# IDN Program Update

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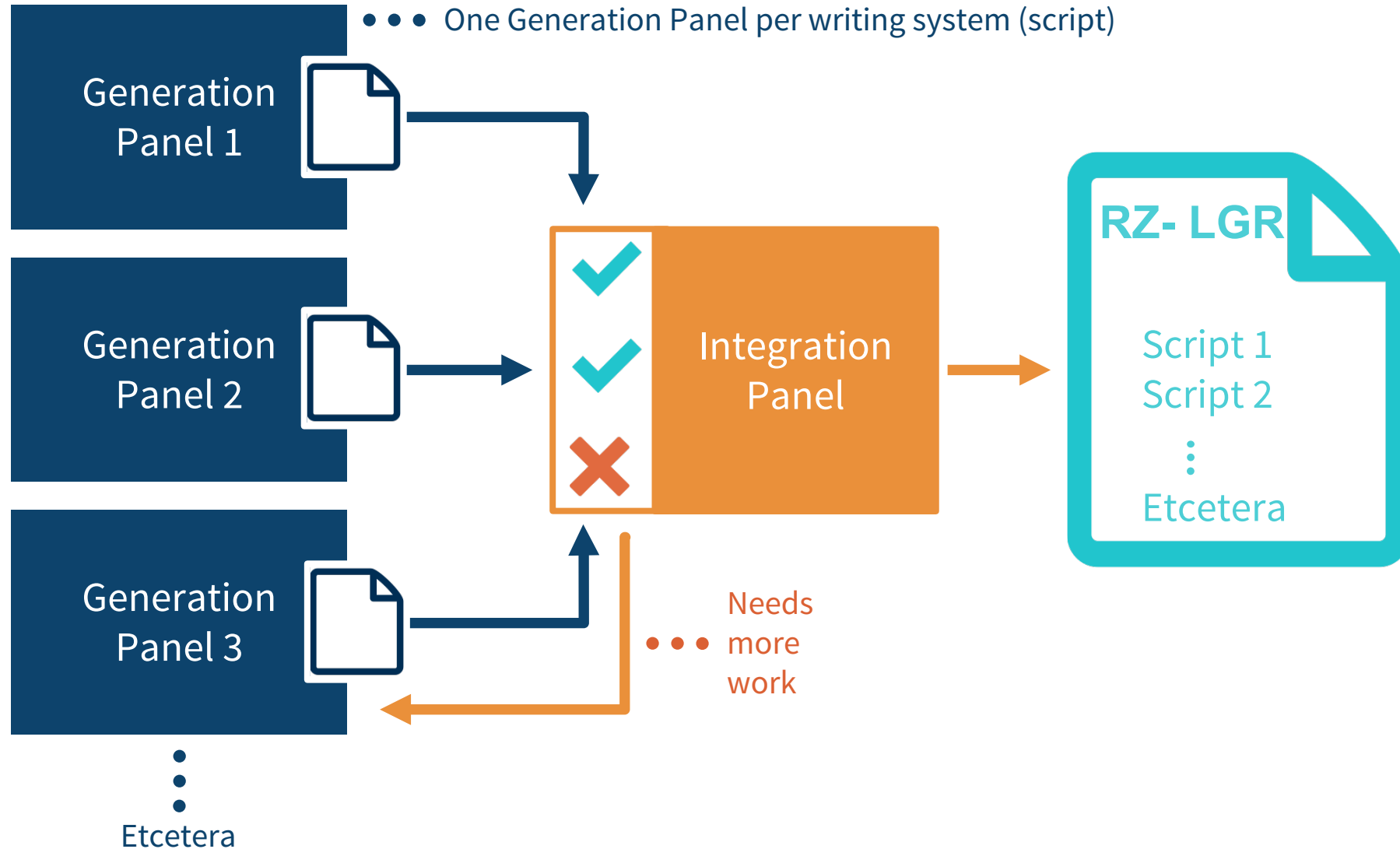
6 May 2018

ICANN

# Overview

- IDNs at Top Level
  - IDN TLD Program
    - Root Zone Label Generation Rules (RZ-LGR)
    - IDN Variant TLD Implementation
  - IDN ccTLD Fast Track Process
- IDNs at Second Level for gTLDs
  - IDN Implementation Guidelines
  - Reference Second Level LGRs
- Community Outreach and Involvement

RZ-LGR Development

IDN Variant TLD Implementation

IDN ccTLD Fast Track

Reference Second Level LGRs

IDN Implementation Guidelines

Communications Plan Execution

# Root Zone Label Generation Rules (RZ-LGR)

- IDNA2008 expects registries at all levels, including the top-level, will reduce opportunities for confusion by, for example, restricting characters or using variant techniques

  - RZ-LGR basis for such mechanism for the Root Zone

- RZ-LGR aims to

  - Support IDN TLDs in scripts used by communities globally

  - Provide a secure and stable definition for valid IDN TLDs

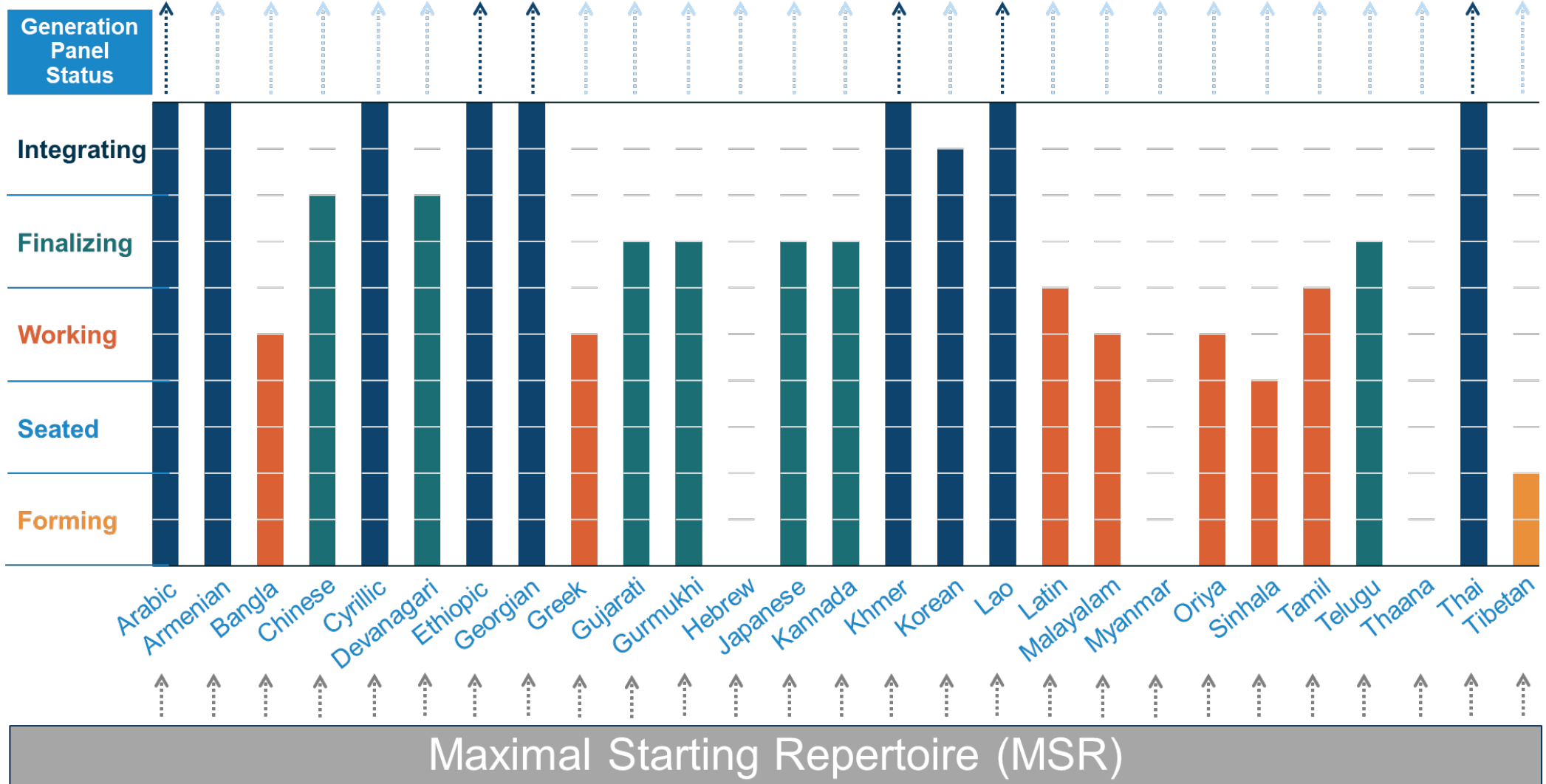  - Determine variant labels of IDN TLDs

# RZ-LGR Process



One Generation Panel per writing system (script)

Generation Panel 1

Generation Panel 2

Generation Panel 3

Etcetera

Integration Panel

Needs more work

RZ- LGR

Script 1
Script 2

Etcetera

# Status of Generation Panels (GPs)



Root Zone Label Generation Rules (RZ-LGR)

Feb. 2018

Generation Panel Status

Integrating — Finalizing — Working — Seated — Forming

Arabic, Armenian, Bangla, Chinese, Cyrillic, Devanagari, Ethiopic, Georgian, Greek, Gujarati, Gurmukhi, Hebrew, Japanese, Kannada, Khmer, Korean, Lao, Latin, Malayalam, Myanmar, Oriya, Sinhala, Tamil, Telugu, Thaana, Thai, Tibetan

Maximal Starting Repertoire (MSR)

# Linguistic Diversity in Africa

- ⊙ More than 3000 languages in Africa
- ⊙ Writing systems include:
  - ○ Ge'ez (Ethiopic)
  - ○ N'ko
  - ○ Tifinagh
  - ○ Vai
  - ○ …
  - ○ Arabic (introduced)
  - ○ Latin (introduced)

የሰው ፡ ልጅ ፡ ሁሉ ፡ ሲወለድ ፡ ነጻና ፡ በክብርና ፡ በመብትም ፡
እኩልነት ፡ ያለው ፡ ነው ፡ የተፈጥሮ ፡ የማስተዋልና ፡ ሕሊናው ፡
ስላለው ፡ አንዱ ፡ ሌላውን ፡ በወንድማማችነት ፡ መንፈስ ፡
መመልከት ፡ የገባዋል ፡፡

ߦߥߊߙ ߕߎߦ ߆ ߒ ߟߦ ߢߜ ߕߎߦ ߆ ߞ ߦߔߎ
ߒߢ ߖߎߦߐ ߄, ߦߤ ߀ߣ ߝߎߦ ߡߝ ߞ ߀
ߦߔߎ ߞߞ. ߦߚ ߒ ߤߔߎ ߡ ߠ ߦ ߦ ߦ ߦߔ
ߦ ߀. ߡߤ ߦߔߡ ߒ ߆ ߩ ߦߦ ߦ ߦߤ ߡ
߂߂߃ ߦ ⊙ߎ ߦ ߦߔ ߦ.

**The Characters of the N'Ko Script**

| consonants | Δ | ߦ | ߧ | † | ௰ | ߙ | ߜ | ߤ | ߧ | F |
|---|---|---|---|---|---|---|---|---|---|---|
| | m | l | k | r | d | c¹ | j | t | p | b |
| | ߧ | ߤ | ߤ | ߒ | ߡ | ߝ | ߛ | ∇ | □ | ߤ |
| | ŋ | y | w | h | n | ɲ | f | gb | s | rr |

ߝߡߟߦ, ߦߞߞߦ ߡ ߤߤߦ ††ߤߦ ߟ ߝߤߤߤߝߦ ߝ⊙ߦߟ ߟߝ
ߤߦߤߦQߝ ߟ ߝߝߡ⊙ߤߦ-ߦ⊙ ⊙ߦ †ߝ⊙ߦߞ ߟ ߤߦߦ ፡
ߦ⊙⊙ߤ ߦߟ-†ߝߦ †ߝߡߟ†† ߦ ߦ⊙ߦ.

# Alphabet Nationale du Tchad (ANT)

## A - LETTRES MINUSCULES

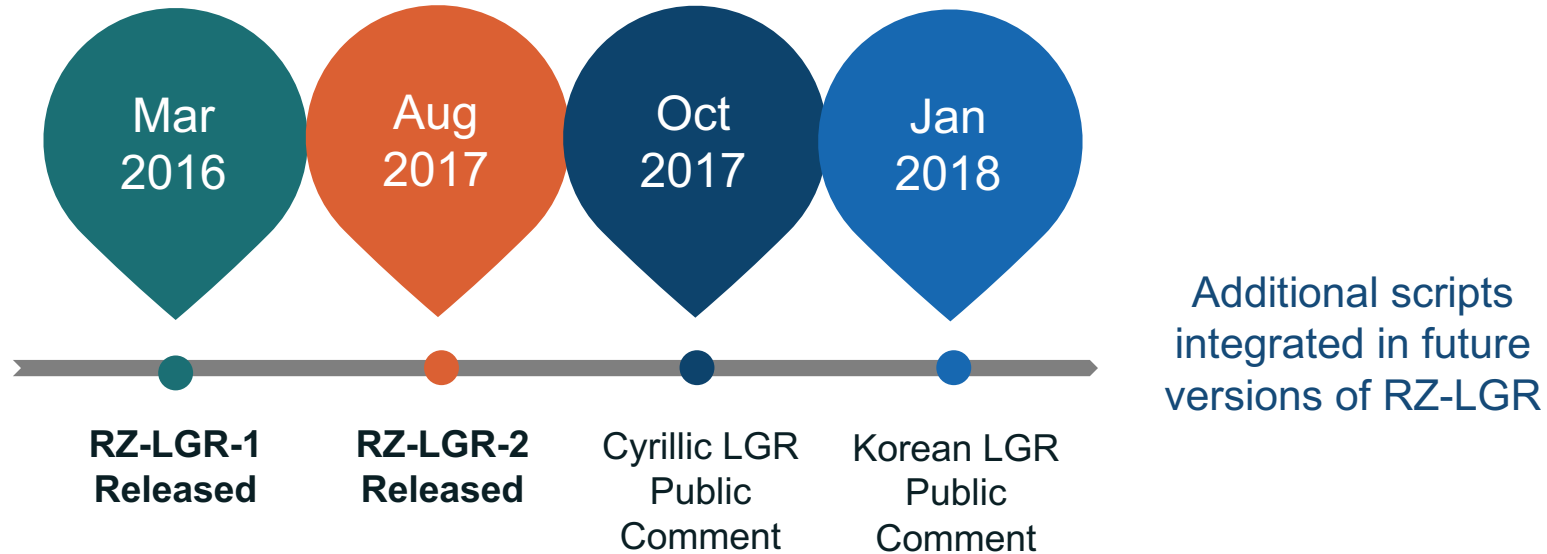a   '   b   ɓ   c   ch   d   ɗ   dh   e

ɛ   ə   f   g   gb   h   ɦ   i   ɨ   j

k   kh   kp   l   m   mb   mv   n   ṇ   nd

ng   nj   ŋ   o   ɔ   p   q   r   rh   s

sl   t   th   u   v   vb   w   y   ƴ   z   zl

# Latin Generation Panel – Calling for Native speakers' help

- Find examples in your language that two or more letters are used interchangeably in everyday use

- Example: Marshallese language

    In the most polished printed text, the cedillas and macrons appear directly beneath or above the letters. They are often replaced by ad hoc spelling using more common or more easily displayable characters. In particular, Marshallese-English Online Dictionary (MOD) uses the dot and the tilde. This means these two versions are used interchangeably in Marshallese.

    Standard    l̦ m̧ ņ n̄ o̧    =    MOD    ḷ m̲ ṇ ñ ọ

- Please write to Chair of the Latin Generation Panel, Mirjana Tasic,
  at mirjana.tasic@rnids.rs  or latingp@icann.org

- deadline for your submission is May 25th, 2018

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# Status of RZ-LGR



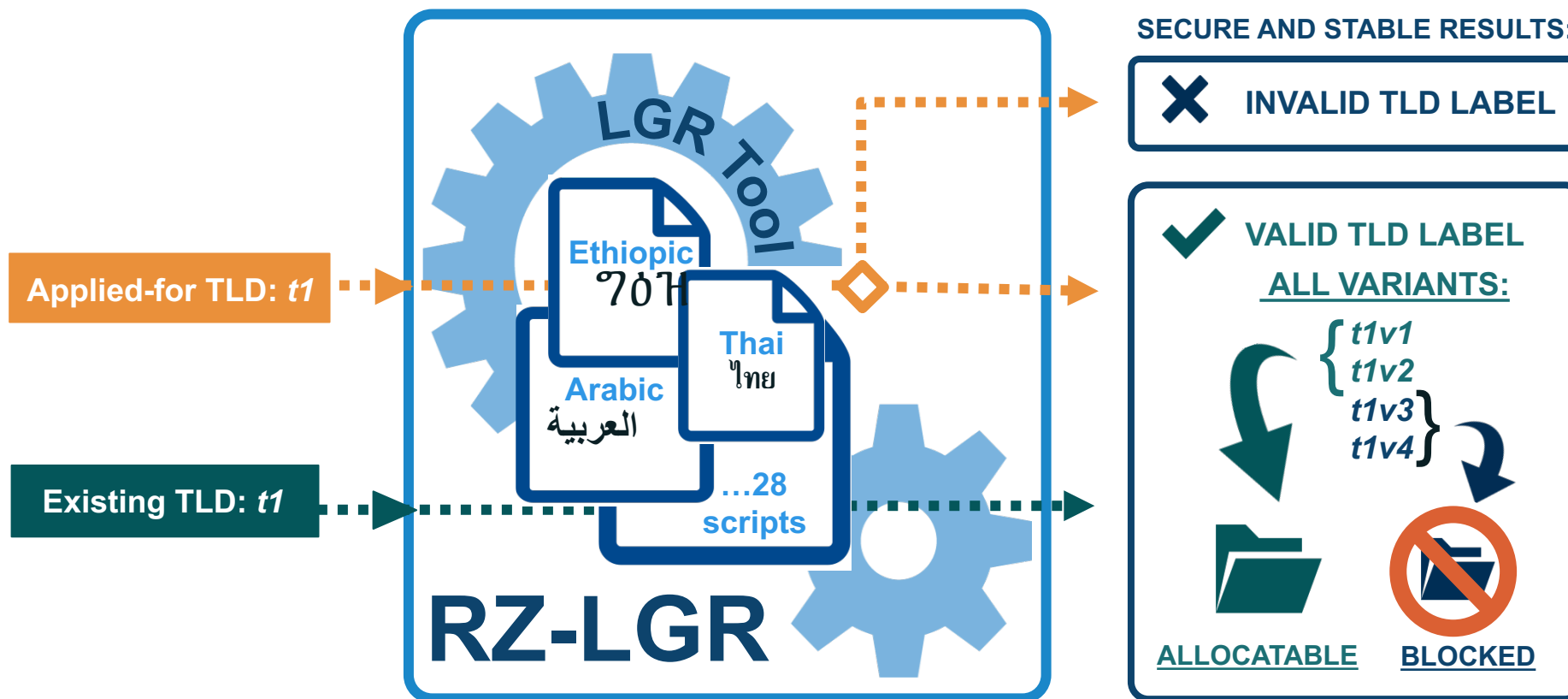| Mar 2016 | Aug 2017 | Oct 2017 | Jan 2018 | Additional scripts integrated in future versions of RZ-LGR |
|:---:|:---:|:---:|:---:|:---|
| **RZ-LGR-1 Released** | **RZ-LGR-2 Released** | Cyrillic LGR Public Comment | Korean LGR Public Comment | |

## RZ-LGR-2 Summary
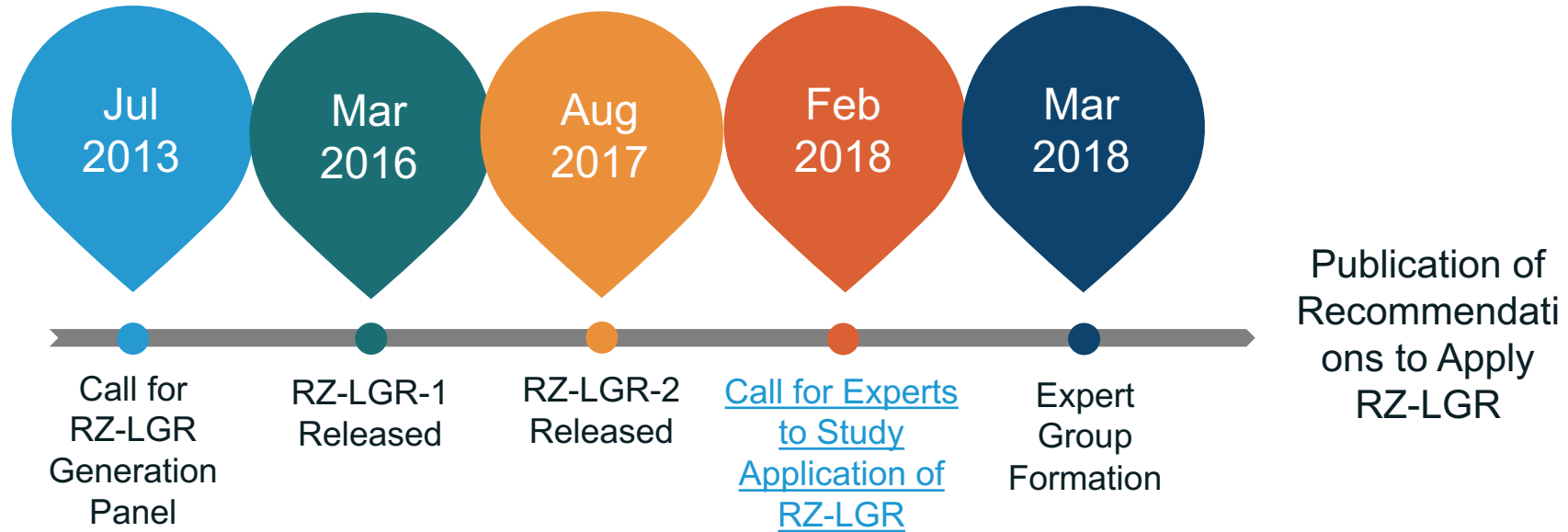
o Arabic, Ethiopic, Georgian, Khmer, Lao and Thai scripts integrated

o Armenian finalized – to be integrated after LGRs of related scripts received

o Available at www.icann.org/idn

# Pre-Requisite for IDN Variant TLD Implementation

⊙ Update relevant procedures to incorporate Root Zone Label Generation Rules (RZ-LGR) cohesively across IDN ccTLDs and IDN gTLDs

# IDN Variant TLD Implementation – Definition of Variant Labels

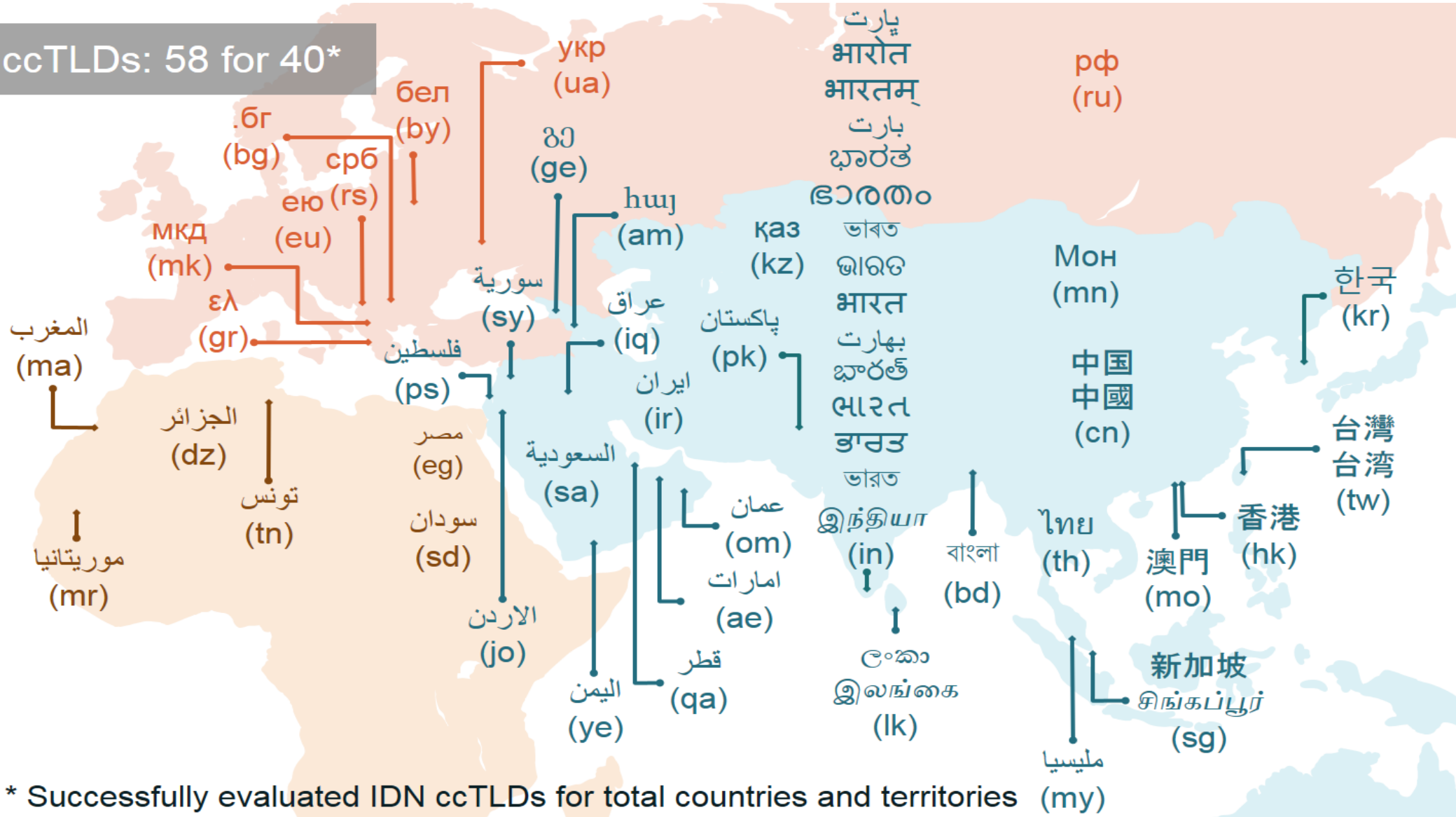| Jul 2013 | Mar 2016 | Aug 2017 | Feb 2018 | Mar 2018 | |
|---|---|---|---|---|---|
| Call for RZ-LGR Generation Panel | RZ-LGR-1 Released | RZ-LGR-2 Released | Call for Experts to Study Application of RZ-LGR | Expert Group Formation | Publication of Recommendations to Apply RZ-LGR |

## Study Group Expertise and Composition

- Experts in IDNA2008 and related standards, Procedure to Develop and Maintain RZ-LGR, Script-based RZ-LGR proposal development, Technical evaluation for IDN new gTLDs and IDN ccTLDs, Unicode security considerations, IDN TLD usability challenges
- The group to be composed of experts from GNSO, ccNSO, SSAC, ALAC and IAB

# IDN Country Code Top-Level Domains
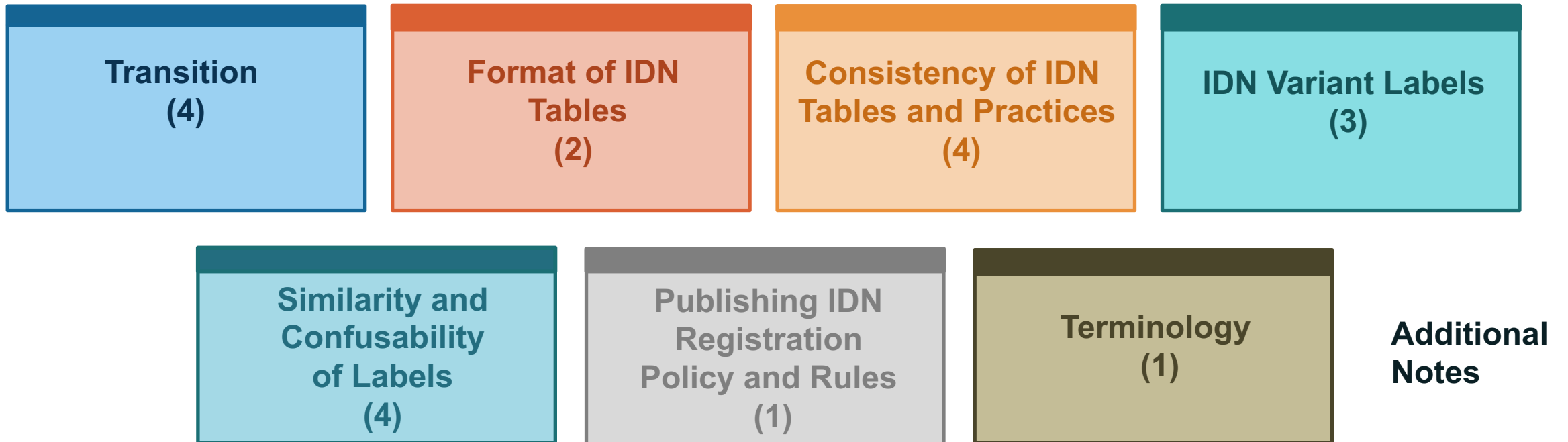


ccTLDs: 58 for 40*

укр
(ua)

бел
(by)

.бг
(bg)

срб
(rs)

ею
(eu)

мкд
(mk)

ελ
(gr)

бдз
(ge)

հայ
(am)

қаз
(kz)

Мон
(mn)

рф
(ru)

پارت
भारोत
भारतम्
بارت
ಭಾರತ
ഭാരതം
ভারত
ভারত
भारत
بھارت
భారత్
ભારત
ਭਾਰਤ
ভারত

中国
中國
(cn)

한국
(kr)

المغرب
(ma)

موريتانيا
(mr)

الجزائر
(dz)

تونس
(tn)

مصر
(eg)

سودان
(sd)

سورية
(sy)

فلسطين
(ps)

عراق
(iq)

ایران
(ir)

پاکستان
(pk)

السعودية
(sa)

الاردن
(jo)

اليمن
(ye)

عمان
(om)

امارات
(ae)

قطر
(qa)

இந்தியா
(in)

ලංකා
இலங்கை
(lk)

বাংলা
(bd)

ไทย
(th)

澳門
(mo)

台灣
台湾
(tw)

香港
(hk)

新加坡
சிங்கப்பூர்
(sg)

ماليسيا
(my)

* Successfully evaluated IDN ccTLDs for total countries and territories

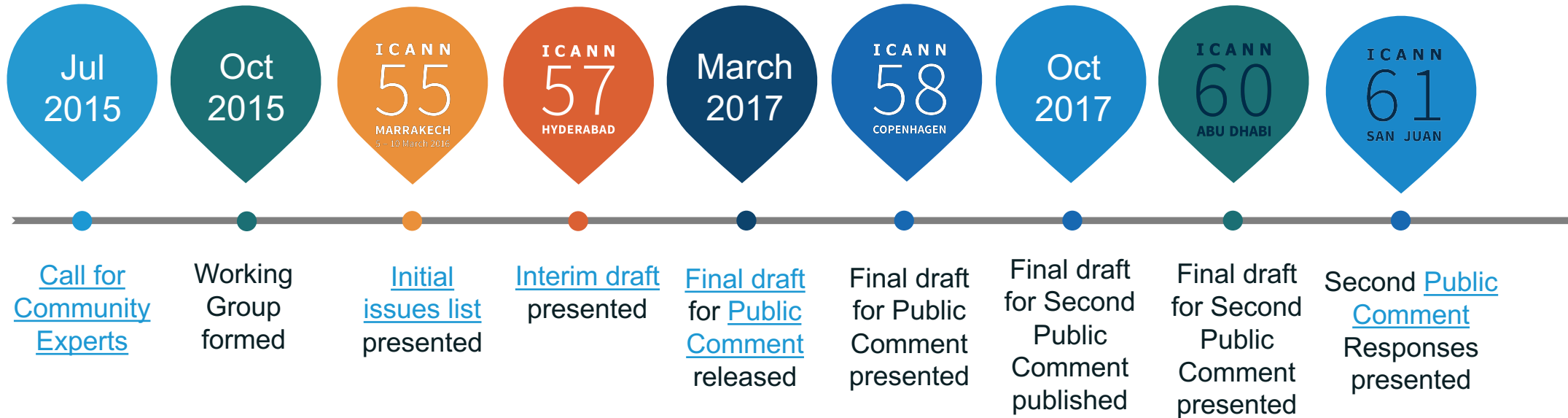# IDN ccTLD Fast Track Process

- ◉ Launched in late 2009
  - o 58 IDN ccTLDs evaluated representing 40 countries/territories
  - o 56 IDN ccTLDs delegated representing 38 countries/territories
  - o Requests cover 33 languages in 19 scripts

- ◉ Currently under review
  - o Public comment in January 2015 raised issues with second similarity review process (EPSRP)
  - o Board resolution in June 2015 to review EPSRP
  - o ccNSO formed Working Group (WG) on EPSRP
  - o Public comment in July 2016 on updated EPSRP guidelines
  - o Final report published, incorporating feedback and discussion
  - o ccNSO adopted the final report by WG on EPSRP
  - o Joint ccNSO SSAC Response to ICANN Board
  - o ICANN Board approved risk mitigation step in string similarity in October 2017

# IDN Implementation Guidelines

- ◉ Scope limited to only the owner-name of the DNS records added to the zone file by the registration system
  - ○ Any glue records and right-hand or target names excluded from scope

- ◉ Total of 7 topics with nineteen guidelines and additional notes:

| Transition (4) | Format of IDN Tables (2) | Consistency of IDN Tables and Practices (4) | IDN Variant Labels (3) |
|---|---|---|---|

| Similarity and Confusability of Labels (4) | Publishing IDN Registration Policy and Rules (1) | Terminology (1) | Additional Notes |
|---|---|---|---|

# Status

Jul 2015 — Call for Community Experts

Oct 2015 — Working Group formed

ICANN 55 MARRAKECH — Initial issues list presented

ICANN 57 HYDERABAD — Interim draft presented

March 2017 — Final draft for Public Comment released

ICANN 58 COPENHAGEN — Final draft for Public Comment presented

Oct 2017 — Final draft for Second Public Comment published

ICANN 60 ABU DHABI — Final draft for Second Public Comment presented

ICANN 61 SAN JUAN — Second Public Comment Responses presented

# Reference Second Level IDN Tables

- Reference IDN tables in LGR format in [RFC 7940](#)
- Developed using [Guidelines](#), vetted for security and stability
- Finalized after a public comment process
- Can be referred to, as registries enhance IDN implementations
- Currently 27 LGRs [published](#)
    - Latin: Bosnian, Danish, English, Finnish, French, German, Hungarian, Icelandic, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Spanish, Swedish
    - Cyrillic: Belarusian, Bosnian, Bulgarian, Macedonian, Montenegrin, Russian, Serbian, Ukrainian
    - Mixed scripts: Korean
    - Others: Chinese, Hebrew

# Communication and Outreach Efforts

- ⊙ Direct outreach
  - o IDN workshop  Nov 26-27, Pointe-Noire, Congo
  - o Training on IDNs, Dec 2017, Maldives
  - o Sinhala GP training and F2F meeting, Dec 2017, Sri Lanka
  - o Neo-Brahmi GP F2F meeting, Dec 2017, Sri Lanka
  - o Latin GP F2F meeting, Jan 2018, Belgium
- ⊙ Blog on South Asian Eleven
- ⊙ Updates at ICANN meetings
- ⊙ IDN web pages at icann.org/idn
- ⊙ IDN community wiki pages
- ⊙ IDN mailing lists: {vip, lgr, ArabicGP, ArmenianGP, ChineseGP, idnafrica …}@icann.org

# Engage with ICANN and IDN Program



## Thank You and Questions

Visit us at **icann.org/idn**
Email: IDNProgram@icann.org

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