

To: Donna Austin, chair GNSO IDNs EPDP Working Group

cc: Alejandra Reynoso, Chair of ccNSO

From: ccNSO PDP4 VM SubGroup

Subject: Request for Early Input

18 November 2021

Dear Donna,

Please find included the response from the ccPDP4 variant management SubGroup to your Request for Early Input from 29 September 2021.

As you know the ccNSO has launched a policy development process on the selection of IDNccTLD strings. The result of this policy effort will in time replace the IDNccTLD Fast Track process. The included input reflects the current state of discussions of the ccPDP4 efforts with respect to Variant Management. It has been prepared by the Variant Management Sub-Group, which is tasked to address the following gaps with respect to (IDN)ccTLDs:

- How are Variants of the selected IDNccTLD string defined
- How should variants of the selected IDNccTLD string be managed?

Please note that the discussions with respect Variant Management has been limited and is only supported by the SubGroup. The ccPDP4 full Working Group will in time need to support the findings of the SubGroup and include them in the proposed policy.

In our response we want to share the views of the ccPDP4 SubGroup on some aspects with respect to the following topics:

- A. Consistent definition and technical utilization of RZ-LGR
- B. "Same entity" at the top-level
- C. "Same entity" at the second-level

Although the topic is part of its mandate, the SubGroup is not yet in a position to respond to your questions with respect to the topic of the process to update the IDN Implementation Guidelines. We suggest that with respect to this matter the liaisons between our groups keep you abreast of the discussions.

With respect to the topic of the adjustment of string similarity review we want to inform you that the ccPDP4 full working group will establish a third SubGroup in the January-February 2022 timeframe, and we suggest (again) that as soon as that SubGroup has been established the liaisons between our groups keep you abreast of the discussions by this to be established sub-group.

Due to the limited scope of the ccNSO policy development process in general and scope of ccPDP4 specifically, we are not in a position to provide input with respect to the following topics:

- A. Adjustments in registry agreement, registry service, registry transition process, and other processes/procedures related to the domain name lifecycle
- B. Adjustments to objection process, string contention resolution, reserved strings, and other policies and procedures
- C. Adjustments in registration dispute resolution procedures and trademark protection mechanisms

We appreciate that the response we provide may not be directly relevant for the GNSO IDNs EPDP Working Group efforts due to the differences in scope and mandate. However, we hope that our responses may inform your discussions.

If the IDNs EPDP Working Group has any additional questions or comments. Please do not hesitate to reach out to the VM SubGroup or the full ccPDP4 WG.

On behalf of the ccPDP4 WG,

Kenny Huang, chair ccNSO Policy Development Process4 WG

Anil Kumar Jain, vice chair ccNSO Policy Development Process4 WG, alternate ccNSO appointed liaison to GNSO IDNs EPDP Working Group

TLD Label Validation and Variant Label(s) Calculation

A. Consistent definition and technical utilization of RZ-LGR:

The Charter recognizes that RZ-LGR related recommendations that the following questions seek to address were developed with the aim to achieve the security and usability goals for variant labels in a stable manner and were designed to be conservative, with the view that the IDN variant TLDs are being implemented for the first time.

a1) Evaluating all TLDs using RZ-LGR as the one and only authoritative source allows for a consistent approach for reviewing current and future TLDs. The SubPro PDP, the Staff Paper, and the Study Group on Technical Use of RZ-LGR (“TSG”) recommend that compliance with RZ-LGR (RZ-LGR-4, and any future RZ-LGR versions) must be required for the validation of all future gTLDs (including IDN and ASCII labels) and the calculation of their variant labels as a matter of policy, including the determination of whether the disposition of the label should be blocked or allocatable.¹

For existing delegated gTLD labels, does the WG recommend using the RZ-LGR as the sole source to calculate the variant labels and disposition values?

Response VM SubGroup

A. ccPDP4 VM Subgroup Recommendation.

Definition of Variants. Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-LGR rules sets) MUST be required for the generation of IDNccTLDs and variants labels, including the determination of whether the label is blocked or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s).

a4) For future gTLD applications, the SubPro PDP proposes an implementation guidance that if a script is not yet integrated into the RZ-LGR, applicants should be able to apply for a string in that script, and it should be processed up to but not including contracting.² Applicants under such circumstances should be warned of the possibility that the applied-for string may never be delegated and they will be responsible for any additional evaluation costs. The

¹ See Recommendation 25.2 and Implementation Guidance 26.10 in the SubPro Final Report, pp.115, 119: <https://gns0.icann.org/sites/default/files/file/field-file-attach/final-report-newgtld-subsequent-procedures-pdp-02feb21-en.pdf#page=115>; Recommendation 1 in the Staff Paper, p.3: <https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=3>; Recommendation 1 in the TSG report, p.5: <https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=5>

² See Implementation Guidance 25.3 in the SubPro Final Report, p.115: <https://gns0.icann.org/sites/default/files/file/field-file-attach/final-report-newgtld-subsequent-procedures-pdp-02feb21-en.pdf#page=115>

burden in this case is on the applicant, who may have to wait for an indeterminate amount of time but is not aware of any other serious concerns. The SubPro PDP developed this implementation guidance by taking into consideration the TSG recommendation that the application should remain on-hold (or other appropriate status) until the relevant script is integrated into the RZ-LGR.³

The WG and the SubPro IRT to coordinate and consider the following questions in order to develop a consistent solution: should the SubPro recommendation be extended to existing TLDs that apply for a variant TLD label whose script is not yet supported by the applicable version of the RZ-LGR? Consider this question in tandem with **b4)** and by taking into account the data to be collected in the “Data and Metric Requirements” section of this charter. If not, what should be the process for an existing TLD registry who wishes to apply for a variant TLD label whose script is not yet supported by the applicable version of the RZ-LGR?

VM Response

This topic will be discussed shortly by the VM SubGroup.

a5) SAC060 notes that variant code points in LGR may introduce a “permutation issue”, possibly creating a large number of variant domain names, which “presents challenges for the management of variant domains at the registry, the registrar and registrant levels.”⁴ SAC060 advises that “ICANN should ensure that the number of strings that are activated is as small as possible.” The TSG agreed with this SSAC advice.⁵ Appendix C of the Staff Paper reviewed the factors causing numerous variant labels and suggested measures to address this issue.⁶

Should there be a ceiling value or other mechanism to ensure that the number of delegated top-level variant labels remains small, understanding that variant labels in the second level may compound the situation? Should additional security and stability guidelines be developed to make variant domains manageable at the registry, registrar, and registrant levels?⁷

VM Response

³ It is important to recognize that the RZ-LGR can be updated to include additional scripts as long as it is done in compliance with the LGR Procedure. The practical limitation, however, is that the time to create an LGR script proposal varies greatly (i.e. months or years). See Recommendation 5 in the TSG report, p.7:

<https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=7>; for additional context and rationale, see Appendix A of the Recommendations for Technical Utilization of RZ-LGR, pp.11-12: <https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=11>

⁴ See Recommendation 14, SAC060, p. 20: <https://www.icann.org/en/system/files/files/sac-060-en.pdf#page=20>

⁵ See Recommendation 6 in the TSG report, p.7: <https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=7>

⁶ See Appendix C of the IDN Variant TLD Implementation: Appendices, pp. 12-29:

<https://www.icann.org/en/system/files/files/idn-variant-tld-appendices-25jan19-en.pdf#page=12>

⁷ One of the security and stability concerns is that some scripts can generate large numbers of variants based on the way the LGR works. The RZ-LGR Procedure manages such numbers by minimizing allocatable variant labels and maximizing blocked variant labels. However, though this approach is optimal in most cases, the outcome may be worse for a specific label in some cases.

The issues under a5) will be discussed shortly by the VM SubGroup.

a6) Since RZ-LGR can be updated over time, the WG needs to consider the implications for existing TLD labels and their variant labels (if any), including any potential changing of status or disposition value.⁸

The TSG further recommends that the Generation Panel (GP) must call out the exception where an existing TLD is not validated by their proposed solution during the public comment period and explain the analysis and reasons for not supporting the existing TLD in their script LGR proposal.⁹ This will allow the community and the GP to review such a case to confirm that an exception is indeed warranted.

Does the WG agree with TSG's suggested approach? If so, to what extent should the TLD policies and procedures be updated to allow an existing TLD and its variants (if any), which are not validated by a script LGR, to be grandfathered? If not, what is the recommended approach to address changes to the current version of the RZ-LGR that assign different disposition values to existing TLDs? Consider this question by taking into account the data to be collected in the "Data and Metric Requirements" section of this charter.

VM Response

This issue under a6) will be discussed shortly by the VM SubGroup.

a9) A given label in an Internationalized Domain Label (IDL) set may be in one of the following non-exhaustive status: delegated, withheld-same-entity, blocked, allocated, rejected. The WG and the SubPro IRT to coordinate and develop a consistent definition of variant label status in the IDL set.

VM Response

The VM SubGroup has identified the need for a consistent definition of the status variant labels as well. To date the terms have been defined loosely, but where possible the VM SubGroup proposes to coordinate the definition of the status of labels/strings

a10) Individual labels in an IDL set may go through the following possible status transformations:

- **from "withheld-same-entity" to "allocated"**: Allocation only to the same entity as another label in the IDL set. This change happens if a variant was not initially

⁸ See Recommendation 7 in the TSG report, p.8: <https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=8>

⁹ See Recommendation 12 in the TSG report, p.9: <https://www.icann.org/en/system/files/files/rz-lgr-technical-utilization-recs-07oct19-en.pdf#page=9>

requested for allocation and later is. Allocating withheld labels would be the application process for a variant TLD.

- **from “blocked” to “withheld-same-entity”**: A later LGR may broaden the available labels in the IDL set. Such possible labels automatically become withheld-same-entity.
- **from “allocated” to “delegated”**: Happens when name servers are added. (Not new.)
- **from “delegated” to “allocated”**: If a domain is removed from the DNS, the allocation can remain in place anyway. Rare in the root zone, but not new.
- **from “rejected” to “withheld-same-entity”**: Every Rejected label is automatically Withheld-same-entity as well. If the Rejected status comes off, the label can be handled as any other Withheld-same-entity label.

Note that an allocated or withheld-same-entity label cannot become blocked unless a new version of the LGR makes this possible.

The WG and the SubPro IRT to coordinate and consider the following questions in order to develop a consistent solution: what is the procedure to change the label status for individual variant labels?

IDN Variant TLD Management

B. “Same entity” at the top-level

b1) Both the SubPro PDP and the Staff Paper recommend that variant TLDs that ICANN delegates must have the “same entity” as the sponsoring organization and the “Registry Operator” be used as the definition of the “same entity” at the top-level.¹⁰

Should this recommendation be extended to existing TLDs?

VM SubGroup Response

A. ccPDP4 VM Subgroup Recommendation.

IDN variant TLDs {T1, T1V1, ..,T1Vx} MUST be allocated to same entity. The set of allocatable variant strings that is generated from the selected IDNccTLD string by applying the RZ-LGR, MUST be allocated to one and the same entity, the requestor (the entity that submits the selected IDNccTLD string), delegated to one and the same entity, the IDN ccTLD Manager) or withheld for possible future delegation to the IDNccTLD Manager. In other words, for a selected top-level label T1, its allocatable variant label(s) T1V1,..., T1Vx shall only be allocated to the IDN ccTLD requestor, or - after

¹⁰ See Recommendation 25.5 in the SubPro PDP Final Report, p.115:

<https://qns0.icann.org/sites/default/files/file/field-file-attach/final-report-newqtld-subsequent-procedures-pdp-02feb21-en.pdf#page=115>; Recommendation 2 in the Staff Paper, p.3:

<https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=3>; rationale for Recommendation 25.5 in the SubPro PDP Final Report, p.117:

<https://qns0.icann.org/sites/default/files/file/field-file-attach/final-report-newqtld-subsequent-procedures-pdp-02feb21-en.pdf#page=117>; Section 3.2 in the Staff Paper, pp.6-7: <https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=6>

the delegation process for the selected IDNccTLD string has been initiated - delegated to the same IDNccTLD Manager or withheld for possible delegation to that IDNccTLD Manager.

If a specific IDNccTLD is operated by a "back-end" registry service provider under arrangement with the IDNccTLD Manager, or will be operated by a "back-end" registry service provider under arrangement with the IDNccTLD Manager, then that "back-end" service provider MUST operate all delegated variants of that specific IDNccTLD as well.

Additional observations of the SubGroup

A. ccPDP4 VM Subgroup Recommendation.

All delegated variant IDNccTLD strings MUST be operated by the same entity. If a specific IDNccTLD is operated by the IDNccTLD Manager all variants MUST be operated by the IDNccTLD Manager (IDNccTLD Manager is the entity or organisation listed in the IANA rootzone database as the ccTLD Manager for a specific [IDN]ccTLD). If a specific IDNccTLD is operated by a "back-end" registry service provider under arrangement with the IDNccTLD Manager, or will be operated by a "back-end" registry service provider under arrangement with the IDNccTLD Manager, that "back-end" service provider MUST operate all delegated variants of that specific IDNccTLD.

Examples from IANA Root Zone Database to illustrate the definition of ccTLD Manager:

Example 1 (ASCII ccTLD):

Delegation Record for .AC

(Country-code top-level domain)

ccTLD Manager

Internet Computer Bureau Limited

c/o Sure (Ascension Island)

Georgetown

ASCN 1ZZ

Ascension Island

Example 2 (IDNccTLD):

Delegation Record for .இலங்கை

(Country-code top-level domain designated for two-letter country code LK)

ccTLD Manager

LK Domain Registry

c/o Computer Science and Engineering Department, University of Moratuwa

Moratuwa 10400

Sri Lanka

b2) Both the SubPro PDP and the Staff Paper recommend that variant TLDs be operated by the same back-end registry service provider, the organization providing one or more registry services (e.g., DNS, DNSSEC, RDDS, EPP) for a registry operator.¹¹

Should this recommendation be extended to existing TLDs and their variant TLD labels?

VM SubGroup Response

See response b2).

b4) The policy recommendation advises that variant TLD labels be allocated to the same entity, however a process to apply for a variant TLD does not exist. The WG and the SubPro IRT to coordinate and consider the following questions in order to develop a consistent solution: what should an application process look like in terms of timing and sequence for an existing and future Registry Operator with respect to applying or activating their allocatable variant TLD labels?

VM SubGroup Response

A. ccPDP4 VM Subgroup Recommendation.

All ccTLD related policies MUST apply to variant IDNccTLDs as well. However, specific requirements under a policy may vary for the selected IDN ccTLD string and its allocatable variants.

If a selected IDNccTLD string is delegated under the existing relevant policy for delegation of ccTLD, the whole set of allocatable IDNccTLD variants SHALL be delegated, or withheld for future delegation to the same entity, on the basis of the request for delegation of the selected IDNccTLD string, unless otherwise foreseen under this policy.

If a selected IDNccTLD string is requested to be transferred in accordance with RFC1591 as interpreted by the FoI to another entity, the whole set of allocatable IDNccTLD strings SHALL be transferred or withheld for future delegation to the same other entity, on the basis of the request for transfer of the selected IDNccTLD string, unless otherwise foreseen under this policy.

If a selected IDNccTLD string or any of its variants is revoked in accordance with RFC1591 as interpreted by the FoI, all other allocated variant IDNccTLDs (delegated or withheld for future delegation) SHALL be revoked.

If the selected IDNccTLD string should be retired as foreseen under this policy, all variant IDNccTLD strings SHALL be retired, unless otherwise foreseen under this policy.

Implementation of this and other recommendations pertaining to variant IDNccTLD strings is considered a matter of implementation.

¹¹ See Recommendation 25.5 in the SubPro PDP Final Report, p.115: <https://qnso.icann.org/sites/default/files/file/field-file-attach/final-report-newqtld-subsequent-procedures-pdp-02feb21-en.pdf#page=115>; Recommendation 7 in the Staff Paper, p.4: <https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=4>

B. Sub-group Findings and Discussion.

Scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws. ccPDP4 is limited to the selection of IDN ccTLD strings. The basic premise is that delegation, transfer, revocation and retirement should be in accordance with existing policies. This is reflected in the ISSUE Report, and proposed policy proposals.

b4a) For the variant labels with status “withheld for the same entity” (i.e. not requested for allocation in the application process), what role do they play?

b5) Do restrictions that apply to a TLD (e.g., community TLDs, dot brand TLDs) also apply to its variants? Are these labels equally treated as different versions of the same string, or completely independent strings not bound by the same restrictions?

C. “Same entity” at the second-level:

c1) Both the SubPro PDP and the Staff Paper recommend that: 1) a given second-level label beneath each allocated variant TLD must have the “same entity”; and 2) all allocatable second-level IDN variant labels that arise from a registration based on a second-level IDN table must have the “same entity”.¹²

Should this recommendation be extended to existing second-level labels?

VM SubGroup Response

Registration of SLD variant labels under variant TLDs to the same entity

A. ccPDP4 VM Subgroup Recommendation.

All variants of a Second-Level string registered under all delegated variant IDNccTLD strings MUST be registered to the same entity under all IDNccTLD variant strings. IF IDNccTLD variant strings have been delegated, and for a second level string to be registered under an IDNccTLD string a set of allocatable variant second level strings can generated by applying the IDN Table for second level strings under the IDNccTLD string, THEN under all delegated IDNccTLD variant strings ~~at~~ the set of allocatable variant second level strings MUST be either registered for one and the same entity or withheld for possible future registration by that same entity

And / Or

Transitional arrangement for discussion at later stage: If a variant IDNccTLD string is delegated after the IDNccTLD has become operational this recommendation also applies: under the newly delegated

¹² See Recommendation 25.6 in the SubPro PDP Final Report, p.116:

<https://gnso.icann.org/sites/default/files/file/field-file-attach/final-report-newqtld-subsequent-procedures-pdp-02feb21-en.pdf#page=116>; Recommendation 3 in the Staff Paper, p.3:

<https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=3>;

Recommendation 25.7 in the SubPro PDP Final Report, p.116: <https://gnso.icann.org/sites/default/files/file/field-file-attach/final-report-newqtld-subsequent-procedures-pdp-02feb21-en.pdf#page=116>; Recommendation 4 in the Staff Paper, p.4: <https://www.icann.org/en/system/files/files/idn-variant-tld-recommendations-analysis-25jan19-en.pdf#page=4>

variant IDNccTLD string all allocatable variant second level strings of a registered second level string MUST be registered for one and the same entity or withheld for possible future registration for that entity.

With respect to definition of same entity the SubGroup noted

Update policies and procedures to set a functional definition for “same entity” [for the second level] in the absence of EPP contact objects or associated ROIDs. (The action might be that this is not a ccNSO responsibility, but one taken by each registry instead.)

Note: Generic “Same Entity” definition is beyond scope, and very dependent on specific registration policies. Example: some (IDN) ccTLD will allow registration by non-national individuals or legal entities, whilst others only allow registration by legal entity, which was established under specific, relevant laws for the Territory.