

**ICANN-APRALO IGF 2013 Workshop Report**  
**[Workshop #32] Next in IDNs – Linguistic Diversity in the Internet Root**

## **Workshop Description**

The introduction of IDN variants in the root zone serves to enhance the Internet's multilingualism and cultural diversity at the level of Top Level Domains (TLDs). The ICANN community has studied the viability of this introduction and has developed a process that will make it a reality. This process has implications for language communities. Language communities that share a script (e.g., Chinese, Japanese and Korean, which share the Han script) must agree on rules related to variant script characters in order to proceed. Furthermore, while allowing language communities to self-mobilize and proceed at their own pace, there are advantages to being an early participant or first mover. This process of allocating Variant TLDs in the Internet root requires language communities to collaborate and will require effective facilitation. This joint APRALO-ICANN workshop will provide an overview of the ICANN process, discuss the issues implicating language communities and outline the way forward.

### Key Discussion Questions

**Process** – What is the process and what are the structural constraints of the process? How was the multistakeholder model deployed in the development of the process and how will it evolve in moving forward? How will language and technical communities be engaged?

**Variants** – What are the key variant issues for scripts such as Arabic, Han, Indic, Latin and Cyrillic that have a large community of users worldwide and whose script is shared across different language communities and across national borders? What variant issues can realistically be addressed within the structural constraints of the process?

**Community** - How can the readiness of language communities for IDN Variant TLDs be supported? How can the disadvantage to late entrants be minimized? What models of engagement can be used to support the collaboration of language communities that transcend national borders? What best practice models of dispute resolution can be deployed to address disputes among language communities that span the globe?

## **Workshop Role Players**

### Moderators

- On-Site Moderator – Rinalia Abdul Rahim (Executive Committee Member, ICANN At-Large Advisory Committee; APRALO Representative & Executive Council Member, ISOC Malaysia Chapter)
- Remote Moderator – Maureen Hilyard (APRALO Representative, Cook Islands & Board Chair, Pacific Islands Chapter of the Internet Society)

### Panel of Technical Experts

- Ram Mohan (Chair, ICANN Board IDN Variants Working Group & Executive Vice President and Chief Technology Officer, Afilias Limited)
- Akram Atallah (President, Generic Domains Division, ICANN)
- Andrew Sullivan (Principal Architect, Dyn, USA)

- Sarmad Hussain (Professor of Computer Science and Head of the Center of Language Engineering, University of Engineering and Technology, Pakistan)
- Akshat Joshi (Project Engineer, GIST Group, Center for Development of Advanced Computing, India)
- Edmon Chung (CEO, dotAsia & Vice-Chair, Internet Society Hong Kong)

#### Panel of Internet End User Representatives

- Hong Xue (Professor of Law and Director of the Institute for Internet Policy & Law, Beijing Normal University, China)
- Satish Babu (Director of the International Centre for Free and Open Source Software, India)

#### **Workshop Organizers**

- Rinalia Abdul Rahim on behalf of APRALO – Asia Pacific Australasia Regional At-Large Organization/The community of individual Internet users in the Asia, Pacific and Australasia region.
- Baher Esmat & Naela Sarras on behalf of ICANN – Internet Corporation for Assigned Names and Numbers.

#### **Workshop Summary**

The workshop focused on the ICANN procedure to develop and maintain Label Generation Rules for the DNS Root Zone with respect to IDNA labels.

Highlights of the procedure:

- The procedure serves as a historic milestone in efforts to enhance the Internet's linguistic and cultural diversity at the top level of the Root system. It will enable the delegation of both IDN Top Level Domains as well as IDN Variant Top Level Domains.
- The procedure was developed via a multistakeholder engagement process involving skilled volunteers from the Internet community worldwide, representing multiple scripts and languages, together with ICANN staff and expert consultants.
- The procedure adopts a set of principles originally developed by the Internet Architecture Board (IAB) to govern and constrain its design and operation. The constraints are essential to minimize risks and ensure a secure, stable and reliable DNS Root Zone, which is a shared critical resource for all Internet users.
- The procedure involves the establishment of Generation Panels by interested language communities to generate proposals for script-specific Label Generation Rules based on community expertise and requirements. An expert Integration Panel established by ICANN will review the proposals from the Generation Panels and integrate approved proposals into a single, unified IDN Label Generation Rules for the Root Zone.
- The process of implementing the procedure is currently underway with the most immediate need being the establishment of Generation Panels for 17 scripts that have IDN TLDs requested under two TLD programs - the country code Top Level Domain (ccTLD) Fast Track program and the New generic Top Level Domain (gTLD) program. Prioritization of the 17 scripts does not

exclude other script communities from moving forward to form Generation Panels.

- 17 scripts that have IDN TLDs requested are: Arabic, Bengali, Chinese, Cyrillic, Devanagari, Georgian, Greek, Gujerati and Gurmukhi, Hebrew, Japanese, Korean, Latin, Sinhala, Tamil, Telugu and Thai. A significant proportion of the scripts are Asian language scripts.
- Interested language communities are invited to submit a statement of interest to ICANN and depending on the speed of community mobilization, the first Generation Panel is expected to be launched end of 2013. Contact: [idnvarianttlds@icann.org](mailto:idnvarianttlds@icann.org).

## **Main issues raised**

### Spillover benefits of the Root Zone Label Generation Rules (LGR) development

- The development of the Root Zone LGR, though focused on the top level of the Root system, has applicability at the second and third levels in terms of guidance for dealing with variants.
- The ICANN rights protection mechanism for trademark owners in the new gTLD program is currently not addressing variants in an integrated way due to the legacy mentality of only thinking in terms of Latin script and ASCII for solutions.
- The Root Zone LGR is expected to guide ICANN's implementation of key TLD initiatives involving variants in the future.

### The complexity of variant management

- Variants are complex and what is defined as variants tends to differ from language to language.
- Visual similarity is a major concern that is shared across languages and scripts. Complex scripts with characters that change shapes depending on adjoining characters require a rendering engine at the Operating System and browser level for accurate visual representation.
- Challenges in grappling with variants include achieving consistency across and within TLDs, dealing with the innumerability of variants, having the right tools to deal with the technical challenges of managing IDNs and ensuring that IDNs are usable in applications used by users.
- Variant management at the Registry level requires deciding whether variants should resolve or point to the same IP address. There is no one size fits all solution. The decision is dependent on three variables: locale, registry and user community. Variations may be needed across registries to achieve consistency of variants.
- Language communities have recommended to ICANN that variants should be allocated to the same TLD applicants and not to different applicants to avoid confusion and ensure consistency of user experience.

### The challenge of universal acceptance of IDNs

- With the implementation of the Root Zone LGR procedure, the most important concern for the user community is the universal acceptance of IDNs and IDN variants. Software intended for end users such as web browsers, email clients and operating system needs to support IDN and IDN variants to ensure a positive user experience.
- The introduction of IDN TLD and IDN Variant TLD to Internet users will realistically not be smooth and is likely to encounter some barriers and difficulties. Historically it has been extremely challenging to ensure universal

acceptance - some of the new TLDs introduced in 2001 still do not work consistently everywhere. There are various points of potential failures in enabling universal acceptance. The problem lies not with the DNS, but with applications.

- ICANN has highlighted the issues of universal acceptance in its Report on “Examining the User Experience Implications of Active Variant TLDs” (<http://www.icann.org/en/resources/idn/variant-tlds/active-ux-21mar13-en.pdf>). The Joint ccNSO-GNSO Internationalized Domain Names Working Group (JIG) at ICANN believes that industry-wide collaboration involving the technical and user communities is essential to address the problem of universal acceptance effectively.
- Concrete policy recommendations to address the problem of universal acceptance include: (1) Discourage systems that do not accommodate IDN and IDN Variants; (2) Develop ways of identifying what is a legitimate IDN TLD label; (3) Encourage IDN TLD Operators and Accredited Registrars to ensure that they support universal acceptance of IDN TLDs in their own systems; (4) Advocate for universal acceptance, raise awareness and provide reference/learning materials.

#### Language community engagement and mobilization issues

- The Root Zone LGR procedure puts in place an open process that is welcoming and embracing of all languages that have been encoded in Unicode. Engagement in the process requires that language communities be aware of the initiative, be interested to engage and be ready to mobilize their respective communities to fulfill the requirements for forming Generation Panels.
- The Arabic, Brahmi/Devanagari and Han script communities are already mobilizing to form Generation Panels. They comprise large language communities that are prepared for engagement because of their previous engagements with ICANN via case studies that led to the development of the Root Zone LGR procedure. Securing the involvement of smaller language communities that have not engaged with ICANN before is a challenge without dedicated or targeted outreach, which is essential to nurture interest and support readiness.
- The disadvantage to late entrants or language communities that are not able to engage can potentially be addressed by the Integration Panel, which can produce Label Generation Rules for certain languages without waiting for proposals from Generation Panels, provided that the languages are in active use and are encoded in Unicode.
- The Chinese language community experience in making the first proposal for IDN Variant management in 2000 offers the following principles to guide the implementation of the Root Zone LGR procedure: (1) Adopt an open language community concept (i.e., if you speak the language, you are part of the language community irrespective of territorial/country jurisdiction); (2) Adopt a bottom up and consensus-based decision-making and dispute resolution model for the language communities; (3) Ensure that permissible code points are those that are acceptable to the user community.

#### Importance of the ICANN Public Comments for the Root Zone LGR procedure

- The Root Zone LGR procedure specifies the ICANN Public Comments as the only governance oversight and appeals mechanism for the decisions of the Integration Panel. Generation Panels will essentially engage in a public negotiation process with the Integration Panel through the Public Comments

process. The openness of the process allows for input from other stakeholders/interested parties for the Integration Panel's consideration.

- Via the Public Comments process, the Integration Panel is required to defend its decisions in an open and transparent way and in a sufficiently rigorous manner (i.e., provide defensible rationale for its decisions against high standards of scrutiny/challenge). Should the Integration Panel fail in this respect, ICANN is empowered to act to have the Panel replaced.
- The Public Comments process still has certain weaknesses such as impediments to the effective participation/input of relevant stakeholders in a timely manner. The ICANN Accountability and Transparency Review Team 2 is currently addressing issues related to improvements of the Public Comments process.

## References

Root Zone LGR Procedure - <http://www.icann.org/en/resources/idn/variant-tlds/lgr-procedure-20mar13-en.pdf>

Call for Generation Panels -

<http://www.icann.org/en/news/announcements/announcement-11jul13-en.htm>

Selection of Integration Panel -

<http://www.icann.org/en/news/announcements/announcement-06sep13-en.htm>

Workshop Video Recording - [http://www.youtube.com/watch?v=E\\_-z6pQLXvs](http://www.youtube.com/watch?v=E_-z6pQLXvs)