

## Root Zone Label Generation Rules

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#### 1. Introduction

Internationalized Domain Names (IDNs) are important to enable a multilingual Internet. In order to ensure a secure and stable DNS, the [Root Zone Label Generation Rules](#) (RZ-LGR) were developed to determine the validity of top-level domain (TLD) strings in different scripts, as well as variants of such strings.

The DNS is for identifiers, not for writing a language or its literature, so the RZ-LGR is not expected to allow the full range of expression of any natural language in the DNS, nor that any generated string by RZ-LGR needs to be a word in a language.

#### 2. Applicable RZ-LGR version and scripts and languages supported

For the upcoming application round RZ-LGR [version 5](#) will be used. RZ-LGR-[5](#) integrates the following 26 scripts based on proposals developed by the community-based panels (Generation Panels) and integrated by a list of expert reviewers (Integration Panel). RZ-LGR-[5](#) will be used for the application round.

The RZ-LGR contains a separate LGR for each script or writing system. A writing system may contain more than one script, e.g. the Japanese writing system consists of Hiragana, Katakana, and Kanji [Han] scripts. RZ-LGR-[5](#) supports the following scripts and writing systems:

Arabic, Armenian, Bangla, Chinese (Han), Cyrillic, Devanagari, Ethiopic, Georgian, Greek, Gujarati, Gurmukhi, Hebrew, Japanese (Hiragana, Katakana, and Kanji [Han]), Kannada, Khmer, Korean (Hangul and Hanja [Han]), Lao, Latin, Malayalam, Myanmar, Oriya, Sinhala, Tamil, Telugu, and Thai.

See [RZ-LGR-5 Overview and Summary](#) for further details.

#### 2.1. Applications for strings in scripts not supported by the RZ-LGR

The RZ-LGR will only validate strings in scripts or writing systems integrated into it. Applicants will not be able to submit an application for a string (and its variant strings) in a script not integrated into the applicable version of RZ-LGR.

### 3. Choosing the primary strings and/or variant strings using the RZ-LGR

The primary string is the main string submitted by the applicant, which must be valid as per the RZ-LGR calculation. Variant strings of the primary string are also calculated through the RZ-LGR, marked as either the allocatable and blocked variant strings. Collectively, the primary, allocatable and blocked variant strings are called a variant-string-set. For an existing gTLD, it is considered the primary string against which its variant-string-set will be calculated and submitted.

If the applicant is applying for a primary string, the applicant may also apply for additional allocatable variant strings of the primary string as part of a single application, but the applicant cannot apply for blocked variant strings of the primary string. A registry operator of an existing gTLD may also apply for allocatable variant strings of the gTLD in a single application, but cannot apply for blocked variant strings of the gTLD.

The choice of primary string (where primary is not an existing gTLD) within a variant-string-set will not change the total strings in the variant-string-set but it may change the subsets of allocatable and blocked variant strings within this set. Therefore, the primary string should be chosen by the applicant keeping in mind the corresponding allocatable and blocked variant string being created. Once the primary string is chosen and applied-for, it cannot be changed, except for a brand TLD application<sup>1</sup> whose applied-for primary string has been placed in contention. After submission of an application, the applicant is allowed to withdraw an applied-for variant label from that application, but is not allowed to add any other variant label that was not originally applied-for in that application. The LGR Tool made available by ICANN at <https://lgrtool.icann.org/> can be used to determine allocatable variant strings for a primary string.

### 4. Outcomes of using RZ-LGR calculations

RZ-LGR will be applied to a primary string to:

- (i) Determine if the primary string is valid as a TLD per RZ-LGR.
- (ii) Determine the allocatable variant strings for the primary string identified by the applicant (for some strings, the number of allocatable variant strings may be very large to enumerate).

RZ-LGR will be applied to a variant string of a primary string or existing gTLD to:

- (i) Determine if the variant string is valid as a TLD per RZ-LGR.

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<sup>1</sup> Based on IDN EPDP recommendation 3.25.

(ii) Determine if it is a variant string of the primary string or the existing gTLD identified by the applicant.

(iii) Determine if it is an allocatable variant string of the primary string or the existing gTLD.

Strings which mix code points in LGRs for different scripts are invalid mixed script strings and will also be marked as invalid.

## 5. Challenging the RZ-LGR Tool calculation

An applicant may challenge the validity or variant calculation of its applied-for string(s). The applicant's ground to challenge is limited to a demonstration that its applied-for gTLD string is valid and allocatable (for variant strings) as per the RZ-LGR and that the disqualification was due to an incorrect assessment of the technical implementation of the RZ-LGR. For details see [\[Section xx - challenge mechanisms\]](#).