

I C A N N

COMMUNITY FORUM

58

COPENHAGEN

11-16 March 2017





IDN Implementation Guidelines

IDN Guidelines Working Group | ICANN 58 | 12 March 2017

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Background and Purpose

◎ Purpose

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

◎ Relevance

- For gTLD registries and registrars offering IDNs at second level
- For IDN ccTLDs

◎ Status

- [Final draft for Public Comment](#) released on 3 March 2017
- Interim draft presented at ICANN 57
- Issues list presented at ICANN 55
- Working Group formed in October 2015
- [Call for Community Experts](#) in July 2015

IDN Guidelines WG Members (IDNGWG)

	Name	Organization	SO/AC
1	Satish Babu	ISOC-TRV	ALAC
2	Wael Nasr	TLDVILLA LLC	ALAC
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5	Edmon Chung		GNSO
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7	Chris Dillon		GNSO
8	Kal Feher	Neustar	GNSO
9	Dennis Tan	Verisign	GNSO
10	Jian Zhang	KNET	GNSO
11	Ram Mohan	Afilias	SSAC
12	Patrik Fältström (will only review)		SSAC

Recommendations

Topics and Recommendations

- ⦿ Total of 6 topics and 18 recommendations:
 1. Transition (5)
 2. Format of IDN Tables (2)
 3. Consistency of IDN Tables and Practices (4)
 4. IDN Variant Labels (2)
 5. Similarity and Confusability of IDN Labels (4)
 6. Terminology (1)

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in RFC 2119.

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.
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. The registrant of a domain name that is no longer supported by IDNA 2008 should be notified that there may be unanticipated consequences for a user attempting to reach it, and such domain names should be replaced, held, or deleted at registry initiative.

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. The excepted registrations themselves are, however, not part of this documentation. At the end of the transitional period, code points that are prohibited by IDNA2008 must not be permitted even by exception.
4. No label containing hyphens in the third and fourth positions must be registered unless it is a valid A-label, with reservation for transitional action. Hyphens in these 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.

5. TLD registries with pre-existing domain names that do not conform to these guidelines should take the following actions to reduce disruption to registrants and Internet consumers:
 - a. Make clear in their registration policy whether registered domain names or currently activated labels, which do not conform to the guidelines, will continue to be published in the TLD zone file.
 - b. In cases where non-conforming registered domain names will continue to be published in the zone file, make clear any additional restrictions placed on usage.
 - i. Include restrictions that may influence the lifecycle of the domain name, such as restrictions on renewals, transfers and change of registrant
 - ii. Include restrictions on the activation or usage of variants.
 - iii. Clearly state whether the continuing publication in the zone file of non-conforming labels will cease after a period of time.
 1. If publication of non-conforming labels into the zone file will cease, then clearly state the date at which the labels will be removed from the zone file.

5. Continued ...
 - c. Publish relevant changes to the TLD's registration policy at a publicly accessible location on the TLD registry's website.
 - d. Encourage registrars to notify registrants of non-conforming registered domain names of the change of policy and of all relevant dates and conditions which may apply to such domain names.

Format of IDN Tables

6. A registry must publish one or several repertoires of Unicode code points 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. If registry policy treats any code point in a list as a variant of any other code point, the variant rules and the policies attached to it must be clearly articulated.

Format of IDN Tables

7. IDN tables must be placed in the IANA Repository for IDN Practices. Further, (a) Except as applicable in 7(b) below, registries must use Label Generation Ruleset (RFC 7940) format to represent an IDN table; (b) Registries with existing legacy 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 code points and any applicable whole-label evaluation rules which the registry uses to determine if a label is acceptable for registration.

Consistency of IDN Tables and Practices

8. 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.

9. TLD registries seeking to implement new IDN tables or to modify existing ones may use available Reference Second Level LGRs as is or as a reference. IDN tables may deviate from Reference Second Level LGRs. Notwithstanding the foregoing, Registry Operators seeking to implement IDN tables (i.e. new or modifications of existing ones) that pose any security and/or stability issues must not be authorized to implement such LGRs.

Consistency of IDN Tables and Practices

10. 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

11. 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. This documentation must include references to the linguistic and orthographic sources used in establishing policies and IDN tables. 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

12. IDN Variant Labels generated by an IDN table must be a) allocated to the same registrant, or b) blocked from registration.
13. Only IDN Variant Labels with a disposition of "allocatable" may be included in the DNS. IDN Variant Labels must only be delegated into the DNS ("activated") as requested by the registrant (or corresponding registrar), except in cases where a registry-side approach is explicitly expressed in the IDN policies for a particular language/script.

13. Continued ...

In cases of registry-side approach, the registry must carefully take into consideration the security and stability impacts: (i) as advised in the relevant documents from SSAC; (ii) different user experience perspectives as explained in the document "Examining the User Experience Implications of Active Variant TLDs"; (iii) the IDN Variant Issues Project: Final Integrated Issues Report; (iv) the IDN policies and LGRs adopted by the relevant respective language communities; as well as (v) the evidenced operational experiences from such communities, before implementing any IDN policy that includes registry-side activation of IDN Variant Labels.

For example, the Chinese Domain Name Consortium, the related informational RFC on preferred variants relevant to the Han script (RFC3743) and the Report on Chinese Variants in Internationalized Top-Level Domains.

Similarity and Confusability of Labels

14. Commingling of cross-script code points in a single label

All code points in a single label must be taken from the same 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.

15. Harmonization of variant rules across same-script IDN tables

TLD registries must ensure that all applicable same-script IDN Tables with a variant policy have uniform variant rules that properly account for symmetry and transitivity properties of all variant sets. 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. Registries may use relevant work for the Root Zone LGR and other sources to determine the variant sets.

16. Cross-script homoglyph labels

TLD registries may apply whole-label evaluation rules to new 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. Registries may use data references such as Unicode's intentional.txt, the cross-script variants in the Root Zone LGR or other authoritative sources. Any policy and its sources must be clearly documented in the registry's public website.

17. Limitations of IDN tables and policies

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. TLD registries should also consider policies to minimize confusion between domain names arising from visually confusable characters within a same script.

17. Continued ...

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.

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

Topics and Recommendations

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 6. Terminology (1)

 7. Registration Data (none?)
 8. EPP (none?)

Appendix B: Glossary of Relevant Terms

Next Steps

- ⦿ Receive Public Comments - open until 24 April, 2017
- ⦿ Review and incorporate feedback received
- ⦿ Publish IDN Implementation Guidelines ver. 4.0

Thank You

- For details, please visit:
 - Public Comment on IDN Implementation Guidelines :
<https://www.icann.org/public-comments/idn-guidelines-2017-03-03-en>
 - IDN Guidelines WG Wiki page:
<https://community.icann.org/display/IDN/IDN+implementation+Guidelines>
- For feedback, email at:
 - idngwg@icann.org or IDNProgram@icann.org

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Thank You and Questions

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