

IDN Variant TLD Implementation: Executive Summary

Communities using certain scripts, such as Arabic and Han, have identified that technically distinct Internationalized Domain Names (IDN) labels may be considered indistinguishable or interchangeable with other domain labels, and therefore regarded as the “same” domain labels, by the users of these communities, e.g. a label represented in simplified Chinese and equivalent traditional Chinese characters. The IDN in Applications 2008 (IDNA2008) standard suggests developing additional mechanisms to manage the possible confusion caused by such issues, e.g. by setting these as IDN variant labels. IDN variant labels have been identified by the community in some IDN country code top-level domain (ccTLD) and generic top-level domain (gTLD) applications. However, due to limited understanding of the potential issues and knowledge of any feasible solutions, the ICANN Board resolved in 2010 not to delegate any IDN variant TLDs until variant management mechanisms are developed.

As identified by follow-up work by the community, such mechanisms should include two areas: (i) defining what are IDN variant labels, and (ii) determining how they should be managed. Based on subsequent work, IDN variant labels can now be defined using the Root Zone Label Generation Rules (RZ-LGR). RZ-LGR has been created through a community-based effort following the RZ-LGR Procedure, which was also stipulated by the community and adopted by the ICANN Board in 2013.

The current set of documents makes recommendations for the second area identified: the management of the IDN variant TLDs. Such IDN variant labels may arise from the employment of the RZ-LGR for the strings ICANN receives as TLDs applications. These documents, listed below, are being shared for feedback:

- [IDN Variant TLD Implementation – Motivation, Premises and Framework](#)
- [IDN Variant TLD Implementation – Recommendations and Analysis](#)
- [IDN Variant TLD Implementation – Rationale for RZ-LGR](#)
- [IDN Variant TLD Implementation – Risks and their Mitigation](#)
- [IDN Variant TLD Implementation – Appendices \(A: Definitions, B: Use of ROID, C: Limiting Allocated Variant TLDs\)](#)

In the document on *Motivation, Premises and Framework*, the motivation for IDN variant TLDs is presented, aiming to address the security and usability of IDN labels. It also identifies the fundamental premises, based on the work by the community in the Integrated Issues Report and various advisories published by the ICANN’s Security and Stability Advisory Committee. Based on these premises, a theoretical framework is developed to derive and categorize the recommendations to implement IDN variant TLDs.

The document on *Recommendations and Analysis* presents the following ten recommendations.

1. RZ-LGR must be the only source for valid TLDs and their variant labels.
2. IDN variant TLDs {t1, t1v1, ...} must be allocated to same entity.
3. Same label under IDN variant TLDs s1.{t1, t1v1, ...} must be registered to the same entity.
4. Second-level variant labels under IDN variant TLDs {s1, s1v1, ...}.{t1, t1v1, ...} must be registered to the same entity.
5. Second-level IDN tables offered under IDN variant TLDs must be harmonized.
6. IDN variant label allocatable or activated under IDN variant TLDs may not necessarily be the same.
7. The registry service providers must be the same for IDN variant TLDs.
8. The nameservers for IDN variant TLDs should be the same, unless otherwise justified.
9. Existing policies and associated procedures for TLDs must be updated to accommodate the recommendations for IDN variant TLDs.
10. All remaining existing TLD policies must apply to IDN variant TLDs, unless otherwise identified.

In addition, the document analyzes the impact of these recommendations on various aspects of evaluation, allocation, delegation and operation of domain names. The analysis encompasses existing and future IDN gTLDs and IDN ccTLDs, covering the impact on registry services and registry agreements, the possible effect on dispute resolution and trademark protection, and how the recommendations may influence the string similarity process. Some additional aspects of the process associated with TLDs, which may not be affected, are also reviewed.

The RZ-LGR forms the basis for defining IDN variant TLDs which are to be implemented, as reinforced through the first recommendation. Therefore, a separate document on *Rationale for RZ-LGR* is included to describe the motivation of and the need to adhere to the IDN variant TLD sets calculated solely using this RZ-LGR.

A risk analysis is also conducted and the corresponding mitigation strategy is presented in the document on *Risks and their Mitigation*.

The *Appendices* contain definitions of the terms used in these documents, a more detailed investigation into the use of Repository Object Identifier to determine the same registrant for second-level labels, and a discussion of mechanisms to reduce the number of allocatable IDN variant labels.

This work is intended for the community to consider for developing appropriate management mechanisms for IDN variant TLDs. Until such mechanisms are finalized by the community and approved by the ICANN Board, the restriction on the delegation of IDN variant TLDs will continue to remain applicable.