

IDN Implementation Guidelines – Second Public Comment

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Prepared By: IDN Guidelines Working Group

Public Comment Proceeding

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Section I: General Overview and Next Steps

Section II: Contributors

At the time this report was prepared, a total of eight (8) 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
EURid	Giovanni Seppia	EURID
Japan Registry Services Co., Ltd.	Yoshitaka Okuno	JPRS
ICANN Business Constituency	Steve DelBianco	BC
Registries Stakeholder Group	Stéphane Van Gelder	RYSG
Non-Commercial Stakeholders Group	Rafik Dammak	NCSG

Individuals:

Name	Affiliation (if provided)	Initials
Dusan Stojicevic	Cyrillic Generation Panel	DS
John Gutierrez	-	JG
Anton Bershanskiy	University of Illinois at Urbana-Champaign	AB

Section III: Summary of Comments

General Disclaimer: This section intends to summarize broadly and comprehensively the comments submitted to this public comment proceeding but does not address every specific position stated by each contributor. The preparer recommends that readers interested in specific aspects of any of the summarized comments, or the full context of others, refer directly to the specific contributions at the link referenced above (View Comments Submitted).

The summaries below are presented in the order these comments were received.

The responses by IDNGWG are presented in red.

EURID states that it introduced IDNs at the second level in Dec. 2009 supporting characters of 24 official languages on the European Union and launched .eu TLD, which is .eu in Cyrillic script, with a plan to move of existing Cyrillic script second level domain names registered under .eu to .eu, to minimize the risk of cybersquatting and customer confusion. Also, since 2011 EURID has been publishing the IDN World Report on IDN deployment, in partnership with UNESCO, Verisign and with the collaboration of the ccTLD regional organizations (www.idnworldreport.eu).

EURID1. EURID looks forward to engaging in a possible "consortium ... to address common current and emerging challenges in the development and use of IDNs".

EURID2. EURID suggests that any consortium/forum about IDNs be as inclusive of the various stakeholders in the domain chain, including registrars and registrants for a more sound perception of the challenges around IDNs.

IDNGWG Response: IDNGWG acknowledges EURID's work with IDNs and welcomes EURID's intention in engaging in such a form. This guideline is intended to suggest that the community to collaborate on need basis. The WG will suggest to the ICANN Board that ICANN org should stand ready to support such initiatives. Finally, the WG supports the suggested diversity in such a forum, when it is formed.

DS found the guidelines good and comprehensive but have the following comments.

DS1. DS expects ICANN to help or have active role for Guidelines 2-9, and only notes basic level collaboration for ccTLDs at this time.

IDNGWG Response: The guidelines are part of the contractual obligations for relevant gTLD registries and registrars. These are also recommended for the IDN ccTLDs to follow through the Fast Track process. As noted earlier, the guideline is intended to suggest on need basis. IDNGWG also notes that there are multiple communities currently collaborating to develop the Root Zone Label Generation Rules, with members coming from a diverse set of organizations and with a diverse set of expertise. This also includes active participation from the ccTLDs.

DS2. For Guideline 10 and also more generally, DS suggest to explicitly define for the use of "must" in the guidelines who is checking such requirements and what are implications of not following them.

IDNGWG Response: There has been discussion on defining the use of "must" and other relevant terminology in the WG based on their use in RFC 2119. However, following the feedback received from IAB and RYSG in the first public comment, WG has agreed to use these terms in the sense of their regular usage in the language.

DS3. For Guideline 6b, instead of "encouraged to" make this a requirement with a "must" in the guideline.

IDNGWG Response: Using LGR format is a requirement for new TLDs, new IDN tables or changes in the existing IDN tables, through 6(a). The guideline 6(b) provides an exception to the established TLD registries with published IDN tables. The WG does not see any benefit

of taking away this exception, while it would cause extra labour. Thus, it recommends keeping the existing terms for 6(b).

DS4. If six (6) months is suggested for Guideline 6a, who is going to check the implementation? How will it work for ccTLDs?

IDNGWG Response: The input is noted. Also see the discussion against RYSG4.

JG1. JG suggests to reserve .hom and .home domains, not available for registration – JG explains that these are used by him in his home network.

IDNGWG Response: As this pertains to ASCII labels, the WG considers this not in its scope.

JPRS1. JPRS notes in the context of Guidelines 15 and 16 that while Japanese characters are technically divided into three (3) scripts (Han, Hiragana and Katakana), the official language of Japan is only Japanese and these three scripts are not the exclusive of each, for example, "registration of .jp domain name" is written as "jpドメイン名の登録" using these scripts. JPRS notes that Japanese characters are treated as one script in Japanese daily life. People in Japan use Han, Hiragana, Katakana and ASCII characters all together as the person's names, the trademarks (*1), the trade names (*2), and/or the words including nouns. JPRS concludes that these scripts have completely different degrees of risk between commingling Japanese characters (Han, Hiragana and Katakana) versus commingling other scripts that must be used exclusively. Therefore, JPRS recommends that the Guidelines should clearly express that "the case of any exceptions made allowing mixing of scripts" means the case of commingling the scripts that are used exclusively.

IDNGWG Response: The WG agrees with the comment from JPRS that for certain languages, mixing scripts is the usual and not an exceptional case. The WG also considers that the confusable characters across different scripts should be handled, even in cases where script mixing is commonplace, in addition to any cases where script mixing may not be desirable. Therefore, the WG will update the relevant guidelines accordingly.

(*1) The list of standard characters for trademarks (Japan Patent Office, written in Japanese) http://www.jpo.go.jp/shiryou/kijun/kijun2/pdf/syouhyoubin/shiryou_1_1.pdf

(*2) About using ASCII characters for the trade names (Ministry of Justice, written in Japanese) <http://www.moj.go.jp/MINJI/minji44.html>

BC believes that IDNs facilitate the creation of localized content, especially in developing nations with predominantly non-English-speaking populations. This practice will benefit businesses and consumers alike by fueling economic development in regions which currently have limited choice with respect to linguistically and culturally tailored domain names and content. Businesses have a strong interest in ensuring that IDNs are not used in a manner that will confuse or deceive consumers.

BC1. BC believes that all Registry operators offering IDN labels should incorporate the Guidelines as part of their best practices to ensure consistency and to support the overarching goal of ensuring that IDNs do not undermine the security, stability, and resiliency of the DNS.

IDNGWG Response: IDNGWG agrees.

BC2. The BC supports the Guidelines in Section 2.3, and in response to the call upon IDN registry operators to “collaborate on issues of shared interest ... to address common current and emerging challenges in the development and use of IDNs.” Believes that the global business community would be able to provide valuable input and looks forward to being included in such discussions going forward.

IDNGWG Response: IDNGWG agrees.

BC3. BC supports the text in Section 2.3 that states that “registries seeking to implement IDN Tables ... that pose any security and/or stability issues must not be implemented.” BC suggests that “security and/or stability issues” in this context should include the risk of increased DNS abuse posed by malicious activities such as spam, malware, and phishing.

IDNGWG Response: The Guidelines be proposed have a limited scope, as defined. Handling spam and malware is out of the scope of the WG’s mandate.

BC4. BC also supports Guideline 9 in Section 2.3, because it is important to ensure that all IDN labels in the same language or script are uniform across the DNS, to reduce the possibility of variations being used to cybersquat or conduct other abusive activities.

IDNGWG Response: IDNGWG thanks BC for their support.

BC5. BC agrees with the guideline in Section 2.4 that requires IDN Variant Labels to be allocable only to the same registrant as the primary IDN label.

IDNGWG Response: IDNGWG thanks BC for their support.

BC6. In reference to the Section 2.4, from a consumer protection standpoint, BC supports the principle of minimizing IDN variant label allocation in order to reduce the possible universe of abuse. BC recommends narrowing the potential exception to this principle where a language and/or script have “established conventions” with further detailed criteria for those conventions, because, BC states that “as currently stated, the exception seems overly broad and potentially threatens to swallow the rule limiting IDN Variant Label allocations.”

IDNGWG Response: IDNGWG has considered this feedback, agree with the comment and is intending to redraft the guideline to limit automatic activation of variant labels to a reasonable level to meet their concerns of the current language being overly broad.

BC7. BC supports Section 2.5.1 calling on registries to minimize IDN label confusion within the same script arising from the use of homoglyphic characters, to prevent bad actors to take advantage of homoglyphic character sets to mimic trademarks in order to conduct cybersquatting, infringement, phishing, and other malicious activities.

IDNGWG Response: IDNGWG thanks BC for their support.

BC8. BC agrees with the point in Section 2.5.2 which states: “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.” BC adds that only limited exceptions should apply to mixed scripts, which, from a consumer protection standpoint, seem to lack any significant legitimate use. Or alternatively, variants using mixed scripts be cable only to the same registrant or be blocked.

IDNGWG Response: The WG agrees and intends to revise the guideline to remove the reference to “exceptions”.

BC9. BC supports Section 2.5.3 to minimize Whole-Script Confusables as it mitigates the chance of nefarious activities.

IDNGWG Response: IDNGWG thanks BC for their support.

AB is interested in IDN homoglyphs and shares his observations.

AB1. AB notes that IDN Tables are more numerous than necessary and are sometimes redundant. As an example, a Hebrew TLD has 97 IDN tables, including Ukrainian which is not very usable being a different script, and which is, in turn, entirely included in Cyrillic. So, it may be recommended to remove (retire) IDN tables that are proper subsets of other tables or, better yet, not use overly permissive tables. Further, Cyrillic contains code points similar to Latin, so it may allow homoglyphs for some non-IDN second-level labels for the TLD.

IDNGWG Response: IDNGWG thanks AB for a very interesting comment. The WG notes that this covers three points: numerosity of IDN tables for a TLD, multiple IDN tables from the same script and whole script confusables. The Guidelines are intended for mitigating the end user confusion. Having many IDN tables provides option to the end-user. As the user has to deal with one of these IDN tables during registration and only the registered domain names afterwards, though many IDN tables may have management issues on the registry side, it does not impact the end user as much. The WG group agrees with other issues raised and has included guidelines for addressing each on, with guideline(s) for managing whole-script confusables and harmonizing variant labels across all IDN tables from the same script being offered. See Guidelines 13-17.

AB2. AB states that it could register whole-script Cyrillic homoglyph in a gTLD for usual ASCII domain label, get a valid TLS certificate for it and proxied all HTTP traffic to redirect to the homoglyph with HTTPS. This simple system allowed AB to visit "secure" HTTPS original site and then click an HTTP link to another page and be redirected to [HTTP://original](http://original) → my local server → [HTTPS://homoglyph](https://homoglyph), resulting in visually undetectable man-in-the-middle attack.

IDNGWG Response: IDNGWG thanks AB for the comment and notes that this problem is covered by the proposed Guideline 17. The WG would also include the reference to Unicode TR#36 in addition, which talks about restricting such cases to make it more explicit.

RYSG is pleased to see that several of its comments on the previous version of the draft guidelines have been taken into account.

RYSG1. RYSG states that Guideline 8 fails to define what constitutes a security and/or stability issue and who decides whether an IDN table does, in fact, pose any issues. The RYSG reiterates its earlier comment on this issue: In the context of these IDN Guidelines, the

RySG is of the opinion that “security and/or stability issues” is too broad and too open for interpretation. The relevant standards by which stability is assessed should only be Standards-Track or Best Current Practice RFCs sponsored by the IETF.

IDNGWG Response: The WG does not intend to define the terms “security” and “stability”. It deleted the reference to the definitions provided in the earlier draft version, which were reused from the Registry Services Evaluation Policy of the gTLDs, and is suggesting the use these terms without an explicit definition, with the intention that relevant applicable definitions will be inherited from existing arrangements, e.g. from the respective contracts for the gTLDs.

RYSG2. RYSG notes that Draft Guideline 11 still lacks a definition of “same registrant”, and recommends that Guideline 12 should include language stating that where a variant is active it should be delegated to the same name servers as the primary label.

IDNGWG Response: The WG thanks RYSG for the comment. The WG has clarified in the current revision that the registrant of the variant label is the same who has registered the primary label. The WG considers that the implementation details for the guideline should be left to the registries and not specified in these guidelines. Thus, additional requirements for same name servers is not added in the guidelines.

RYSG3. RySG agrees with the IDN Implementation Guidelines Working Group on the clarified scope of the guidelines in Section 1.2, these Guidelines should only apply to domain names at the second, or lower levels, registered with the corresponding TLD registry.

IDNGWG Response: IDNGWG thanks RYSG for their support.

RYSG4. On the reasonable timeline to implement guideline 6(a) on the use of the LGR format for IDN tables, the RySG is of the opinion that, consistent with our comments on the March 2017 document, registries should not be required to implement RFC 7940 to publish IDN tables. Registries who desire to transition to the new format should do it at their discretion.

IDNGWG Response: The WG considers that the LGR format in RFC 7940 contributes significantly to the interoperability of the IDN tables. Earlier formats cannot formally capture all the information including repertoire, variant code points, variant types, label dispositions and label-level evaluation rules. Moreover, the WG thinks that interoperability should be looked at in a broad sense beyond registries and registrars, e.g. also including application developers, who may find it easier to implement the LGR, due to its well-defined format. The WG considers that this format is useful for interoperability and promotes usability, even if it does not directly address confusability or cybersquatting. It should also be noted that the introduction to these guidelines states that they describe best practice for implementing IDNs. The WG feels that publishing in the LGR format is best practice, due to the advantages already described. Hence the WG feels it appropriate to include publishing using the LGR format within the guidelines.

IDNGWG had considered the RYSG comment during the first public comment and therefore added the X months to allow for the transition, which may be needed to implement the LGR format, and had the community to suggest an appropriate transition time to allow for this change. Also, the exception in 6(b) has been included specifically for IDN tables already approved, which allows the registries to continue to use these IDN tables in the current format without changing to the LGR format.

IDNGWG understands that the implementation of LGR may take time and agreed to the value of X to be 18 months as per the suggestion by RySG as a transition period (also see the response to RYSG5 below).

RYSG5. The RySG recommends providing registry operators with a transitional period, during which ICANN will not enforce these Guidelines and registries can assess, review and update their policies (internal and external) to conform to the new Guidelines, especially with respect to Guidelines 11, 12, 13, 18 and 19. Such transition period should not be less than 18 months from the adoption of these Guidelines.

IDNGWG Response: IDNGWG understands the concerns and recommends an 18-month transition period from the date these Guidelines are communicated to the relevant stakeholders for adoption after their approval. Until that period Guidelines ver. 3.0 will remain applicable.

RYSG6. The RySG proposes the following additions to the definitions in Appendix B:

- Blocked (addition suggested to avoid confusion): ‘State of an IDN label after blocking. The resulting string is a valid label, generated based on a given LGR (or IDN Table and IDN registration rules), but should be blocked from registration. (...)’
- Whole Label Evaluation Rules (missing words in the definition): ‘Context-based and whole label rules. The “rule” element also contain the character classes that they depend on, and (...)’

NCSG notes two comments raised by the IDNGWG.

NCSG1. For the first comment regarding Section 1.2, NCSG notes that IDNGWG says that it is beyond the scope of the guidelines and raises how ICANN organization is planning to address the case.

IDNGWG Response: IDNGWG noted that this is not in the scope of the WG and the WG will refer this comment to ICANN org.

NCSG2. For Guidelines 6(a), NCSG suggests 4-6 months before implementation, to be augmented by technical processing delay required for implementation.

IDNGWG Response: IDNGWG is suggesting 18 months for the guidelines as a transition period, as suggested by RySG.

NCSG3. NCSG recommends replacing current occurrences of "encourage" with "should" to urge related parties (registries and registrars) to take actions for registrants' benefits.

IDNGWG Response: IDNGWG has carefully considered the choice of these words based on the consensus within the WG, trying to create the right balance between the optional and mandatory requirements. Making these suggested changes generically would make the intended optional requirements also mandatory. The IDNGWG will proceed per its suggested

language unless there is a good reason presented to change the wording for some specific guideline.

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.

Feedback from BIWG

The Draft of IDN Guidelines for Second Public Comment was presented to Board IDN WG (BIWG) during their online meeting on 20 November 2017. In addition to the wider discussion, the BIWG had the following feedback on some of the specific guidelines.

Guideline 7. On Guideline 7, included from the previous version, BIWG noted that there has been insufficient collaboration in the area by the community, as has been asked by this guideline. Given the history, it was questioned if the potential of such collaboration in the future – and if it is not anticipated, whether this guideline be included.

Guidelines 6 and 10. BIWG inquired about how the IANA repository could be kept consistent with the IDN policies published at the registry website? BIWG noted that there are discrepancies in some cases.

Guideline 12. BIWG noted that SSAC has raised that active variant labels may result in a combinatorial explosion and that could cause a stability and user confusion problem on the Internet, which directly links to the mission of ICANN of safeguarding security and stability of the DNS. Therefore, BIWG asked that it should be clarified whether automatic activation is a compliance function of ICANN or totally left to the discretion of the registry.

Guidelines 15 and 16. BIWG noted the risk of script-mixing and suggested that the guidelines should include information on when and how a registry could get this exception for mixing scripts, and try to keep a high bar. For example, this could be done by listing the orthographies for which script mixing is allowed.

Feedback from IDN Implementation Guidelines Session

ICANN60, Abu Dhabi

29 October 2017

The context of the IDN Guidelines was presented for gTLDs and ccTLDs. In addition the background of development of the current draft of the guidelines was also shared, before the individual guidelines were presented. The following comments were received during the presentation of the guidelines.

Guidelines for Transition from IDNA2003 to IDNA2008 were presented.

General. It was noted by a participant that RFC 2119 language is not used anymore. IDNGWG explained that it was a conscious choice based on feedback from the previous round of public comment – IAB had commented that the RFC language is not applicable to this kind of document. However, similar level of wording is incorporated in the guidelines.

Guideline 6. It was asked to clarify the exception clause (b). The WG members explained that established IDN tables need not be converted. The new IDN tables will take effect after X months – IDNGWG is asking for feedback on the value of X. It was also noted by a participant that the current IDN tables are underspecified. IDNGWG member shared that the earlier formats are text based so there is no clear way to specify contextual rules.

IDNGWG also clarified that the new format is needed for new IDN tables – there was feedback from RySG that there is no need to retrospectively update them. A new implementation of an IDN table, either in a new TLD or as an additional IDN table in an existing TLD, will require the LGR format. IDNGWG members discussed this interpretation. They discussed that the term “registry” is being used synonymously with “TLD” which may cause confusion in interpretation. The intention has been that there will be no retrospective implementation of the IDN tables for a TLD. A TLD reusing an existing IDN table, or updating an existing one, will need to do so in the new LGR format. However, the IDNGWG decided to clarify the wording internally.

Community also noted that there is need for compliance checking for implementations of IDN tables and practices. ICANN org responded that for gTLDs there are mechanism to check compliance, however, it would be still useful to get further suggestions from the community. IDNGWG noted that this discussion is out of IDNGWG’s scope.

In response to another question, the IDNGWG clarified that it is referring to the format and not the content when it references the LGR.

Guideline 11. It was suggested that the wording be more specific to say that “IDN Variant Labels generated by an IDN table under the same TLD must be ...”.

Guideline 12. A participant suggested to be clearer that automatic activation is limited to allocatable variants. Point (iii) may be insufficient for this purpose.

Guideline 13. Based on a query on variant labels for geographical names, the IDNGWG mentioned that the current work is focused on the linguistic conventions and visual similarity and the response to the query may not be in the scope of the WG.

Guideline 14. A community member asked why the guideline is limited to homoglyphs as diacritics can also cause confusion. IDNGWG member responded that the guideline is calling to look at confusion in general and it will review the title which is limited to “homoglyphs”. However, another community member also noted that the similarity is a slippery slope.