at the beginning or end of the string or adjacent to another hyphen, or
 - a valid A-label complying with RFCs 5890, 5891, 5892, 5893 (also known as IDNA2008) and their successors, and not in any way dependent on mapping.
- These records should be used without delegated variants, other variations, and, insofar as one can control it, any infrastructure records that create a referral, such as Canonical Name (CNAME) or Delegation Name (DNAME) records pointing into or out of the Fully Qualified Domain Name, even if the DNS protocol or other procedures allows those mechanisms.

This advice does not apply to special name types in the DNS or using DNS syntax, such as the Service Record (SRV) (and other) record types that use a leading underscore or multicast DNS (mDNS) that uses non-Punycode encodings of non-ASCII domain names.

Efforts to design and enforce naming structures to favor predictability and stability, even when users or registrants push the boundaries of the rules, will be appreciated by users and add to both perceived and actual usability and stability.

Patrik Fältström
Chair, ICANN Security and Stability Advisory Committee

Attachments:

Attachment 1: Request from the IDN Guidelines Working Group

Request from ICANN IDN Guideline Working Group (Dated 27 July 2017)

Dear SSAC colleagues,

You may know that a revised draft of IDN Implementation Guidelines recently underwent a [Public Comment](#). In a [comment](#) submitted by Hugo Salgado from NIC Chile (.CL), it has been suggested to clarify the difference between “the use of IDN labels inside a TLD zone for records that are not-authoritative, like NS names and glue records.”

It further suggests that “a TLD can pose rules and restrictions for labels in the second (or third) level, but not downside and ‘sibling-side’. So my TLD can restrict a certain unicode point for registration purposes, but it could exist inside the TLD zone as an NS name in a level below the TLD as a glue record, and can exist at another TLD as a delegation, over which we don't have any jurisdiction.”

“As an example, if I'm the registry of .example TLD and we don't allow U+00E1 LATIN SMALL LETTER A WITH ACUTE, we can't prohibit a record like:

```
allowed.example. IN NS á.allowed.example
á.allowed.example. IN A 192.0.2.1
```

and certainly we can't prohibit a delegation to other TLD:

```
allowed.example. IN NS á.cl”
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The IDN Guidelines Working Group (IDNGWG) has found the comment significant. IDNGWG would like to get SSAC's opinion on whether records which are “not-authoritative” should also be constrained to comply with IDNA2008 by the IDN Guidelines. If SSAC considers this relevant, IDNGWG would request for assistance from SSAC to suggest appropriate language for such a guideline.

We would like to invite relevant SSAC members for a discussion with IDNGWG during one of its weekly calls, held on Thursdays at 11am UTC. IDNGWG can organize a call on a different day/time if suggested schedule is not suitable for SSAC.

We look forward to your confirmation.

Regards,
IDN Guidelines WG