Amsterdam

Registry/Registrar Meeting

ICANN

IDN Variant TLDs Program Update

IDN Variant TLDs Program Origins

- No variants of gTLDs will be delegated … until appropriate variant management solutions are developed http://www.icann.org/en/groups/board/documents/resolutions-25sep10-en.htm#2.5
- IDN Variant Issues Projecthttp://www.icann.org/en/groups/board/documents/resolutions-10dec10-en.htm#7

IDN Variant TLDs Program
Project 2:
The Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels

Label Generation Rules for IDNA Labels in the Root Zone

- **DNS** labels as useful mnemonics.
- Requires that labels be in a familiar and recognized writing system.
- Not every word or name may be a valid label.
- Adding IDNA labels requires rules.
- Existing Root labels not affected.

LGR Process Goals

Result of process characterized by

- **Utility**
- **Coverage**
- **Not arbitrary**
- **Unbiased**

Develop the process to populate the code point repertoire and the Label Generation Rules for IDNA labels for the root zone.

The project's purpose is to develop the process, and not to populate the LGR tool itself.

IAB Principles

These principles constrain the process

Conservatism as an overarching principle

- Longevity
- Usability
- Inclusion
- Simplicity
- Predictability
- Stability
- Letter
- Conservatism

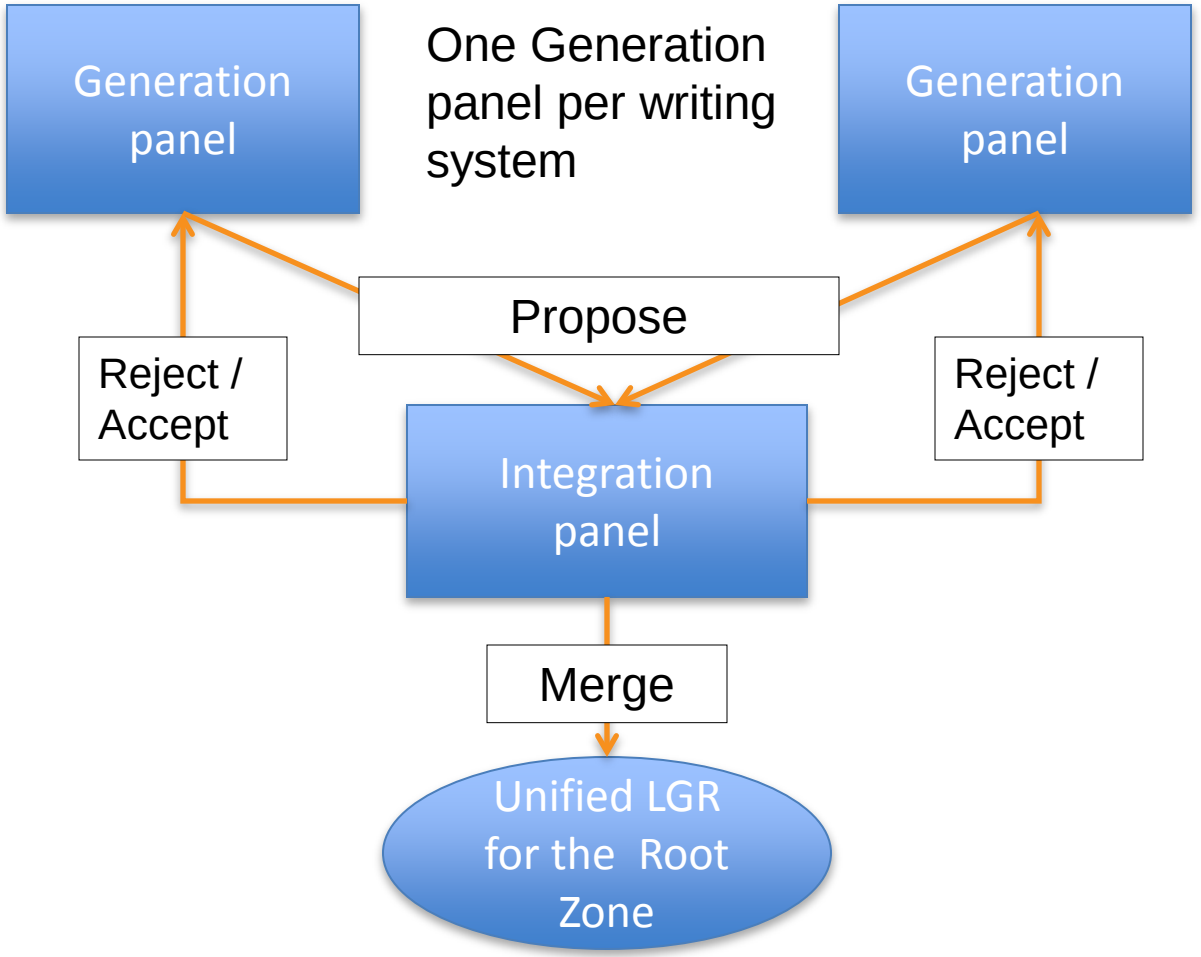
Based on: Sullivan, A., Thaler, D. , Klensin, J. , and O. Kolkman, "Principles for Unicode Code Point Inclusion in Labels in the DNS." draft-iab-dns-zone-codepoint-pples-00.txt. Work in progress.

Proposed Two-Stage Process

Unanimous decisions inside and between panels

Panels are independent and have separate membership

Constrained by Principles



Generation Panels

- The process will be driven by the Generation Panels that
  - develop the set of rules for a particular writing system,
  - create output representing the desired LGR elements for that environment, and
  - submit their proposals for the LGR to the Integration Panel.
  - consist of volunteer experts interested in a given writing system, plus additional ICANN-contracted expert advisors.

Integration Panel

- The Integration Panel
  - consists of independent experts in DNS, IDNA, Unicode and scripts,
  - reviews Generation Panel proposals until agreement is reached,
  - integrates the Generation Panels' proposals into a single, unified LGR for the Root Zone,
  - takes into account the need for a secure, stable and reliable DNS Root Zone.

LGR process output

- Labels will be constrained to be
  - wholly within a given sub-repertoire (usually a script)
  - structurally well formed (crucial for complex scripts)
- Labels in some scripts may have variants, which may be blocked, or allocatable.

Initial LGR for the Root

The integration panel may deliver a version of the root LGR if/when it has strong reason to believe there will be no overlap between the code point range it is delivering and the work by upcoming generation panels.

Public Comment

- The second draft Procedure Document: http://www.icann.org/en/news/public-comment/lgr-procedure-07dec12-en.htm

- Public Comment Reply Deadline: **27 January 2013**

Who authorizes and maintains the root LGR

1. LGR Procedure adopted – Beijing, April 2013.
2. The IDN Variant TLD Program implements the process (on an on-going basis).
3. The Program delivers (successive) LGR to ICANN Staff.
4. ICANN (following new IDN TLD procedures (Projects 7, 8 and Board approvals)) evaluates, etc. applications and (in due course) delegates TLDs.

IDN Variant TLDs Program
Project 6:
Examining the User Experience Implications of Active Variant TLDs

Project 6 Objectives

- What are the components of an acceptable user experience for variant TLDs?
- How will various user roles be impacted if variant TLDs are activated?
- What are the necessary rules or guidelines a TLD should operate under in order to provide an acceptable user experience for variants?
- What are the policy/contractual considerations that will make these rules effective?
- How does the impact of variant TLDs on applications affect user experience?

Variant practice for second level domains

- Arabic, Chinese and Devanagari registries organize variants in an IDL set, sharing operational aspects, e.g. registration data
- Arabic, Chinese and Devanagari Registries set limits of 3-6 variants for activation; French (.ca) no limit
- Chinese registries have primary label in IDL set, but not for Arabic, Devanagari and Canadian French
- Chinese registries share the same table, the Arabic registries many differences within and across languages
- Using internal custom-built solutions to manage the registration process for IDNs and variants
- Variants registered to the same registrant

Usability Principles for IDN Variants

- *Minimality:* variants must introduce only least changes necessary in DNS
- *Security:* variants must minimize risks introduced by IDNs
- *Predictability:* variants should behave and function as users expect in their language and script environments
- *Equivalency:* variants must be managed by the same entity and direct users to related content
- *Consistency:* variants should behave similarly within and across TLDs and supporting technology
- *Manageability:* variants should be straightforward to visualize and administer with supporting technology
- *Ease of Use:* variants should be easy to use for new and existing users

User Roles

- *End Users*–those who use the variants
- *Registrants, Registrars and Registries*–those who manage registration of the variants
- *Technical Community*–those who deal with usability, configuration and diagnostics of the variants

Challenges with the Use of Variants

- User cannot find the complete set of variants
- Variants not intuitive
- Variants delegated independently
- Variants defined inconsistently
- Variants displayed inconsistently
- User cannot input variants
- Unable to distinguish specific variants
- Identifier not bound to all variants
- Accessibility and privacy impacted
- Variants not searchable
- Search rankings unpredictable
- Search optimization affected by variants
- Variants not part of URL/URI/IRI
- Variants cause session re-establishment

Challenges in the Registration Management of Variants

- Inconsistent management across IDN TLDs
- Inconsistent registration for Second-level Domains across TLDs
- Inconsistent association of ASCII and IDN TLDs
- Inadequate technological support
- Registration system not straightforward to localize
- Inconsistent registration information
- Complex trademark protection tracking
- Complex trademark protection dispute process

Challenges in the Configuration and Diagnostics of Variants

- Software configuration not supported
- Cannot associate variants for configuration
- Compounded certificate management
- Inconsistent DNSSEC validation
- Log and history searching does not match
- Incomplete network traffic statistics
- Inefficient caching infrastructure
- Incompatible diagnostic and troubleshooting tools
- Forensics significantly more complicated

Recommendations to ICANN

1. ICANN must implement a well defined and conservative variant TLD allocation process.
2. ICANN must maintain a repository for Label Generation Ruleset (LGR) for the root zone and IDN TLDs and make it available to users and programmatically processable.
3. ICANN must develop, to the extent possible, minimal, simple and consistent LGR for the root zone.
4. ICANN must develop, to the extent possible, a minimal, simple and consistent life cycle for the variant TLD sets (across languages and scripts).
5. ICANN must define guidelines to evaluate the competence and readiness of the registry to manage variants, to ensure a stable and secure end user experience.

Recommendations to ICANN

6. ICANN should require IDN TLD registries with variants to apply the relevant (script) subset of the root zone LGR and state life cycle for variants across second-level domain labels. Deviations should be justified.
7. ICANN must create educational materials on the use and impact of variants for different user communities.
8. ICANN must require accredited registrar who supports IDNs with TLD and/or SLD variants to support variants across its registration platform.
9. ICANN must develop consistent registration data requirements for variants at root and other levels.
10. ICANN must define technical requirements and engage with standards organizations, such as the IETF, to determine how the IDN variants should be consistently implemented.

Recommendations to a Registry that Offers IDNs and Variants

1. Registry must not register any second-level variant labels unless the label registration request has met all approval requirements.
2. Registry that supports variants must make its updated LGR available to ICANN and the Community.
3. Registry that supports variants should apply the LGR developed for the root across lower-level domains. Deviations from the LGR should be publicly documented and justified.

Recommendations to a Registry that Offers IDNs and Variants

4. Registry that supports variants must implement, to the extent possible, state life cycle for the second-level variant recommended by ICANN.
5. Registry should create educational materials on the use and impacts of variants for different user communities, such as end users, system administrators, etc.
6. Registry that supports variants must require relevant registrars to support IDN variants across their registration platforms.

Recommendations to a Registrar that Supports Variants

1. Registrar must update its practice to address requirements specific to the registration of IDN variants.
2. Registrar should extend linguistic and technical support of IDN variants for registrants.
3. Registrar must support IDN variants across its registration platforms.
4. Registrar must support registry policies and associated services for collecting and managing registration data of IDN variants.
5. Registrar that supports the registration of variants may also update any related services that are impacted by variants.

Recommendations to the Technical Community

1. Developers of software tools for the technical community should consider, based on user requirements, enhancing their software to support the administration and management of variants.
2. Software intended for Internet end users—such as web browsers, email clients, and operating systems—should support variants to the extent necessary to ensure a positive user experience.
3. To provide end users with a consistent and predictable experience with variants across software applications, developers should, to the extent possible, publicly share best practices and emerging standards in terminology and functionality.

Public Comment

- Draft Final Report: http://www.icann.org/en/news/public-comment/variant-ux-18jan13-en.htm

- Public Comment Deadline: **8 February 2013**
- Public Comment Reply Deadline: **1 March 2013**

Next Steps

Staff Recommendation

- Request the ccNSO and gNSO to consider the recommendations of the User Experience study report and the adoption of the root LGR Procedure and to provide policy advice/guidance should they wish to do so

- Board to consider Staff Recommendation in Beijing

Amsterdam
Registry/Registrar Meeting

Thank You