IDN Implementation Guidelines

Version 4.0

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Agenda

- ⊙ Purpose and Status

- ⊙ IDN Guidelines WG

- ⊙ Scope and Topics

- ⊙ Guidelines

- ⊙ Next Steps

Purpose

- ⊙ Background
    - ○ For second-level IDN registration policies and practices
    - ○ To minimize the risk of cybersquatting and consumer confusion

- ⊙ Relevance
    - ○ gTLD – registries and registrars offering IDNs contractually bound
        - • Required by most Registry Agreements
            - – For example, new gTLD Registry Agreement: Specification 6 Section 1.4
        - • Required by many Registrar Agreements
            - – For example, 2013 Registrar Accreditation Agreement: Additional Registrar Operation Specification Clause 3
    - ○ IDN ccTLDs – "expected" by the Fast Track Process

Status

- [Call for Community Experts](#) in July 2015

- Working Group formed in October 2015

- [Initial issues list](#) presented at ICANN 55

- [Interim draft](#) presented at ICANN 57

- [Final draft](#) for [Public Comment](#) released in March 2017

- Final draft for Public Comment presented at ICANN 58

- Final draft for Second Public Comment published in October 2017

- Final draft for Second Public Comment being presented at ICANN 60

IDN Guidelines WG (IDNGWG)

	Name	Organization	SO/AC
1	Satish Babu	ISOC-TRV	ALAC
2	Wael Nasr	TLDVILLA LLC	ALAC
3	Mats Dufberg	IIS	ccNSO
4	Pablo Rodríguez	Puerto Rico TLD	ccNSO
5	Edmon Chung	.asia	GNSO
6	Christian Dawson	i2Coalition	GNSO
7	Chris Dillon		GNSO
8	Kal Feher	Neustar	GNSO
9	Dennis Tan	Verisign	GNSO
10	Jian Zhang (until 7 April 2017)	KNET	GNSO
11	Patrik Fältström (will only review)		SSAC

Scope and Topics

- Scope limited to only the owner-name of the DNS records added to the zone file by the registration system
  - Any glue records and right-hand or target names excluded from scope

- Total of 7 topics with19 guidelines and Additional Notes:
  - Transition (4)
  - Format of IDN Tables (2)
  - Consistency of IDN Tables and Practices (4)
  - IDN Variant Labels (3)
  - Similarity and Confusability of Labels (4)
  - Publishing IDN Registration Policy and Rules (1)
  - Terminology (1)
  - Additional Notes

Guidelines

Transition

1.   TLD registries supporting Internationalized Domain Names (IDNs) must do so in strict compliance with the requirements of the IETF protocol for Internationalized Domain Names in Applications, as defined in the standards track RFCs 5890, 5891, 5892 and 5893 or any RFC that replaces or updates the listed RFCs.

Transition

2.   Code points permitted in IDNA 2003 but disallowed in IDNA 2008 must not be accepted for registration regardless of the extent to which such code points appear in domain names registered prior to the protocol revision.

Transition

3.   When a pre-existing domain name requires a registry to make transitional exception to any of these Guidelines, the terms of that action must also be made readily available online, including the timeline for the resolution of such transitional matters. Also see 18(a).

Transition

4.　No label containing hyphens in both the third and the fourth positions may be registered unless it is a valid A-label, with reservation for transitional action. Labels with hyphens in both the third and the fourth positions are explicitly reserved to indicate encoding schemes, of which IDNA is only one instantiation. These guidelines are not intended to assist with any other instantiations.

Format of IDN Tables

5.   A registry must publish one or several repertoires of Unicode code points[1] that are permitted for registration and must not accept the registration of any domain name containing an unlisted code point. Each such list must indicate the script or language(s) it is intended to support.

1. Code points can be individual or could also include code point sequences, as suggested in RFC 7940.

Format of IDN Tables

6. IDN tables must be placed in the IANA Repository for IDN Practices. Further:

   a) Except as applicable in 6(b) below, registries must use Label Generation Ruleset (LGR) format to represent an IDN table (RFC 7940). Also see Additional Note I;

   b) Registries with existing IDN tables already present within the IANA Repository for IDN Practices at the time these guidelines are published are encouraged to transition to the LGR format;

   c) The IDN table must include the complete repertoire of code points, any variant rules and any applicable contextual rules which the registry uses to determine if a label is acceptable for registration.

Consistency of IDN Tables and Practices

7.   TLD registries are encouraged to collaborate on issues of shared interest, for example, by forming a consortium to coordinate contact with external communities, elicit the assistance of support groups, and establish global fora to address common current and emerging challenges in the development and use of IDNs.

Consistency of IDN Tables and Practices

8.   TLD registries seeking to implement new IDN tables or to modify existing ones may use available Reference Second Level LGRs (https://www.icann.org/resources/pages/second-level-lgr-2015-06-21-en) as is or as a reference. IDN tables may deviate from Reference Second Level LGRs. Notwithstanding the foregoing, registries seeking to implement IDN tables (i.e. new or modifications of existing ones) that pose any security and/or stability issues must not be implemented.

Consistency of IDN Tables and Practices

9.   TLD registries offering registration of IDN labels with the same language or script tag (RFC 5646) are encouraged to cooperate and contribute toward the development and update of the Reference Second Level LGRs with the goal of minimizing the difference between the reference LGRs of that language or script and the implemented IDN tables for the same language or script.

Consistency of IDN Tables and Practices

10. Any information fundamental to the understanding of a registry's IDN policies that is not published by IANA must be made directly available online by the registry. Including references to the linguistic and orthographic sources used in establishing IDN policies and tables is useful for implementers to understand the context of such policies. The registry should also encourage its registrars to call attention to these policies for all IDN registrants. If material is provided both via the IANA Repository of IDN Practices and other channels, the registry must ensure that its substance is concordant across all platforms.

IDN Variant Labels

11. IDN Variant Labels generated by an IDN table must be either (a) allocatable only to the same registrant as the primary IDN label, or (b) blocked from registration. Also see 18(b).

IDN Variant Labels

12. TLD Registries may activate an IDN Variant Label, provided that i) such IDN Variant Label is requested by the same registrant or corresponding registrar as the Primary IDN Label, ii) such IDN Variant Label is registered to the registrant of the Primary IDN Label, and iii) such IDN Variant Label conforms with the registry policy and IDN Tables.

In exceptional cases, where a language and/or script have established conventions, a TLD Registry may automatically activate an IDN Variant Label at its discretion. In such cases, the TLD Registry must ensure that only the necessary IDN Variant Labels are automatically activated and the number of such labels remains as small as possible. Also see 18(c).

IDN Variant Labels

Harmonization of variant rules across same-script IDN tables

13. TLD registries must ensure that all applicable same-script IDN tables with a variant policy for a particular TLD have uniform variant rules that properly account for symmetry and transitivity properties of all variant sets across these IDN tables. Exceptions to this guideline vis-à-vis symmetry and transitivity properties should be clearly documented in registries' public policy. At the same time, TLD registries shall re-evaluate potential variant relationships that may require to create new variant sets due to the introduction of additional IDN tables by the registry. Also see Additional Notes II and III.

Similarity and Confusability of Labels

Within-script homoglyphs

14.   TLD registries are encouraged to consider policies to minimize confusion of IDN labels with other labels within the same script, specifically arising due to homoglyphic characters. Also see Additional Note IV.

Similarity and Confusability of Labels

Commingling of cross-script code points in a single label

15. All code points in a single label must be taken from the same Unicode script as determined by the Unicode Standard Annex #24: Script Names http://www.unicode.org/reports/tr24. Exceptions to this guideline are permissible for languages with established orthographies and conventions that require the commingled use of multiple scripts.

Similarity and Confusability of Labels

Commingling of cross-script code points in a single label

16.   In the case of any exceptions made allowing mixing of scripts, visually confusable characters from different scripts must not be allowed to co-exist in a single set of permissible code points unless a corresponding policy and IDN table is clearly defined to minimize confusion between domain names. Also see Additional Note IV.

Similarity and Confusability of Labels

Whole-script confusables

17.   TLD registries are encouraged to apply additional constraints on registrations that minimize Whole-Script Confusables as determined by Unicode Technical Standard #39: Unicode Security Mechanisms http://unicode.org/reports/tr39/tr39-1.html#Whole_Script_Confusables. Also see 18 (d) and Additional Note V.

Publishing IDN Registration Policy and Rules

18. TLD Registries should publish policies or guidance related to registration of IDN labels at publicly accessible location on the TLD Registry's website. In addition to general policies or guidance on IDN registrations, these should include the following:

a)   A timeline related to resolution of transitional matters, if applicable

b)   IDN Variant Label allocation policy, if applicable

c)   IDN Variant Label automatic activation policy, if applicable

d)   Policy for minimizing Whole-Script Confusables and data sources used, if applicable. Also see Additional Note V

e)   IDN Table as per Guideline 6 above.

Terminology

19. The community is encouraged to adopt the relevant terminology used in these Guidelines as defined in Appendix B.

Additional Notes

I.   For Guideline 6(a): Registries may take X months from the publication of these guidelines to implement the LGR format for IDN tables.

II. For Guideline 13: The use of "uniform" here means that two variant code points or variant code point sequences in one IDN table cannot be non-variant code points or non-variant code point sequences in another IDN table implemented under the same TLD.

III. For Guideline 13: Registries may use relevant work for the Root Zone LGR and other sources to determine the variant sets.

Additional Notes

IV.   For Guidelines 14 and 16: It is important to understand that not all visual confusing similarity issues can be addressed by IDN tables and IDN policies. Other policies such as dispute resolution policies may be necessary to mitigate against abusive registrations exploiting visually similar characters. For example, even for ASCII letters digits and hyphen (LDH) repertoire, whereas the digit "0" and letter "O", or the capital letter "I", small letter "l" and digit "1", may be considered visually confusable characters the mitigation policy for abuse is often addressed by dispute resolution policies, leveraging other bodies of knowledge (e.g. Trademark Law) to evaluate whether similarities between domain names causes confusion and abuse.

Additional Notes

v.   For Guideline 17: Registries may use data references such as

Unicode's intentional.txt, the cross-script variants in the Root Zone

LGR or other authoritative sources.

Next Steps

Next Steps

- Finalize IDN Guidelines 4.0 after second public comment

- Submit final IDN Guidelines 4.0 for consideration by ICANN Board

- Final Draft of IDN Implementation Guidelines 4.0 available at www.icann.org/idn

- Visit IDN Guidelines wiki page for the list of WG members, email archive, call recordings and summaries: https://community.icann.org/display/IDN/IDN+implementation+Guidelines

- For feedback, email at: idngwg@icann.org or IDNProgram@icann.org

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