

1 **1. Introduction**

2 Version 08, 26 July 2021

3
4 The Variant Management sub-group is expected to address the following gaps with respect to (cc)TLDs and their Variants:

- 5 • **How are Variants defined?**
- 6 • **How are they managed?**

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

9
10 With respect to the second question, IDN variant TLD management mechanism, the ICANN Board of Directors:

- 11 ▪ approved on 14 March 2019 IDN Variant TLD Recommendations and requested ccNSO and GNSO take into account
12 the recommendations while developing their respective policies to define and manage the IDN variant TLDs for the
13 current TLDs as well as for future TLD applications, and communicate for a consistent solution.
- 14 ▪ approved on 26 January 2020 Recommendations for the Technical Utilization of the Root Zone Label Generation
15 Rules and requested the ccNSO and GNSO Councils take into account the Recommendations while developing their
16 respective policies to define and manage the IDN variant TLDs for current TLDs as well as for future TLD
17 applications.

18 To provide an overview to the working group and ensure the coordinated and consistent approach as requested the sub-
19 group first looked at the IDN Variant TLD Recommendations. Starting point are the recommendations as adopted by the
20 Board. In addition, the sub-group looked at the GNSO view on these recommendations. The recommendations of the sub-
21 group and their findings per recommendations are included (Section 2).
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1 Secondly, the sub-group looked the recommendations on the Technical Utilization of RZ-LGR. Again, first the
2 recommendations as adopted by the Board. In addition, the sub-group looked at the GNSO view on these recommendations.
3 The recommendations of the sub-group and their findings per recommendations are included Section 3).

4
5 Thirdly, and for the time being ther are two placeholders:

- 6 - Section 4 will include the findings and recommendations of the sub-group with respect to IDN Tables.
- 7 - Section 5, review and suggessted changes to the IDNccTLD selection process proposals as under development
8 by the full WG.

9
10 Finally, the sub-group has identified some issues that require further discussion with the full working group. The issues are
11 listed in section 6.

13 2. Overview IDN Variant TLD Recommendations

14 Item 1. Defining IDN Variant TLDs

15 A. Staff recommendation.

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

19 B. GNSO SubPro Recommendation.

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1 **Recommendation 25.2:** Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-
2 LGR 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
4 extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.
5

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8 label is blocked or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s). To the
9 extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.
10

11 To the extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be
12 utilized.
13

14
15 Implementation Guidance 26.10: The application submission system should do all feasible algorithmic checking of TLDs,
16 including against RZ-LGRs and ASCII string requirements, to better ensure that only valid ASCII and IDN TLDs can be
17 submitted. A proposed TLD might be algorithmically found to be valid, algorithmically found to be invalid, or verifying its
18 validity may not be possible using algorithmic checking. Only in the latter case, when a proposed TLD doesn't fit all the
19 conditions for automatic checking, a manual review should occur to validate or invalidate the TLD.
20

21 C. ccPDP4 VM Subgroup Recommendation.

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

2 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
3 item 5 table 2).

4
5 Looking at the SUBPro recommendation, distinction between blocked and allocatable
6 Clarify the difference? Discussed

7
8 Question check if understood correctly. If a IDNccTLD is requested i.e. meets criteria of meaningfulness and IDNA 2008, sufficient or also
9 required that. Blocked and allocatable. Difference: allocatable applied potential strings

10
11 RZ-LGR Designed tool string / label. Output set contain all variants. Blocked maximized, variants
12 Note discussion on requirements for IDN ccTLD string: Technical criteria in general apply.

13
14 IDN TLDs strings must comply with IDNA2008 (RFCs 5890-5895) or its successor(s).
15 The language marked yellow under Sub Pro has been included as a reference.

16
17
18 **Item 2. Allocation of TLD to the same entity**

19 **A. Staff recommendation.**

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

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

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1 **B. GNSO SubPro Recommendation.**

2 **Recommendation 25.5:** IDN gTLDs identified as variant TLDs of already existing or applied for gTLDs will be allowed
3 only if labels are allocated to the same entity and, when delegated, only if they have the same back-end registry service
4 provider. This policy must be captured in relevant Registry Agreements.
5

6 **C. ccPDP4 VM Subgroup Recommendation.**

7 **IDN variant TLDs {T1, T1V1, ..., T1Vx} MUST be allocated to same entity.** The set of allocatable variant strings that is
8 generated from the selected IDNccTLD string by applying the RZ-LGR, MUST be allocated to one and the same **the same**
9 entity, **the requestor (the entity that submits the selected IDNccTLD string), delegated to one and the same entity, the IDN**
10 **ccTLD Manager) or** withheld for possible future delegation **to the IDNccTLD Manager.** In other words, for a **selected** top-
11 level label **T1,** its allocatable variant label(s) **T1V1, ..., T1Vx** shall only be **allocated to the IDN ccTLD requestor, or - after**
12 **the delegation process for the selected IDNccTLD string has been intitated -** delegated to the same IDNccTLD Manager or
13 withheld for possible delegation to **that** IDNccTLD Manager.
14

15 If a specific IDNccTLD is operated by a "back-end" **registry** service provider under arrangement with the IDNccTLD
16 Manager, or will be operated by a "back-end" **registry** service provider under arrangement with the IDNccTLD Manager,
17 then that "back-end" service provider MUST operate all delegated variants of that specific IDNccTLD as well. See
18 recommendation 7
19

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

21 Question: in description the word arise is used: Does this imply no need to request? The Variants are assigned automatically?
22 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
23 potential hierarchy of requirements? uncover requirements Flag for full working group
24 If in principle all Variants of IDNccTLD are allowed to be delegated -> ASCII string. What if ASCII string already exists?

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2 Note: related to discussion section 3 item 6. SSAC recommendation to minimize number of delegated strings. Potential unnecessary burden if to
3 many variants are all delegated. Potential solution is to limit the number allowable (delegatable) IDNccTLDs strings to variant IDNccTLD
4 strings that are meaningful.
5
6 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
7 ccTLD Manager. Is this the idea?
8
9 Note that some ccTLD Managers have an arrangement with a back-end provider. Should a similar, mandatory arrangement be provided as a
10 requirement for delegation of variants?
11
12 Should Back-end registry service provider be defined as term?
13
14 ccNSO Institutional Issue. Assuming variants will be delegated to the same ccTLD Manager, should the ccTLD Manager for each, and every
15 variant of the selected IDNccTLD string be treated as an individual ccTLD Manager, and may therefore become member of the ccNSO for each,
16 and every variant IDNccTLD?
17
18 Description staff recommendation, the word “arise” is used. If an organisational entity submits an IDN ccTLD string then RZ-LGR is applied, and
19 variants occur. If they are allocatable, what happens? Bundled with the selected string?
20 Yes, that is accurate, but not use term bundled. Blocked variants: not allocatable to anybody. The allocatable variants will be put aside for the
21 same applicant for potentially use.
22
23 Q: Does the entity need to request the delegation of the variant strings as well? Is that done automatically?
24 Response: “withheld” is the right term. Not use the term “reserved”, because those strings cannot go to any applicant. Being withheld is an
25 automatic step. But the delegation is not an automatic step.
26
27 Note: In principle delegation follows the IANA delegation process and at the request of the future IDN ccTD manager.
28
29 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
30 automatically. May or not fulfill the evaluation criteria for the strings.
31 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.

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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 all
8 the associated business processes will have to adapt accordingly. This would imply for example for a transfer of one, the whole set should be
9 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 independent
10 TLD) then procedures do not need to be adjusted and treat each variant as a TLD with no special consideration for them being variants.
11
12 IANA expressed hope that whatever parameters / constraints is arrived at by ccNSO policy is will be compatible with GNSO policy. IANA
13 strives wherever possible to have common approaches across all TLDs, so if we can represent ccTLD variants and gTLD variants in the same
14 manner in the root zone database that will certainly simplify things greatly.
15 Note the concern in second paragraph form IANA relates to item 8 and item 9.
16 Question: do variants follow the life-cycle of selected IDNccTLD string (of which they are derived)? Life-cycle: request for delegation, transfer
17 (consented or after revocation), retirement. Should distinction be made between:
18 • What about blocked variants?
19 • What about allocatable but not delegated variants strings?
20 • What about delegated variant strings?
21
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 can apply for
24 ccNSO membership. E.g. NIXI manages 22 ccTLDs including the IDN ccTLDs and .in. You can imagine that if there would be variants
25 as well, the number of entries for NIXI in the root zone would increase. Requirements for ccNSO membership. The ccnsO had to deal
26 with this: one vote per country. Implications and impact on the membership of the ccNSO
27 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
28 group to discuss (included in section 5)
29

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1 ccPDP3 retirement Policy recommendations on retirement are in the decision-making phase. One of the subgroups of ccPDP4 deals with the
2 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
3 selected IDN ccTLD string or not?
4

5 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
6 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.
7 Operator and backend.
8

9 Response: consistency principle to apply on transfer, revocation etc as well. That is the implication. Consistent with how things happen now.
10 Note comment above, IANA remarks
11

12 Use term “ASSOCIATED” IDNccTLDs, to describe the set of selected IDNccTLD string (S1) and its variants (S1V1, ...S1,Vx) ?
13 Preference is to use descriptive terms and use them consistently. Basic terms are: “set of allocatable variants”, “set of blocked variants”, “set of
14 delegated variants”.
15

16 Staff Note: Note that according to the IDNccTLD process the selection process ends with publication of the validated string(s). After validation
17 the IDNccTLD must be delegated in accordance with the ccTLD delegation proces. Also note that the selected IDNccTLD string is requested by
18 the reguestor (the entity that request the IDNccTDL string), this could be a different entity then the entity requesting the delegation of the
19 IDNccTLD string (the latter is the IDNccTLD Manager). For example , a government agency or related entity , could request the IDnccTLD
20 string, whilts the (ASCII) ccTLD Manager, could request the delegation of the IDNccTLD string (and [some of the] allocatable variant].
21

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22 **Item 3. Allocation of SLD to the same entity**

23 **A. Staff recommendation.**

24 Same label under IDN variant TLDs s1.{t1, t1v1, ...} MUST be registered to the same entity.
25

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

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1 s1.t1 and s1.t1v1, must be allocated to Entity Y or else withheld for possible allocation only to Entity Y.
2
3

4 **B. GNSO SubPro Recommendation.**

5 **Recommendation 25.7:** For second-level variant labels that arise from a registration based on a second-level IDN table, all
6 allocatable variant labels in the set must only be allocated to the same entity or withheld for possible allocation only to that
7 entity (e.g., all allocatable second-level labels {s1, s1v1, ...} under all allocated variant TLD labels {t1, t1v1, ...}).
8

9 **C. ccPDP4 VM Subgroup Recommendation.**

10 All allocatable SLDs under an IDN ccTLD MUST be allocated to the same entity. When registering a second-level
11 string under an IDNccTLD string, the set of allocatable variant second level strings that is generated by applying the RZ-
12 LGR or (alternatively) based on the IDN Table for second or lower levels, MUST be registered for one and the same the
13 same entity or withheld for possible future registration for that entity.

14
15 In other words, for a second-level label s1 delegated under the IDNccTLD string, its allocatable variant label(s) s1v1, ...,
16 s1vx **MUST** only be delegated to the same entity or else withheld for possible delegation to that entity.

17
18 Note and comment. By definition (see recommendation 1 above) a domains and its variants are one and the same. For
19 reasons of security, stability and interoperability of the DNS, one and the same domain can not be delegated or operated by
20 two or more different entities.
21
22

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

Commented [SH2]: This should refer to 25.6:

Recommendation 25.6: A given second-level label under any allocated variant TLD must only be allocated to the same entity/registrant, or else withheld for possible allocation only to that entity (e.g., s1 under {t1, t1v1, ...}, e.g., s1.t1 and s1.t1v1).

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Commented [SH3]: This is not needed. Second level labels are based on IDN table(s) and not the RZ-LGR.

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- 1 Staff Note: Scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws)
- 2 Use language Expected, but not mandatory? However, note that by definition (second level) domains and their variants are one and the same
- 3 domain. This is derived from actual definition of variants.
- 4
- 5 To considered the same by TLDs If the same string then same registrant, otherwise may causes security and stability issues.
- 6
- 7 Question: what happens if two domain names which are deemed to be the same are delegated to two different entities?
- 8
- 9 Same policies/difference. Re-iterated variants are delegated to same entities, however in practice the IDN table used may be differ from IDN
- 10 table used for registration of SLDs under the TLD: apply different tables. Policy principle is the same.
- 11
- 12 From the Fast Track application form:
- 13 **By signing and submitting this request the Requestor commits to** TLD operations that will secure and enhance the stability and
- 14 interoperability of the Internet's Domain NameSystem (DNS) for the benefit of the local and global Internet community, and to working in good
- 15 faith together with ICANN towards a stable and secure Internet DNS. The Requestor understands that ICANN reserves the right to take actions
- 16 necessary to protect the security, stability and interoperability of the global DNS.
- 17 ICANN expects that IDN ccTLDs will be established and operated in the manner described below:
- 18 a. The IDN ccTLD manager shall establish, operate and maintain the authoritative name servers for the requested string in a stable and
- 19 secure manner, adequate to resolve names within the requested string by users throughout the Internet and in compliance with Relevant
- 20 Applicable Standards subject to and within the limits of relevant national law and national public policy. Relevant Applicable Standards
- 21 are standards-track or best current practice RFCs sponsored by the Internet Engineering Task Force;
- 22 b. IDN domain names are to be registered in accordance with a publicly available registration policy that shall comply on an ongoing basis
- 23 with relevant applicable standards to IDNs, such as the IDNA Protocol, and with the IDN guidelines as updated and published from time
- 24 to time on the ICANN website, all subject to and within the limits of relevant applicable national law and public policy. This includes,
- 25 but is not limited to, adherence to RFCs 3490, 3491, 3492, 3454 and their successors;
- 26 c. The IDN ccTLD manager should not use DNS redirection and synthesized DNSresponses within any level of the registry; and
- 27 d. The Requestor agrees that the IDN ccTLD manager will cooperatively engage with ICANN in the event of an activity or lack of activity
- 28 that generates a serious concern regarding the stability, security or interoperability of the Internet's Domain NameSystem (DNS) from a
- 29 global perspective. Briefly, the cooperative engagement process involves the designation of an official representative from ICANN and

1 the IDN ccTLDmanager, who shall meet with each other telephonically and/or in person to address the concerns in good faith and
2 attempt to reach a resolution.

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3 4 **Item 4. Registration of SLD variant labels under variant TLDs to the same entity**

5 **A. Staff recommendation.**

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

7
8 According to the IDN Implementation Guidelines, for second-level IDN variant labels that arise from a registration based
9 on a second-level IDN table, all allocatable IDN variant labels in the set must only be allocated to the same entity or
10 withheld for possible allocation only to that entity. This implies that all allocatable second-level labels {s1, s1v1, ...} under
11 all allocated variant TLD labels {t1, t1v1, ...} must be allocated to Entity Z or else withheld for possible allocation only to
12 Entity Z.

13 14 15 **B. GNSO SubPro Recommendation.**

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

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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, ...}).

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19 20 **C. ccPDP4 VM Subgroup Recommendation.**

21 All Second-Level variant labels under each of delegated variant IDNccTLD string MUST be registered to the same
22 entity. When registering a second-level string under an IDNccTLD string, the set of allocatable variant second level strings

1 [that is generated by applying the RZ-LGR or \(alternatively\) based on the IDN Table for second or lower levels MUST be be](#)
2 [applied to all delegated variant IDNccTLD strings and the full set of allocatable variant second level strings MUST be](#)
3 [registered for one and the same the same entity or withheld for possible future registration for that entity.](#)

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

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

8
9 Staff Note: Scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws)

10
11 [Staff Note: This recommendation is an extension of recommendation 3. Although the scope of the ccNSO PDP \(Annex C of the bylaws\) may be](#)
12 [limiting factor, by definition \(see recommendation 1 above\) a domains and its variants are one and the same. For reasons of security, stability](#)
13 [and interoperability of the DNS, one and the same domain can not be delegated or operated by two or more different entities.](#)

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16 **Item 5. Harmonization of SLD IDN Tables**

17 **A. Staff recommendation.**

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

19
20 Second-level IDN tables applicable for an IDN variant TLD set must be mutually coherent but not necessarily identical. For
21 two second-level variant labels s1 and s1v1 under any TLD t1 generated using the applicable IDN table for t1, these must
22 also be variant labels under TLD t1v1 if generated by the applicable IDN table for t1v1. This also implies that the complete
23 set of second-level variant labels may not all be valid under all variant TLDs. For example, for the second level label s1v2,
24 the domain name s1v2.t1 may be valid, but due to difference in IDN tables for variant TLDs, s1v2.t1v1 may not be valid.

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1 **B. GNSO SubPro Recommendation.**

2 No corresponding recommendation under SubPro

3

4 **C. ccPDP4 VM Subgroup Recommendation.**

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

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

11 **A. Staff recommendation.**

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

13

14 The set of allocatable or activated second-level variant labels may not be identical across the activated IDN variant TLDs.

15 For two variant labels s1 and s1v1 which are allocatable under the active IDN variant TLDs t1 and t1v1, the label s1.t1 may

16 be allocated or activated but s1.t1v1 may not be allocated or activated. Similarly, if s1v1.t1 is allocated or activated,

17 s1v1.t1v1 may not be allocated or activated.

18

19 **B. GNSO SubPro Recommendation.**

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1 **Recommendation 25.8:** Second-level labels derived from Recommendation 25.6 or Recommendation 25.7 are not required
2 to act, behave, or be perceived as identical.
3

4 **C. ccPDP4 VM Subgroup Recommendation.**

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

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

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

13 **A. Staff recommendation.**

14 The registry service providers MUST be the same for IDN variant TLDs.
15

16 For feasible and consistent implementation of these requirements, the same back-end registry service provider, if applicable,
17 must be employed for operating all the activated IDN variant TLDs by the registry operator.
18

19 **B. GNSO SubPro Recommendation.**

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Moved down [1]: 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.

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1 **Recommendation 25.5:** IDN gTLDs identified as variant TLDs of already existing or applied for gTLDs will be allowed
2 only if labels are allocated to the same entity and, when delegated, only if they have the same back-end registry service
3 provider. This policy must be captured in relevant Registry Agreements.
4

5 **C. ccPDP4 VM Subgroup Recommendation.**

6 All delegated variant IDNccTLD strings MUST be operated by the same entity. If a specific IDNccTLD is operated by
7 a "back-end" registry service provider under arrangement with the IDNccTLD Manager, or will be operated by a "back-
8 end" registry service provider under arrangement with the IDNccTLD Manager, that "back-end" service provider MUST
9 operate all delegated variants of that specific IDNccTLD.

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

11 See discussion Item 2:
12 Question separate item 2 and 5? or combine under one item?
13 Include definition of back-end provider
14 RSV: iCANN contracts?

15 **Item 8. Update of basic policies to take into account variant management recommendations**

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16 **A. Staff recommendation.**

17 Existing policies and associated procedures for TLDs MUST be updated to accommodate the recommendations for IDN
18 variant TLDs.

19
20 Existing policies and associated procedures must be adjusted to ensure that the recommendations above remain true under
21 the functioning of gTLD and ccTLD policy and procedures.
22

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1 **B. GNSO SubPro Recommendation.**

2 No corresponding SubPro recommendation

3

4 **C. ccPDP4 VM Subgroup Recommendation.**

5 **Staff note: See section 5 below**

6

7

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

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

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

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

- 15 • What about blocked variants?
- 16 • What about allocatable but not delegated variants strings?
- 17 • What about delegated variant strings?

18

19

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

21 **A. Staff recommendation.**

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

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2 Unless adjusted due to recommendation 9 above or other reasons identified and agreed by the community, because each
3 IDN variant TLD is also another TLD, all existing TLD policies and procedures for allocation and delegation remain
4 applicable for IDN variant TLDs as well.
5

6 **B. GNSO SubPro Recommendation.**

7 No corresponding SubPro recommendation
8

9 **C. ccPDP4 VM Subgroup Recommendation.**

10 All ccTLD policies pertaining to ccTLDs MUST apply to variant IDNccTLDs, unless otherwise specifically stated under
11 the INccTLD string selection policy.

12 The set of allocatable variant strings that is generated from the selected IDNccTLD string by applying the RZ-LGR, MUST
13 be delegated to the same IDNccTLD Manager or withheld for possible delegation to that IDNccTLD Manager. If a
14 IDNccTLD string is transferred, the set of allocatable variant(s) of the IDNccTLD string (delegated or withheld for future
15 delegation) MUST all be transferred to the same IDNccTLD Manager at the same time or withheld for future
16 delegation by that IDNccTLD Manager, to which the IDNccTLD string is transferred. If a IDNccTLD string is revoked all
17 allocated variant IDNccTLDs (delegated or withheld for future delgation) MUST be revoked at the same time. If an
18 IDNccTLD string shall be retired, all allocatable variants (delegated or withheld for delegation) MUST be retired, at the
19 same time.

20
21 Implementation of this and other recommendations pertaining to varinat IDNccTLD strings is considered a matter of
22 implementation.
23

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

3 Staff Note: scope of ccNSO PDPs may be a limiting factor (Annex C ICANN Bylaws, [ccPDP4 is limited to the selection of IDN ccTLD strings.](#)
4 [The basic premise is that delegation, transfer, revocation and retirement should be in accordance with existing policies. This is reflected in the](#)
5 [ISSUE Report, and proposed policy proposals.](#)

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8 See discussion items 2 and 8 above.

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

12

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

18

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

20

21 **A. TSG Recommendation**

22

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

24

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

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1 LGR into their TLD application processes accordingly and in a consistent manner.

2

3 **B. GNSO SubPro Recommendation.**

4 **Recommendation 25.2:** Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-
5 LGR rules sets) must be required for the generation of TLDs and variants labels, including the determination of whether the
6 label is blocked or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s). To the
7 extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.

8

9 **C. ccPDP4 VM Subgroup Recommendation.**

10

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

12

13 **Item 2**

14 **A. TSG Recommendation**

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

- 17
- 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
- 18
- 19

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- 1 • Calculate variant labels, and corresponding disposition values, for each one of the reserved TLD labels

2

3 **B. GNSO SubPro Recommendation.**

4 **Recommendation 25.2:** Compliance with Root Zone Label Generation Rules (RZ-LGR, RZ-LGR-2, and any future RZ-
5 LGR rules sets) must be required for the generation of TLDs and variants labels, including the determination of whether the
6 label is blocked or allocatable. IDN TLDs must comply with IDNA2008 (RFCs 5890-5895) or its successor(s). To the
7 extent possible, and consistent with Implementation Guidance 26.10, algorithmic checking of TLDs should be utilized.

8

9 **C. ccPDP4 VM Subgroup Recommendation.**

10

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

12

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

14 **A. TSG Recommendation**

15 GNSO and ccNSO should work collaboratively and consider their respective policy, procedure and/or contract changes to
16 address any existing possible deviations from the calculation of the RZ-LGR:

- 17 • Delegated TLDs.
18 • Self-identified “variant” TLDs.

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2 **3.1. Delegated TLDs:** These are cases that have occurred under special circumstances in which labels generally deemed as
3 the same (i.e. variant TLDs under RZ-LGR) were previously delegated as independent TLDs, albeit with special
4 considerations (e.g. synchronized TLDs). Any such variations should be considered for alignment with RZ-LGR.
5
6 **3.2. Self-identified “variant” TLDs:** Historically IDN TLD applications, for gTLDs and ccTLDs, have asked the applicant
7 to identify and list any variant labels (based on their own calculations) corresponding to the applied-for string. These self-
8 identified “variant” labels may or may not conform to the RZ-LGR once implemented. The self-identified “variant” labels
9 which are also variant labels based on RZ-LGR will need to be assigned a variant disposition based on RZLGR calculation.
10 Further, self-identified “variant” labels that are not variant labels based on the RZ-LGR definition should not be considered
11 as variant TLD labels and it needs to be determined on how to address such labels previously identified by the applicants.
12
13 GNSO and ccNSO must consider a resolution of such outstanding cases that conforms to the LGR Procedure and RZ-LGR
14 calculations.
15

16 **B. GNSO SubPro Recommendation**

17 No corresponding SubPro recommendations
18

19 **C. ccPDP4 VM Subgroup recommendation**

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21 **D. Subgroup Findings and Discussion**

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Item 4. RZ-LGR Validation
TSG Recommendation

For an applied-for TLD label whose script(s) are supported by the applicable version of the RZ-LGR, the RZ-LGR will calculate either of two values: “valid” or “invalid”. Consequently, an applied-for TLD that is determined “valid” may proceed with the subsequent evaluation process, whereas an applied-for TLD that is determined “invalid” must not proceed, because it did not pass the validation by RZ-LGR.

Recommendation 4 describes the cases in which **an applied-for label, whose script is supported by the RZ-LGR, is determined to be “invalid”**. The SG defers to the GNSO and ccNSO to **determine the process to deal with these cases** (e.g. suspend or reject the applied-for TLD) as this is considered a matter of policy or procedure. While there may be merits for either choice, the SG provides items 4.1 to 4.4 as technical input for community’s consideration, to help address SSAC’s SAC060 recommendation: "ICANN must maintain a secure, stable, and objective process to resolve cases in which some members of the community (e.g., an applicant for a TLD) do not agree with the result of the LGR calculations."

Consequently, an applied-for TLD that is determined “valid” may proceed with the subsequent evaluation process, whereas an applied-for TLD that is determined “invalid” must not proceed, because it did not pass the validation by RZ-LGR. While policy needs to determine how an “invalid” label should be dealt with (Recommendation 2 in SAC060), the following technical input should be considered by the relevant policy development process:

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

4.2. Conformance with LGR Procedure. Policy or procedure must not override the results of the RZ-LGR. That is, policy or procedure alone cannot turn an “invalid” label into a “valid” label, or vice-versa. Doing so would invalidate the entire RZLGR. Any change to the RZ-LGR (e.g. repertoire, variant rules or WLEs) must be undertaken using the process stipulated in the LGR Procedure.

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2 **4.3. Script LGR can be updated, if justified, using the LGR Procedure.** In general, GPs make design choices based on
3 current knowledge and available information. These choices determine the code point repertoire and its context rules, the
4 whole-label evaluation rules and variant sets. If and when there is new information available, the LGR Procedure defines
5 the process to update the RZLGR9.

6
7 **4.4. Re-validation of applied-for label is possible.** The applied-for TLD label may be re-validated when a new RZ-LGR
8 version becomes available.

9
10 **GNSO SubPro Recommendation**
11 **[Regarding the remedy element]**

12
13 **Recommendation 32.1:** The Working Group recommends that ICANN establish a mechanism that allows specific parties
14 to challenge or appeal certain types of actions or inactions that appear to be inconsistent with the Applicant Guidebook.

15
16 The new substantive challenge/appeal mechanism is not a substitute or replacement for the accountability mechanisms in
17 the ICANN Bylaws that may be invoked to determine whether ICANN staff or Board violated the Bylaws by making or not
18 making a certain decision. Implementation of this mechanism must not conflict with, be inconsistent with, or impinge
19 access to accountability mechanisms under the ICANN Bylaws.

20
21 The Working Group recommends that the limited challenge/appeal mechanism applies to the following types of evaluations
22 and formal objections decisions:

23
24 **(Specifically, likely the DNS Stability aspect of evaluation/challenge procedures)**

25
26 **ccPDP4 VM Subgroup recommendation**

27
28 **Subgroup Findings and Discussion**

1
2 **Item 5. Should RZ-LGR for script be required?**
3 **TSG Recommendation**
4 For an applied-for TLD label whose script is not yet supported by the applicable version of the RZ-LGR, the application
5 should not proceed until the relevant script is integrated into the RZ-LGR. It is implied that the application should remain
6 on-hold (or other appropriate status) until the relevant script is integrated into the RZ-LGR.
7
8 **GNSO SubPro Recommendation**
9 **Implementation Guidance 25.3:** If a script is not yet integrated into the RZ-LGR, applicants should be able to apply for a
10 string in that script, and it should be processed up to but not including contracting. Applicants under such circumstances
11 should be warned of the possibility that the applied-for string may never be delegated and they will be responsible for any
12 additional evaluation costs
13
14 **ccPDP4 VM Subgroup recommendation**
15
16 **Subgroup Findings and Discussion**
17 See question on Recommendation 1 staff paper. Under Fast Track process an application for a string could be submitted and
18 ultimately delegated without requirement that relevant script is integrated into the RZ-LGR. Note that the issue of variants
19 or variant management was not addressed for the Fast Track
20 Item 5.
21 TSG Recommendation
22
23 GNSO SubPro Recommendation
24
25 ccPDP4 VM Subgroup recommendation
26
27 Subgroup Findings and Discussion

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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

No corresponding SubPro recommendations

ccPDP4 VM Subgroup recommendation

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2 **Subgroup Findings and Discussion**

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5 **Section 4. IDN Tables: use cases and requirements**

6 Background material for consideration by VM

- 7 • Recommendation 4 and 5 staff paper.
8 • 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

9 Additional background material:

- 10 • <https://www.iana.org/domains/idn-tables>
11 • <https://www.iana.org/help/idn-repository-procedure>
12 • <https://www.icann.org/resources/pages/idn-guidelines-2011-09-02-en>

13
14 [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 the ccTLD label, also how as defined. Different use cases. Fast Track for second level application](#)

15
16
17
18 **Section 5. Review of IDNccTLD string selection process**

19 [The IDN string selection process as currently \(July 2021\) under review and updated by the full WG, will need to be reviewed by the sub-working group to suggest changes to accommodate the recommendations of the sub-group under section 2, 3 and 4 above.](#)

20
21
22
23 **Identified issues to date:**

24 [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](#)

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1 [If in principle all Variants of IDNccTLD are allowed to be delegated -> ASCII string. What if ASCII string already exists?](#)

2
3 [Note: related to discussion section 3 item 6. SSAC recommendation to minimize number of delegated strings. Potential unnecessary burden if to many variants are all delegated. Potential solution is to limit the number allowable \(delgatable \) IDNBccTLDs strings to variant IDNccTLD strings that are meaningful.](#)

8 **Section 6. Issues for discussion with full working group**

9 Note: 2 issues

- 10 • Membership ccNSO. Related to the iana root zone DB. if listed as a ccTLD manager, you are listed as such. Then
11 you can apply for ccNSO membership. E.g. NIXI manages 22 ccTLDs including the IDN ccTLDs and .in. You can
12 imagine that if there would be variants as well, the number of entries for NIXI in the root zone would increase.
13 Requirements for ccNSO membership. The ccNSO had to deal with this: one vote per country. Implications and impact
14 on the membership of the ccNSO

15 Q: is this for this WG to discuss? Response: it is a consequence for introducing variants. May need to be flagged as
16 something for the broad group to discuss

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

Note: related to discussion section 3 item 6. SSAC recommendation to minimize number of delegated strings. Potential unnecessary burden if to many variants are all delegated. Potential solution is to limit the number allowable (delgatable) IDNBccTLDs strings to variant IDNccTLD strings that are meaningful.

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