1. Introduction

The Variant Management sub-group is expected to address the following gaps with respect to (cc)TLDs and their Variants:

- **How are Variants defined?**
- **How are they managed?**

With respect to the first question, the definition of TLD Variants, on 11 Apr. 2013, the ICANN Board resolved to implement the LGR Procedure. The definition is included in Table 1 as item # 1.

With respect to the second question, IDN variant TLD management mechanism, the ICANN Board of Directors:
- approved on 14 March 2019 IDN Variant TLD Recommendations and requested ccNSO and GNSO take into account the recommendations while developing their respective policies to define and manage the IDN variant TLDs for the current TLDs as well as for future TLD applications, and communicate for a consistent solution.
- approved on 26 January 2020 Recommendations for the Technical Utilization of the Root Zone Label Generation Rules and requested the ccNSO and GNSO Councils take into account the Recommendations while developing their respective policies to define and manage the IDN variant TLDs for current TLDs as well as for future TLD applications.

To provide an overview to the working group and ensure the coordinated and consistent approach as requested the sub-group first looked at the IDN Variant TLD Recommendations. Starting point are the recommendations as adopted by the Board. In addition, the sub-group looked at the GNSO view on these recommendations. The recommendations of the sub-group and their findings per recommendations are included (Section 2).

Secondly, the sub-group looked the recommendations on the Technical Utilization of RZ-LGR. Again, first the recommendations as adopted by the Board. In addition, the sub-group looked at the GNSO view on these

recommendations. The recommendations of the sub-group and their findings per recommendations are included Section 3).

Thirdly, and for the time being as placeholder, section 4 will include the findings and recommendations of the sub-group with respect to IDN Tables.

Finally, the sub-group has identified some issues that require further discussion with the full working group. The issues are listed in section 5.

2. Overview IDN Variant TLD Recommendations

Item 1. Defining IDN Variant TLDs

    A. Staff recommendation.

RZ-LGR MUST be the only source for valid TLDs and their variant labels. (same as first IDN Variant TLD recommendation – see below)

    B. GNSO SubPro Recommendation.

Recommendation 25.2: 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 TLDs 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). To the extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.

1   **Recommendation 25.2**: Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-LGR
2   rules sets) must be required for the generation of TLDs and variants labels, including the determination of whether the
3   label is blocked or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s). To the extent
4   possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.
5
6   To the extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be
7   utilized.
8
9
10 Implementation Guidance 26.10: The application submission system should do all feasible algorithmic checking of TLDs,
11 including against RZ-LGRs and ASCII string requirements, to better ensure that only valid ASCII and IDN TLDs can be
12 submitted. A proposed TLD might be algorithmically found to be valid, algorithmically found to be invalid, or verifying its
13 validity may not be possible using algorithmic checking. Only in the latter case, when a proposed TLD doesn't fit all the
14 conditions for automatic checking, a manual review should occur to validate or invalidate the TLD.
15

16 **C. ccPDP4 VM Subgroup Recommendation.**

17 **Definition of Variants.**
18 Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-LGR rules sets) MUST be
19 required for the generation of IDNccTLDs and variants labels, including the determination of whether the label is blocked
20 or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s).
21

22 **D. Sub-group Findings and Discussion.**

1 Staff Question: what if, if relevant script (the script in which the Designated Language is expressed) is not (yet) integrated in RZ-LGR? (see also
2 item 5 table 2).
3
4 Looking at the SUBPro recommendation, distinction between blocked and allocatable
5 Clarify the difference? Discussed
6
7 Question check if understood correctly. If a IDNccTLD is requested i.e. meets criteria of meaningfulness and IDNA 2008, sufficient or also
8 required that. Blocked and allocatable. Difference: allocatable applied potential strings
9
10 RZ-LGR Designed tool string / label. Output set contain all variants. Blocked maximized, variants
11 Note discussion on requirements for IDN ccTLD string: Technical criteria in general apply.
12
13 IDN TLDs strings must comply with IDNA2008 (RFCs 5890-5895) or its successor(s).
14 The language marked <mark>yellow</mark> under Sub Pro has been included as a reference.
15
16

17 **Item 2. Allocation of TLD to the same entity**

18 **A. Staff recommendation.**

19 IDN variant TLDs {t1, t1v1, …} MUST be allocated to same entity.

20

21 For IDN variant TLDs that arise from an application and the RZ-LGR, all allocatable IDN variant TLD labels in the set must be
22 allocated to the same entity or withheld for possible allocation only to that entity. In other words, for a top-level label t1
23 allocated to Entity X, its allocatable variant label t1v1 must only be allocated to Entity X or else withheld for possible
24 allocation only to Entity X.

25

26 **B. GNSO SubPro Recommendation.**

Recommendation 25.5: IDN gTLDs identified as variant TLDs of already existing or applied for gTLDs will be allowed only if labels are allocated to the same entity and, when delegated, only if they have the same back-end registry service provider. This policy must be captured in relevant Registry Agreements.

C. ccPDP4 VM Subgroup Recommendation.

IDN variant TLDs {T1, T1V1, ..,T1Vx} MUST be delegated to same entity.

The set of allocatable variant strings that is generated from the selected IDNccTLD string by applying the RZ-LGR, MUST be delegated or transferred (also after a revocation) to one and the same the same entity or withheld for possible future delegation to that entity. In other words, for a top-level label t1 delegated to the IDN ccTLD Manager, its allocatable variant label(s) t1v1,…, t1vx shall only be delegated or transferred to the same IDNccTLD Manager or else withheld for possible delegation to IDNccTLD Manager.

If a specific IDNccTLD is operated by a "back-end" service provider under arrangement with the IDNccTLD Manager, or will be operated by a "back-end" 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.

D. Sub-group Findings and Discussion.

Question: in description the word arise is used: Does this imply no need to request? The Variants are assigned automatically?
Not all variants are IDNs, some may be ASCII, if ASCII how does this relate general requirement (at least one non-ASCII character). Is there a potential hierarchy of requirements? uncover requirements Flag for full working group
If in principle all Variants of IDNccTLD are allowed to be delegated -> ASCII string. What if ASCII string already exists?

1 Note: related to discussion section 3 item 6. SSAC recommendation to minimize number of delegated strings. Potential unnecessary burden if
2 to many variants are all delegated. Potential solution is to limit the number allowable (delgatable) IDNccTLDs strings to variant IDNccTLD
3 strings that are meaningful.
4
5 What are characteristics of entity in context of IDNccTLDs? Once a selected string has been verified, it will be delegated as a ccTLD to the
6 ccTLD Manager. Is this the idea?
7
8 Note that some ccTLD Managers have an arrangement with a back-end provider. Should a similar, mandatory arrangement be provided as a
9 requirement for delegation of variants?
10
11 Should Back-end registry service provider be defined as term?
12
13 ccNSO Institutional Issue. Assuming variants will be delegated to the same ccTLD Manager, should the ccTLD Manager for each, and every
14 variant of the selected IDNccTLD string be treated as an individual ccTLD Manager, and may therefore become member of the ccNSO for each,
15 and every variant IDNccTLD?
16
17 Description staff recommendation, the word "arise" is used. If an organisational entity submits an IDN ccTLD string then RZ-LGR is applied, and
18 variants occur. If they are allocatable, what happens? Bundled with the selected string?
19 Yes, that is accurate, but not use term bundled. Blocked variants: not allocatable to anybody. The allocatable variants will be put aside for the
20 same applicant for potentially use.
21
22 Q: Does the entity need to request the delegation of the variant strings as well? Is that done automatically?
23 Response: "withheld" is the right term. Not use the term "reserved", because those strings cannot go to any applicant. Being withheld is an
24 automatic step. But the delegation is not an automatic step.
25
26 Note: In principle delegation follows the IANA delegation process and at the request of the future IDN ccTD manager.
27
28 Q: next step? Automatic delegation? Other criteria of string evaluation for IDN ccTLDs. One thing for the WG to consider is to create the strings
29 automatically. May or not fulfill the evaluation criteria for the strings.
30 Q!: are the meaningfulness criteria still valid for variants?

1
2   Response: yes, but not only. Technical criteria too. Multiple factors.
3
4   Question: criteria as developed by the main group should apply to the variant as well?
5   Response: see original recommendations from the staff report. Recommendation 9: all existing processes should apply, unless there is an
6   explicit exception. Same rigour. Original process applies to each variant, unless there are documented exceptions by the WG. Response : let's
7   discuss when we reach recommendation 9 from the staff paper.
8
9   Q: How was this viewed in the ccNSO SubPro discussions? What should be the same entity? Should this be the ccTLD manager, or someone
10 else?
11 Registry operators in the gTLD world. Entity that is the TLD manager
12
13 Q: regarding the backend providers, should we include anything here? Response: IDNccTLDs with high level of complexity. Limited practice in
14 this area. Be conservative at the start. If same entities operate the variant TLDs, it is easier to manage the complexity. Response: supported by
15 one of the principles of the full WG.
16 Mechanism where we strongly urge, support and almost enforce iIDNccTLD managers to adhere to this basic recommendation. ccTLD-world
17 does not have a registry Agreement. If we suggest to leave this up to implementation, there will be a lot of push-back.
18 Q: what is backend provider? The technical support provider (TSP)? R: yes. Example AUDA. clear line between the policy-setting and
19 administrative organisation on the one hand, and the operational and technical organisation.
20 With respect ot "back-end service providers" see also item 7 below
21 Q: Suppose the backend is still the same, how will this recommendation become invalid?
22 Response: If you have multiple variants under management, the entity could assign the various variants to backends among several parties.
23 Situation you want to avoid. To ensure coherent management of variants.
24 Note: Our company is a TSP. We are not a TLD manager. Even though 2 backend operators want to implement the same policies, there are
25 always minor differences. Should be avoided for TLDs that are variants of each other.
26
27 Question: Do you agree with the principle of unified management? To be revisited next time. A few green marks, no red marks. Principle
28 confirmed at meeting 27 June 2021
29
30 Next meeting: come up with a mechanism that would ensure this, to the extent possible.

1   Q: once variants are delegated, will they be listed in the root zone DB as a separate entry?
2   Response: the variant is an annotation to the string. Entry in the root zone, similar record as any other entry. Some constraints.
3
4   Note: suggestion to go back to IANA, and ask them for input.
5   Response:
6   Currently, IANA has NOT defined how it will handle variants. However please not ethe following in response:
7   If multiple variants are intrinsically linked as an inviolable set, then IANA procedures will need to support the notion of them as a bundle and
8   all the associated business processes will have to adapt accordingly. This would imply for example for a transfer of one, the whole set should
9   be transferred. If, on the other hand, they are unconstrained and each variant can be treated as if it weren't part of a set (i.e. as a wholly
10   independent TLD) then procedures do not need to be adjusted and treat each variant as a TLD with no special consideration for them being
11   variants.
12
13   IANA expressed hope that whatever parameters / constraints is arrived at by ccNSO policy is will be compatible with GNSO policy. IANA strives
14   wherever possible to have common approaches across all TLDs, so if we can represent ccTLD variants and gTLD variants in the same manner in
15   the root zone database that will certainly simplify things greatly.
16   Note the concern in second paragraph form IANA relates to item 8 and item 9.
17   Question: do variants follow the life-cycle of selected IDNccTLD string (of which they are derived)? Life-cycle: request for delegation, transfer
18   (consented or after revocation), retirement. Should distinction be made between:
19   • What about blocked variants?
20   • What about allocatable but not delegated variants strings?
21   • What about delegated variant strings?
22
23   Note: 2 issues
24   • Membership ccNSO. Related to the iana root zone DB. if listed as a ccTLD manager, you are listed as such. Then you can apply for
25   ccNSO membership. E.g. NIXI manages 22 ccTLDs including the IDN ccTLDs and .in. You can imagine that if there would be variants as
26   well, the number of entries for NIXI in the root zone would increase. Requirements for ccNSO membership. The ccnso had to deal with
27   this: one vote per country. Implications and impact on the membership of the ccNSO
28   Q: is this for this WG to discuss? Response: it is a consequence for introducing variants. May need to be flagged as something for the broad
29   group to discuss (included in section 5)
30

ccPDP3 retirement Policy recommendations on retirement are in the decision-making phase. One of the subgroups of ccPDP4 deals with the de-selection of IDN ccTLD strings. (i.e. retirement) if the IDN string is de-selected, should the variants follow the rules and practices of the selected IDN ccTLD string or not?

Note: the next upcoming IDN GNSO PDP will weigh in on the implications of the same entity principle both on first and second level. One aspect is transfer (same entity to be preserved), if one variant label is intended to be moved, all other labels need to move to another entity. Operator and backend.

Response: consistency principle to apply on transfer, revocation etc as well. That is the implication. Consistent with how things happen now. Note comment above, IANA remarks

Use term "ASSOCIATED" IDNccTLDs, to describe the set of selected IDNccTLD string (S1) and its variants (S1V1, …S1,Vx) ?
Preference is to use descriptive terms and use them consistently. Basic terms are: "set of allocatable variants", "set of blocked variants", "set of delegated variants".

Item 3. Allocation of SLD to the same entity

   A. Staff recommendation.

Same label under IDN variant TLDs s1.{t1, t1v1, …} MUST be registered to the same entity.

For each allocated IDN variant TLD, a given second level label beneath the TLD must only be allocated to the same entity/registrant, or else withheld for possible allocation only to that entity. In other words, s1 under {t1, t1v1, …}, e.g., s1.t1 and s1.t1v1, must be allocated to Entity Y or else withheld for possible allocation only to Entity Y.

B. GNSO SubPro Recommendation.

Recommendation 25.7: For second-level variant labels that arise from a registration based on a second-level IDN table, all allocatable variant labels in the set must only be allocated to the same entity or withheld for possible allocation only to that entity (e.g., all allocatable second-level labels {s1, s1v1, …} under all allocated variant TLD labels {t1, t1v1, …}).

C. ccPDP4 VM Subgroup Recommendation.

The set of allocatable variant second level strings that is generated from the application of a second-level IDNccTLD string by applying the RZ-LGR (or alternatively) based on the IDN Table for second or lower levels, MUST be delegated or transferred to one and the same the same entity or withheld for possible future delegation to that entity.

In other words, for a second-level label s1 delegated under the IDNccTLD string, its allocatable variant label(s) s1v1,…, s1vx shall only be delegated or transferred to the same entity or else withheld for possible delegation to that entity.

D. Sub-group Findings and Discussion.

Staff Note: Scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws)
Use language Expected, but not mandatory? However, not that by definition (second level) domains and their variants are one and the same domain. This is derived from actual definition of variants.

Two considered the same by TLDs If the same string then same registrant, otherwise may causes security and stability issues.

Question: what happens if two domain names which are deemed to be the same are delegated to two different entities?

1 Same policies/difference. Re-iterated variants are delegated to same entities, however in practice the IDN table used may be differ from IDN
2 table used for registration of SLDs under the TLD: apply different tables. Policy principle is the same.
3
4 From the Fast Track application form:

5 **By signing and submitting this request the Requestor commits to** TLD operations that will secure and enhance the stability and
6 interoperability of the Internet's Domain NameSystem (DNS) for the benefit of the local and global Internet community, and to working in
7 good faith together with ICANN towards a stable and secure Internet DNS. The Requestor understands that ICANN reserves the right to take
8 actions necessary to protect the security, stability and interoperability of the global DNS.

9 ICANN expects that IDN ccTLDs will be established and operated in the manner described below:

10 a. The IDN ccTLD manager shall establish, operate and maintain the authoritative name servers for the requested string in a stable and
11 secure manner, adequate to resolve names within the requested string by users throughout the Internet and in compliance with
12 Relevant Applicable Standards subject to and within the limits of relevant national law and national public policy. Relevant Applicable
13 Standards are standards-track or best current practice RFCs sponsored by the Internet Engineering Task Force;
14 b. IDN domain names are to be registered in accordance with a publicly available registration policy that shall comply on an ongoing basis
15 with relevant applicable standards to IDNs, such as the IDNA Protocol, and with the IDN guidelines as updated and published from time
16 to time on the ICANN website, all subject to and within the limits of relevant applicable national law and public policy. This includes,
17 but is not limited to, adherence to RFCs 3490, 3491, 3492, 3454 and their successors;
18 c. The IDN ccTLD manager should not use DNS redirection and synthesized DNSresponses within any level of the registry; and
19 d. The Requestor agrees that the IDN ccTLD manager will cooperatively engage with ICANN in the event of an activity or lack of activity
20 that generates a serious concern regarding the stability, security or interoperability of the Internet's Domain NameSystem (DNS) from a
21 global perspective. Briefly, the cooperative engagement process involves the designation of an official representative from ICANN and
22 the IDN ccTLDmanager, who shall meet with each other telephonically and/or in person to address the concerns in good faith and
23 attempt to reach a resolution.

24
25
26 **Item 4. Registration of SLD variant labels under variant TLDs to the same entity**

A. Staff recommendation.

Second-level variant labels under IDN variant TLDs {s1, s1v1, …}.{t1, t1v1, …} MUST be registered to the same entity.

According to the IDN Implementation Guidelines, for second-level IDN variant labels that arise from a registration based on a second-level IDN table, all allocatable IDN variant labels in the set must only be allocated to the same entity or withheld for possible allocation only to that entity. This implies that all allocatable second-level labels {s1, s1v1, …} under all allocated variant TLD labels {t1, t1v1, …} must be allocated to Entity Z or else withheld for possible allocation only to Entity Z.

B. GNSO SubPro Recommendation.

Recommendation 25.5: IDN gTLDs identified as variant TLDs of already existing or applied for gTLDs will be allowed only if labels are allocated to the same entity and, when delegated, only if they have the same back-end registry service provider. This policy must be captured in relevant Registry Agreements.

C. ccPDP4 VM Subgroup Recommendation.

D. Sub-group Findings and Discussion.

Staff Note: Relevant sections in the ccPDP4 WG document, which includes refers to IDN Tables and the related policies and procedures.

Staff Note: Scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws)

Item 5. Harmonization of SLD IDN Tables

    A. Staff recommendation.

Second-level IDN tables offered under IDN variant TLDs MUST be harmonized.

Second-level IDN tables applicable for an IDN variant TLD set must be mutually coherent but not necessarily identical. For two second-level variant labels s1 and s1v1 under any TLD t1 generated using the applicable IDN table for t1, these must also be variant labels under TLD t1v1 if generated by the applicable IDN table for t1v1. This also implies that the complete set of second-level variant labels may not all be valid under all variant TLDs. For example, for the second level label s1v2, the domain name s1v2.t1 may be valid, but due to difference in IDN tables for variant TLDs, s1v2.t1v1 may not be valid.

    B. GNSO SubPro Recommendation.

No corresponding recommendation under SubPro

    C. ccPDP4 VM Subgroup Recommendation.

    D. Sub-group Findings and Discussion.

Item 6. Not all variants across Variant TLDs need to be operational

    A. Staff recommendation.

IDN variant label allocatable or activated under IDN variant TLDs may not necessarily be the same.

The set of allocatable or activated second-level variant labels may not be identical across the activated IDN variant TLDs. For two variant labels s1 and s1v1 which are allocatable under the active IDN variant TLDs t1 and t1v1, the label s1.t1 may be allocated or activated but s1.t1v1 may not be allocated or activated. Similarly, if s1v1.t1 is allocated or activated, s1v1.t1v1 may not be allocated or activated.

    B. **GNSO SubPro Recommendation.**

Recommendation 25.8: Second-level labels derived from Recommendation 25.6 or Recommendation 25.7 are not required to act, behave, or be perceived as identical.

    C. **ccPDP4 VM Subgroup Recommendation.**

Staff Note: scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws), to define this a policy requirement. At the same time, note that recommendations is cast in terms of advise or guidance, not as a requirement.

    D. **Sub-group Findings and Discussion.**

Item 7. Back-end registry service providers for variant TLDs

    A. Staff recommendation.

The registry service providers MUST be the same for IDN variant TLDs.

For feasible and consistent implementation of these requirements, the same back-end registry service provider, if applicable, must be employed for operating all the activated IDN variant TLDs by the registry operator.

    B. **GNSO SubPro Recommendation.**

Recommendation 25.5: IDN gTLDs identified as variant TLDs of already existing or applied for gTLDs will be allowed only if labels are allocated to the same entity and, when delegated, only if they have the same back-end registry service provider. This policy must be captured in relevant Registry Agreements.

    C. **ccPDP4 VM Subgroup Recommendation.**

    D. **Sub-group Findings and Discussion.**

See discussion Item 2:
Question separate item 2 and 5? or combine under one item?

1   Include definition of back-end provider
2   RSV: iCANN contracts?
3
4
5
6
7   **Item 8. Update of basic policies to take into account variant management recommendations**

8   **A. Staff recommendation.**

9   Existing policies and associated procedures for TLDs MUST be updated to accommodate the recommendations for IDN
10 variant TLDs.
11
12 Existing policies and associated procedures must be adjusted to ensure that the recommendations above remain true
13 under the functioning of gTLD and ccTLD policy and procedures.
14

15   B. **GNSO SubPro Recommendation.**

16 No corresponding SubPro recommendation
17

18   C. **ccPDP4 VM Subgroup Recommendation.**

19

20   D. **Sub-group Findings and Discussion.**

Note the concern in second paragraph from IANA reply relates to item 8 and item 9.

Question: do variants follow the life-cycle of selected IDNccTLD string (of which they are derived)? Life-cycle: request for delegation, transfer (consented or after revocation), retirement. Should distinction be made between:

- What about blocked variants?
- What about allocatable but not delegated variants strings?
- What about delegated variant strings?

Item 9. All existing policies apply to IDN variants, unless specifically stated otherwise

A. Staff recommendation.

All remaining existing TLD policies must apply to IDN variant TLDs, unless otherwise identified.

Unless adjusted due to recommendation 9 above or other reasons identified and agreed by the community, because each IDN variant TLD is also another TLD, all existing TLD policies and procedures for allocation and delegation remain applicable for IDN variant TLDs as well.

B. **GNSO SubPro Recommendation.**

No corresponding SubPro recommendation

C. **ccPDP4 VM Subgroup Recommendation.**

D. **Sub-group Findings and Discussion.**

Staff Note: scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws)

See discussion items 2 and 8 above.

Note: IANA expressed hope that whatever parameters / constraints is arrived at by ccNSO policy is will be compatible with GNSO policy. IANA strives wherever possible to have common approaches across all TLDs, so if we can represent ccTLD variants and gTLD variants in the same manner in the root zone database that will certainly simplify things greatly.

Section 3. Overview of Recommendations on the Technical Utilization of RZ-LGR

Item 1. All TLD strings/labels to be processed using RZ-LGR

A. **TSG Recommendation**

All TLD labels, IDN and ASCII labels, MUST be processed using the RZ-LGR.

Lowercase alphabetic ASCII labels are, as a practical matter, a subset of the Latin script labels defined by RZ-LGR; therefore, these ASCII Labels must be subject to RZ-LGR processing to determine their cross-script variant labels, e.g. with Armenian, Cyrillic, Greek, and other applicable scripts. Consequently, GNSO and ccNSO should incorporate the use of RZ-LGR into their TLD application processes accordingly and in a consistent manner.

B. **GNSO SubPro Recommendation.**

Recommendation 25.2: 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 TLDs 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). To the extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.

C. **ccPDP4 VM Subgroup Recommendation.**

D. **Sub-group Findings and Discussion.**

Item 2

A. **TSG Recommendation**

For the scripts and writing systems which have been integrated into the RZ-LGR, the RZ-LGR must be the only source for processing the following cases:

- Validate an applied-for TLD label and determine its variant labels with corresponding dispositions
- Calculate variant labels, and corresponding disposition values, for each one of the already allocated or delegated TLD labels
- Calculate variant labels, and corresponding disposition values, for each one of the reserved TLD labels

B. **GNSO SubPro Recommendation.**

Recommendation 25.2: 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 TLDs 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). To the extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.

C. **ccPDP4 VM Subgroup Recommendation.**

D. **Sub-group Findings and Discussion.**

Item 3. Need to address any existing possible deviations from the calculation of the RZ-LGR

A. **TSG Recommendation**

GNSO and ccNSO should work collaboratively and consider their respective policy, procedure and/or contract changes to address any existing possible deviations from the calculation of the RZ-LGR:
- Delegated TLDs.
- Self-identified "variant" TLDs.

3.1. Delegated TLDs: These are cases that have occurred under special circumstances in which labels generally deemed as

the same (i.e. variant TLDs under RZ-LGR) were previously delegated as independent TLDs, albeit with special considerations (e.g. synchronized TLDs). Any such variations should be considered for alignment with RZ-LGR.

3.2. Self-identified "variant" TLDs: Historically IDN TLD applications, for gTLDs and ccTLDs, have asked the applicant to identify and list any variant labels (based on their own calculations) corresponding to the applied-for string. These self-identified "variant" labels may or may not conform to the RZ-LGR once implemented. The self-identified "variant" labels which are also variant labels based on RZ-LGR will need to be assigned a variant disposition based on RZLGR calculation. Further, self-identified "variant" labels that are not variant labels based on the RZ-LGR definition should not be considered as variant TLD labels and it needs to be determined on how to address such labels previously identified by the applicants.

GNSO and ccNSO must consider a resolution of such outstanding cases that conforms to the LGR Procedure and RZ-LGR calculations.

B. GNSO SubPro Recommendation

No corresponding SubPro recommendations

C. ccPDP4 VM Subgroup recommendation

D. Subgroup Findings and Discussion

1 **Item 4. RZ-LGR Validation**

2 **TSG Recommendation**

3 For an applied-for TLD label whose script(s) are supported by the applicable version of the RZ-LGR, the RZ-LGR will

4 calculate either of two values: "valid" or "invalid". Consequently, an applied-for TLD that is determined "valid" may

5 proceed with the subsequent evaluation process, whereas an applied-for TLD that is determined "invalid" must not

6 proceed, because it did not pass the validation by RZ-LGR.

7

8 Recommendation 4 describes the cases in which **an applied-for label, whose script is supported by the RZ-LGR, is**

9 **determined to be "invalid"**. The SG defers to the GNSO and ccNSO to **determine the process to deal with these cases**

10 (e.g. suspend or reject the applied-for TLD) as this is considered a matter of policy or procedure. While there may be

11 merits for either choice, the SG provides items 4.1 to 4.4 as technical input for community's consideration, to help address

12 SSAC's SAC060 recommendation: "ICANN must maintain a secure, stable, and objective process to resolve cases in which

13 some members of the community (e.g., an applicant for a TLD) do not agree with the result of the LGR calculations."

14

15 Consequently, an applied-for TLD that is determined "valid" may proceed with the subsequent evaluation process,

16 whereas an applied-for TLD that is determined "invalid" must not proceed, because it did not pass the validation by RZ-

17 LGR. While policy needs to determine how an "invalid" label should be dealt with (Recommendation 2 in SAC060), the

18 following technical input should be considered by the relevant policy development process:

19

20 **4.1 Conformance with IDNA2008**. An applied-for label must be in Normalization Form C7 and must conform to IDNA2008.

21

22 **4.2. Conformance with LGR Procedure**. Policy or procedure must not override the results of the RZ-LGR. That is, policy or

23 procedure alone cannot turn an "invalid" label into a "valid" label, or vice-versa. Doing so would invalidate the entire

24 RZLGR. Any change to the RZ-LGR (e.g. repertoire, variant rules or WLEs) must be undertaken using the process stipulated

25 in the LGR Procedure.

26

4.3. Script LGR can be updated, if justified, using the LGR Procedure. In general, GPs make design choices based on current knowledge and available information. These choices determine the code point repertoire and its context rules, the whole-label evaluation rules and variant sets. If and when there is new information available, the LGR Procedure defines the process to update the RZLGR9.

4.4. Re-validation of applied-for label is possible. The applied-for TLD label may be re-validated when a new RZ-LGR version becomes available.

GNSO SubPro Recommendation
[Regarding the remedy element]

Recommendation 32.1: The Working Group recommends that ICANN establish a mechanism that allows specific parties to challenge or appeal certain types of actions or inactions that appear to be inconsistent with the Applicant Guidebook.

The new substantive challenge/appeal mechanism is not a substitute or replacement for the accountability mechanisms in the ICANN Bylaws that may be invoked to determine whether ICANN staff or Board violated the Bylaws by making or not making a certain decision. Implementation of this mechanism must not conflict with, be inconsistent with, or impinge access to accountability mechanisms under the ICANN Bylaws.

The Working Group recommends that the limited challenge/appeal mechanism applies to the following types of evaluations and formal objections decisions:

(Specifically, likely the DNS Stability aspect of evaluation/challenge procedures)

ccPDP4 VM Subgroup recommendation

Subgroup Findings and Discussion

Item 5. Should RZ-LGR for script be required?

TSG Recommendation

For an applied-for TLD label whose script is not yet supported by the applicable version of the RZ-LGR, the application should not proceed until the relevant script is integrated into the RZ-LGR. It is implied that the application should remain on-hold (or other appropriate status) until the relevant script is integrated into the RZ-LGR.

GNSO SubPro Recommendation

Implementation Guidance 25.3: 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. 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

ccPDP4 VM Subgroup recommendation

Subgroup Findings and Discussion

See question on Recommendation 1 staff paper. Under Fast Track process an application for a string could be submitted and ultimately delegated without requirement that relevant script is integrated into the RZ-LGR. Note that the issue of variants or variant management was not addressed for the Fast Track

Item 5.

TSG Recommendation

GNSO SubPro Recommendation

ccPDP4 VM Subgroup recommendation

Subgroup Findings and Discussion

Item 6. Limiting number of delegated variants
TSG Recommendation
SSAC advises in SAC060 that too many variant labels should not be delegated. The SG considers that the matter on limiting the number of allocatable variant labels to be a policy matter.

GNSO SubPro Recommendation
No corresponding SubPro recommendations

ccPDP4 VM Subgroup recommendation

Subgroup Findings and Discussion
Staff question: should meaningfulness criteria also apply to variants?

If v1-5 are all variants of or include a variant of t1t2, should v1-5 meet all meaningfulness criteria to be eligible and delegatable? What happens if only v1 and v2 meet meaningfulness criteria?

Item 7. Need to grandfather existing TLDs after revision of RZ-LGR
TSG Recommendation
It is expected that the RZ-LGR be revised throughout its lifecycle, either as a result of a new script LGR being integrated or a revision of an existing script LGR being adopted. There may be cases where a script LGR does not support an existing TLD. In such cases, it is possible that the existing TLD(s) may need to be grandfathered.

GNSO SubPro Recommendation

1   No corresponding SubPro recommendations

2

3   **ccPDP4 VM Subgroup recommendation**

4

5   **Subgroup Findings and Discussion**

6

7

8   ## Section 4. IDN Tables: use cases and requirements

9   Background material for consideration by VM

10   • Recommendation 4 and 5 staff paper.
11   • Text and use cases defined in original Board Report. See section 5.1.2, Section 5.2.1 and 5.2.2 of ccPDP4-WG proposed sections 5-9

12   Additional background material:

13   • https://www.iana.org/domains/idn-tables
14   • https://www.iana.org/help/idn-repository-procedure
15   • https://www.icann.org/resources/pages/idn-guidelines-2011-09-02-en

16

17   IDN Tables submitted as part of Fast Track project. In some Fast Track process. Used by IDN ccTLD managers, earlier IDN used for variants for
18   the ccTLD label, also how as defined. Different use cases. Fast Track for second level application
19
20

21   ## Section 5. Issues for discussion with full working group

22   Note: 2 issues
23   • Membership ccNSO. Related to the iana root zone DB. if listed as a ccTLD manager, you are listed as such. Then you
24   can apply for ccNSO membership. E.g. NIXI manages 22 ccTLDs including the IDN ccTLDs and .in. You can imagine

1   that if there would be variants as well, the number of entries for NIXI in the root zone would increase.

2   Requirements for ccNSO membership. The ccnso had to deal with this: one vote per country. Implications and

3   impact on the membership of the ccNSO

4 Q: is this for this WG to discuss? Response: it is a consequence for introducing variants. May need to be flagged as

5 something for the broad group to discuss

6

7

8 Not all variants are IDNs, some may be ASCII, if ASCII how does this relate general requirement (at least one non-ASCII

9 character). Is there a potential hierarchy of requirements? uncover requirements Flag for full working group

10 If in principle all Variants of IDNccTLD are allowed to be delegated -> ASCII string. What if ASCII string already exists?

11

12 Note: related to discussion section 3 item 6. SSAC recommendation to minimize number of delegated strings. Potential

13 unnecessary burden if to many variants are all delegated. Potential solution is to limit the number allowable (delgatable)

14 IDNBccTLDs strings to variant IDNccTLD strings that are meaningful.

15