Internationalized Domain Name (IDN) Implementation Guidelines

Publication Date:	9 June 2017
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Public Comment Proceeding	
Open Date:	3 March 2017
Close Date:	2 May 2017
Staff Report Due Date:	9 June 2017

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Section I: General Overview and Next Steps

The Internationalized Domain Name (IDN) Implementation Guidelines relate to the IDN registration policies and practices, designed to minimize the risk of cybersquatting and consumer confusion, to cater to the interests of communities using local languages and scripts. Following the Call for Community Experts, a Working Group (WG) was formed in to review the current version (3.0) of the IDN Implementation Guidelines, last updated in 2011. The WG has finalized its work and solicited feedback of the community on the Guidelines for the Implementation of the Internationalized Domain Names 4.0 [PDF, 363 KB], the proposed update to the current Guidelines.

The IDN Guidelines WG (IDNGWG) will review and incorporate the comments received from the community and finalize the next version of the IDN Implementation Guidelines. The final version of the Guidelines published by the WG will be presented to ICANN Board of Directors for approval.

Section II: Contributors

At the time this report was prepared, a total of [number] (n) community submissions had been posted to the forum. The contributors, both individuals and organizations/groups, are listed below in chronological order by posting date with initials noted. To the extent that quotations are used in the foregoing narrative (Section III), such citations will reference the contributor's initials.

Organizations and Groups:

Name	Submitted by	Initials
NIC Chile	Hugo Salgado-Hernández	CL
Open-Xchange	Vittorio Bertola	O-X
Internet Architecture Board	Suzanne Woolf	IAB
Govt. of India	T. Santhosh	GoI
Registries Stakeholder Group	Stéphane Van Gelder	RySG

Individuals:

Name	Affiliation (if provided)	Initials

Section III: Summary of Comments

CL1: A clarification is suggested regarding the use of IDN labels inside a TLD zone for records that are not-authoritative, e.g. the NS and glue records. So a TLD can restrict a Unicode point for registration purposes, but it could exist inside the TLD zone. So "labels inside a zone" should be clarified to mean "labels of authoritative names inside a zone".

CL2: Add a new guideline: "a TLD can't restrict the codepoints of names inside its zone for which it's not authoritative (such as delegations to sibling zones or glue records names), but should check such labels are syntactically valid U-labels (in RFC7940 sense)".

O-X refers to a recent post online which directed users to disable display of IDN URLs in browsers to prevent phishing using whole-script confusable domain names. O-X opines that this mindset would widely reject IDNs throughout the internet. Therefore, it is important to prevent dangers associated with whole-script confusable domain names.

O-X1: Such dangers can be avoided by establishing a basic principle that two domain names that look confusable to an average internet user must be considered variants and must never be registered to different registrants. This be established as a cornerstone for IDN Guidelines.

O-X2: While confusability is a subjective feature, technical standards like UTR#39 of Unicode provide implementable definition and algorithm. These standards be implemented.

O-X3: Point 16 of the draft guidelines should be reworded to the following: "TLD registries must apply to new registrations whole label evaluation rules that minimize whole-script confusables as determined by Unicode Technical Standard #39: Unicode Security Mechanisms; new domain names that according to those rules are whole-script confusables in respect to an existing domain name must be a) allocated to the same registrant of the existing domain name, or b) blocked from registration."

IAB finds the document to be a good step in support of the deployment of IDNs in TLDs, promoting use of IDNs, supporting specification and conservatively implementing registry and registrar policy.

IAB1: IDN Guidelines is not a protocol document. Thus, it will be helpful to clarify the RFC 2119 terminology defines what it means to comply with the guidelines but cannot specify protocol compliance.

IAB2: Section 2.1 is clear statement of compliance with IDNA 2008 as a target with transition guidelines from other specification is appropriately conservative.

IAB3: In Sections 2.2 or 2.3, it may be useful to explicitly state that sometimes various combinations of languages and a script (and variants) are not fully compatible and registry has to make a decision.

IAB4: In Section 2.4, no. 13, the final paragraph is not clear. Is it an example of guideline in previous paragraphs for registry-side processing of IDN variants?

IAB5: In Sections 2.2 to 2.5, the document is trying to operationalize provisions of RFC 5894 that registries have a policy and that they allow only those characters they fully understand. It will be helpful to state that as a goal for these guidelines.

GoI emphasizes the universal acceptance of internationalized domain names and email addresses.

GoI1: The recent security advice to disable display of IDN URLs in browsers to prevent phishing due to whole-script confusable domain names is pointed out.   It is noted that this would widely reject IDNs throughout the Internet. Thus, ICANN should prevent such issues.

GoI2: To avoid such confusion, it is suggested to establish a basic principle that any two domain names that look confusable to an average Internet user must be considered variants of the same domain name and must never be registered to different registrants.

GoI3: Though confusability definition is subjective, technical standards like Unicode TR#39 provide implementable definition and algorithm to detect confusable domain names, and should be implemented through the guidelines.

GoI4: Confusing registrations can not only hamper IDN adoption, but also has financial costs, even before phishing occurs. Thus it is efficient to detect and prevent these at the registry level. Thus, for whole-script confusables, "may" should be changed to "must". Further, Point 16 should be rephrased to: "TLD registries must apply to new registrations whole label evaluation rules that minimize whole-script confusables as determined by Unicode Technical Standard #39: Unicode Security Mechanisms; new domain names that according to those rules are whole-script confusables in respect to an existing domain name must be
a) allocated to the same registrant of the existing domain name, or b) blocked from registration."

GoI5: There should be a separate guideline to deal with emojis.

RySG1: RFC 2119 limits the use of this imperative language and defines that 'they MUST only be used where it is actually required for interoperation or to limit behaviour which has potential for causing harm'. In addition, RFC 2119 asks document authors to 'elaborate the security implications of not following recommendations or requirements'. Draft Guidelines introduce requirements not strictly necessary for interoperability or to limit potential harm. So it is advised to use the imperative language 'with care and sparingly' and 'elaborate the security implications of not following recommendations'.

RySG2: Revise Guideline 1 to read " (....) as defined in standards track RFCs 5890, 5891, 5892 and 5893 and their successors" by adding "and their successors" at the end.

RySG3: Revise Guideline 4 to add "both" for emphasis and clarity to read "label containing hyphens in both the third and fourth positions (…)."

RySG4: Guideline 5 is overly prescriptive, because registry operators are in a better position to design a communication plan to address any policy update that affects the live cycle of domain names under its TLDs.

RySG5: Guideline 5 should clarify that pre-existing domain names are not mandated to comply with these guidelines. The relevant part of the guideline should be changed to the following: "TLD registries with IDNs that were registered prior to the implementation of these guidelines and which do not conform to these guidelines are not required to comply with the guidelines, but should take the following actions for these pre-existing domain names to reduce disruption to registrants and Internet consumers."

RySG6.1: As per Guideline 7, the RySG acknowledges the benefits of use of the LGR RFC format as it allows a better adoption and easier comparison and supports this as a long-term strategy. It has no effect in minimizing the risk of cybersquatting or consumer confusion, two of the stated goals of these IDN guidelines, and not required for interoperability. Therefore, registry operators should not be required to use a new format (i.e. RFC 7940) to publish IDN Tables.

RySG6.2: it is underscored that a transition to a general use of the LGR format would require a long enough transition period for Registries to create new code tables, distribute them, and put them into effect, and that ICANN or IIS should provide validation tools to review these new tables before the policy becomes mandatory.

RySG6.3: It is also noted that the new gTLD contract requires IDN Tables to be submitted to IANA for publication in the IANA Repository, but that not all submitted tables have been published.

RySG6.4: For the reasons mentioned the RySG recommends amending draft guideline 7 as follows: "IDN tables must be submitted to IANA for publication in the IANA Repository for IDN Practices. Further, (a) Except as applicable in 7(b) below, registries are encouraged to use Label Generation Ruleset (RFC 7940) format to represent an IDN table; (b) Registries with existing legacy IDN tables already submitted for inclusion in the IANA Repository for IDN Practices at the time these guidelines are published are encouraged to transition to the LGR format (...)."

RySG7: It is suggested that for Guideline 9 the definition of stability is too broad and too open for interpretation for IDN Guidelines. The relevant standards should be only standards-track or Best Current Practice RFCs by IETF.

RySG8: The term "same registrant" should be defined in Guideline 12.

RySG9: Guideline 12 should be further clarified by stating that registry operator msut publish the variant activation policy in its public website.

RySG10: The term "Registry-side approach" should be defined in Guideline 13, and the recommendation should be reworded for clarification. Second and third paragraphs should

be removed or moved to a separate section and change "must" to "should" or "may" to make it an advisory.

RySG11: The first sentence of draft guideline 15 is confusing as it is not clear if the guideline refers to cross-TLD tables of the same Registry or to a single same TLD. The recommendation may not be workable as one Registry may have two or more TLDs in the same script but directed at different languages where variants must be handled differently. Likewise, two TLDs, one script-based and the other language-based, in the same script may have different variant tables. It seems that the only viable interpretation is that the draft guideline refers to one single TLD, in which case this should be clarified in the guideline.

RySG12: The RySG supports the view that the IDN Guidelines are not the right place for recommendations on registration data and EPP.

RySG13: It is suggested to replace 'word' by 'label' in the definition of "variant": 'The term "variant" is used generally to identify different types of linguistic situations where different labels are considered to be the same (i.e. variant) of another label. Because of the wide-ranging understanding of the term, to avoid confusion more specific terms such as "Variant Code Point" or "IDN Variant Label" should be used.'

Section IV: Analysis of Comments

General Disclaimer: *This section intends to provide an analysis and evaluation of the comments submitted along with explanations regarding the basis for any recommendations provided within the analysis.*

The IDN Guidelines WG is thankful to the CL, O-X, IAB, GoI and RySG for their thoughtful comments.