

A promotional graphic for the ICANN 61 Community Forum in San Juan. The background is a scenic view of San Juan, Puerto Rico, featuring a mix of colorful residential buildings and historic stone structures, including a large stone wall and a dome, overlooking the ocean under a dramatic, orange-hued sky. The text is overlaid in white on a dark red background in the top right corner.

ICANN

COMMUNITY FORUM

61

SAN JUAN

10–15 March 2018

IDN Program Update



Pitinan Kooarmornpatana
IDN Program Manager

ICANN 61
14 March 2017

Overview of Session Presentations

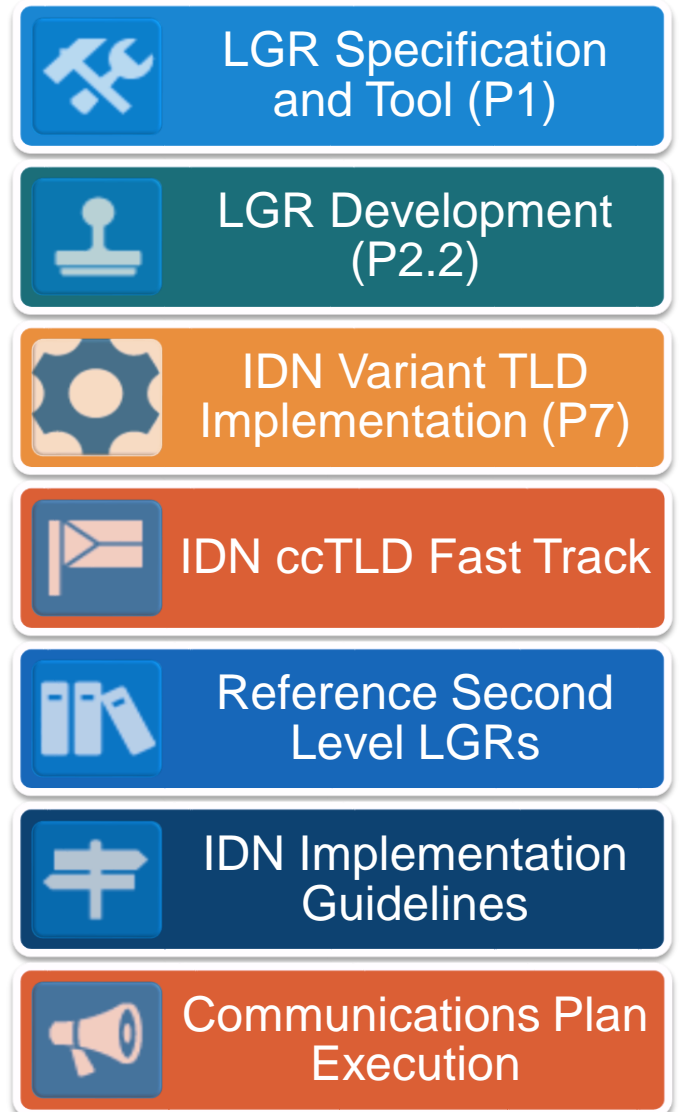
- ◉ IDN Program Overview and Progress - Pitinan Kooarmornpatana
- ◉ Update on IDN Implementation Guidelines - Mats Dufberg
- ◉ Community Updates
 - Latin GP Update - Mats Dufberg
 - Neo-Brahmi GP Update - Ajay Data
- ◉ Q/A

IDN Program Overview and Progress

Pitinan Kooarmornpatana
IDN Program Manager

Overview

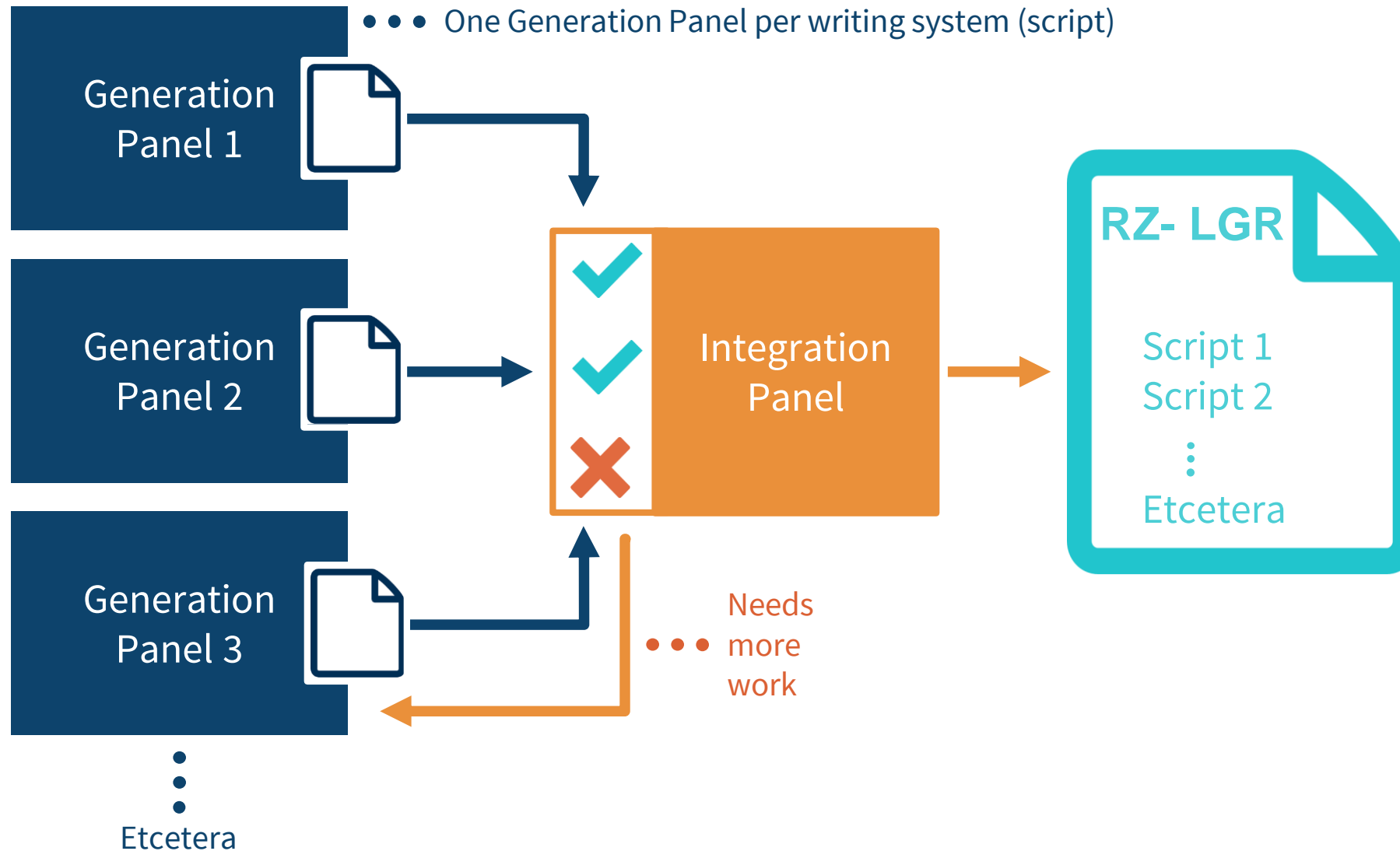
- ◉ IDNs at Top Level
 - ◉ IDN TLD Program
 - Root Zone Label Generation Rules (RZ-LGR)
 - IDN Variant TLD Implementation
 - LGR Toolset
 - ◉ IDN ccTLD Fast Track Process
- ◉ IDNs at Second Level for gTLDs
 - ◉ IDN Implementation Guidelines
 - ◉ Reference Second Level LGRs
- ◉ Community Outreach and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



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

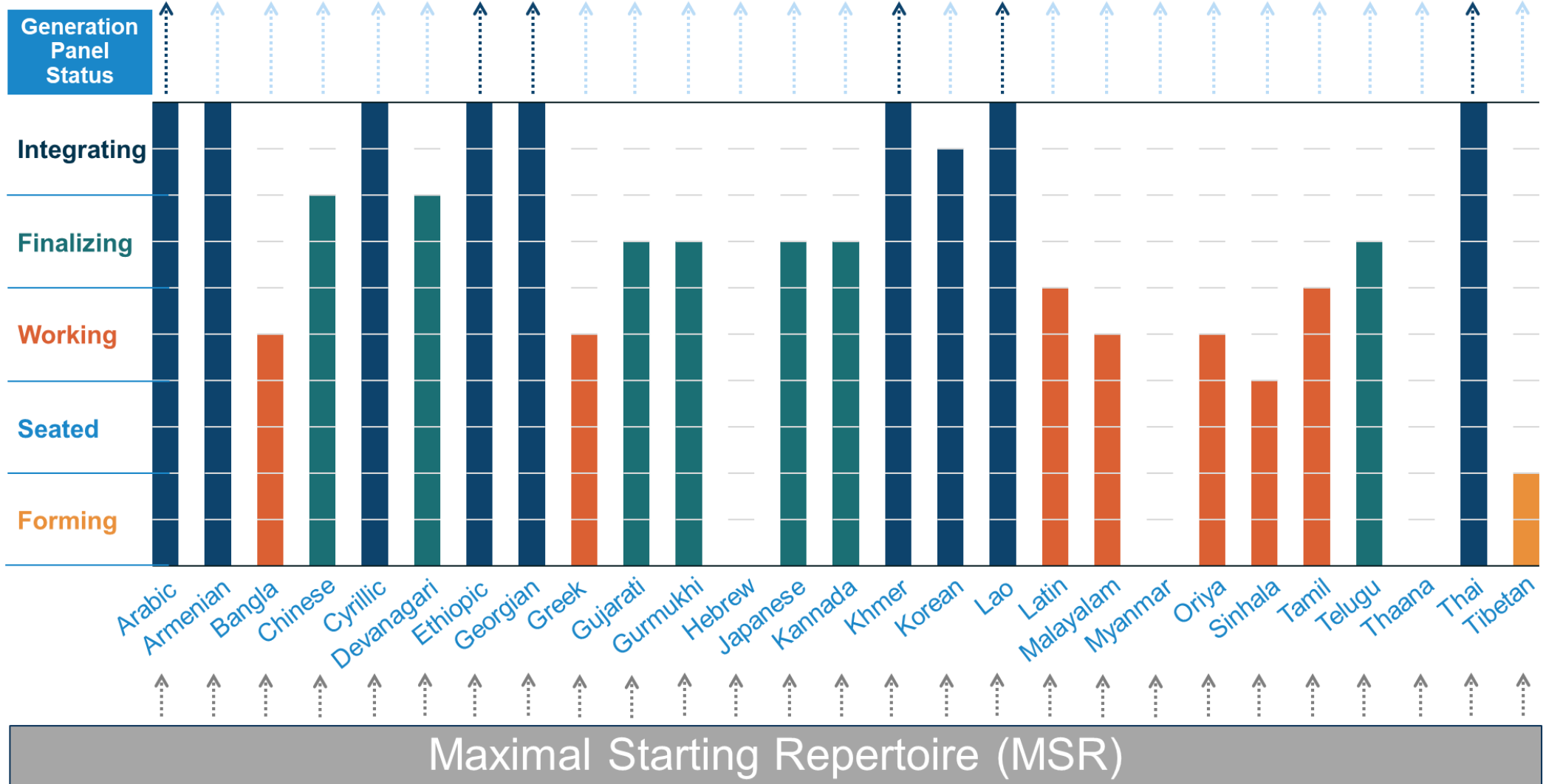
RZ-LGR Process



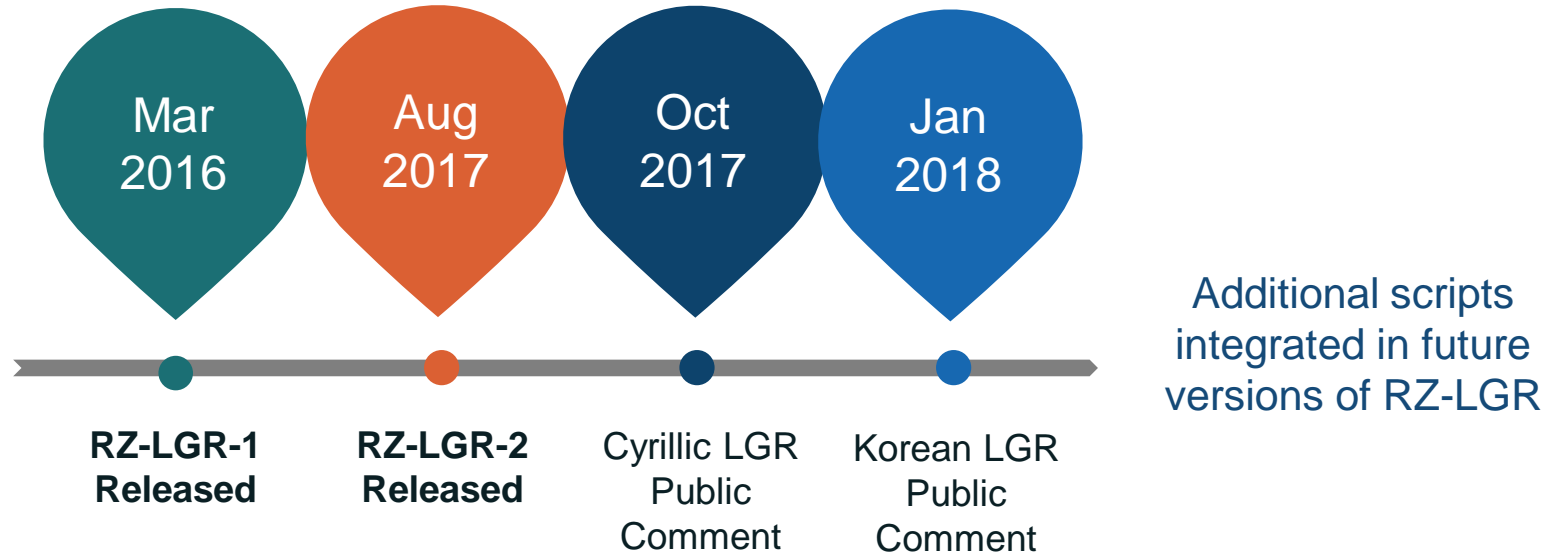
Status of Generation Panels (GPs)

Feb. 2018

Root Zone Label Generation Rules (RZ-LGR)



Status of RZ-LGR

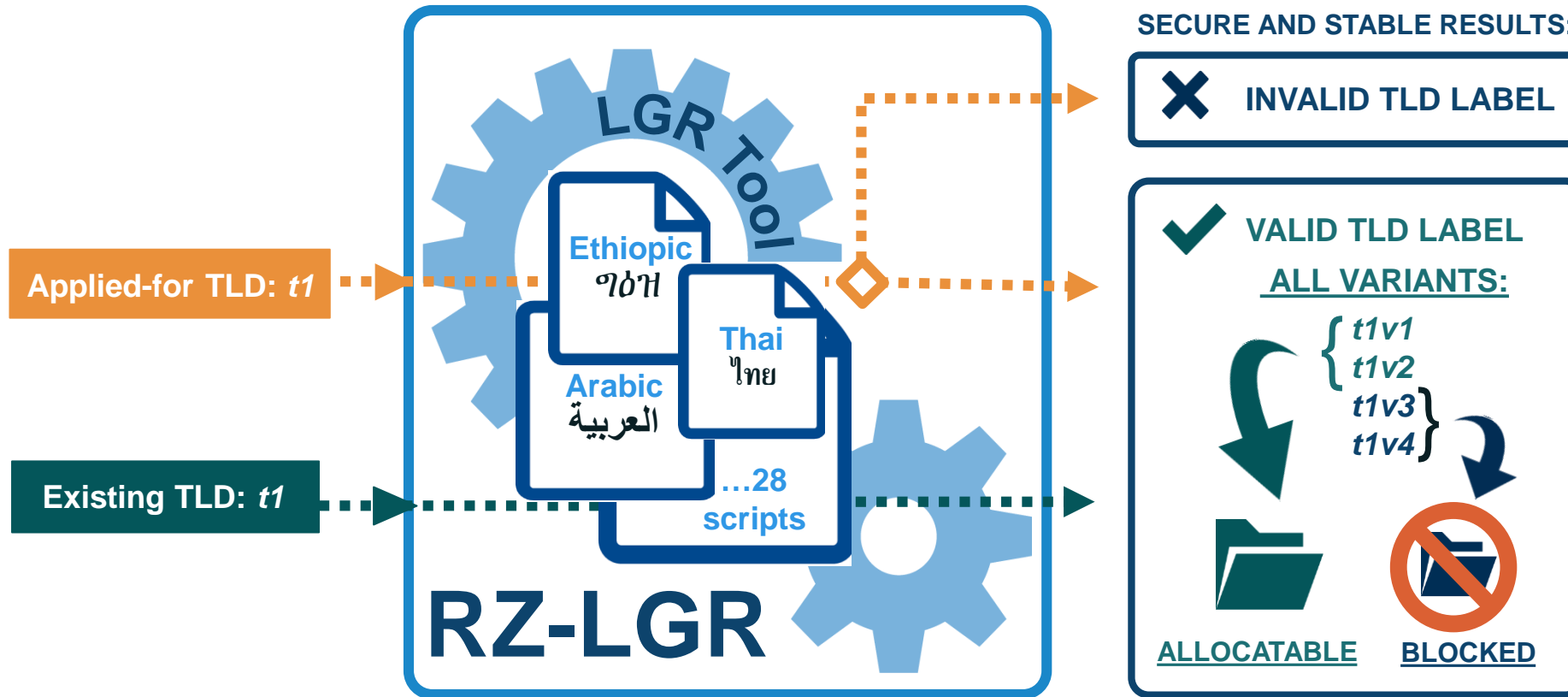


RZ-LGR-2 Summary

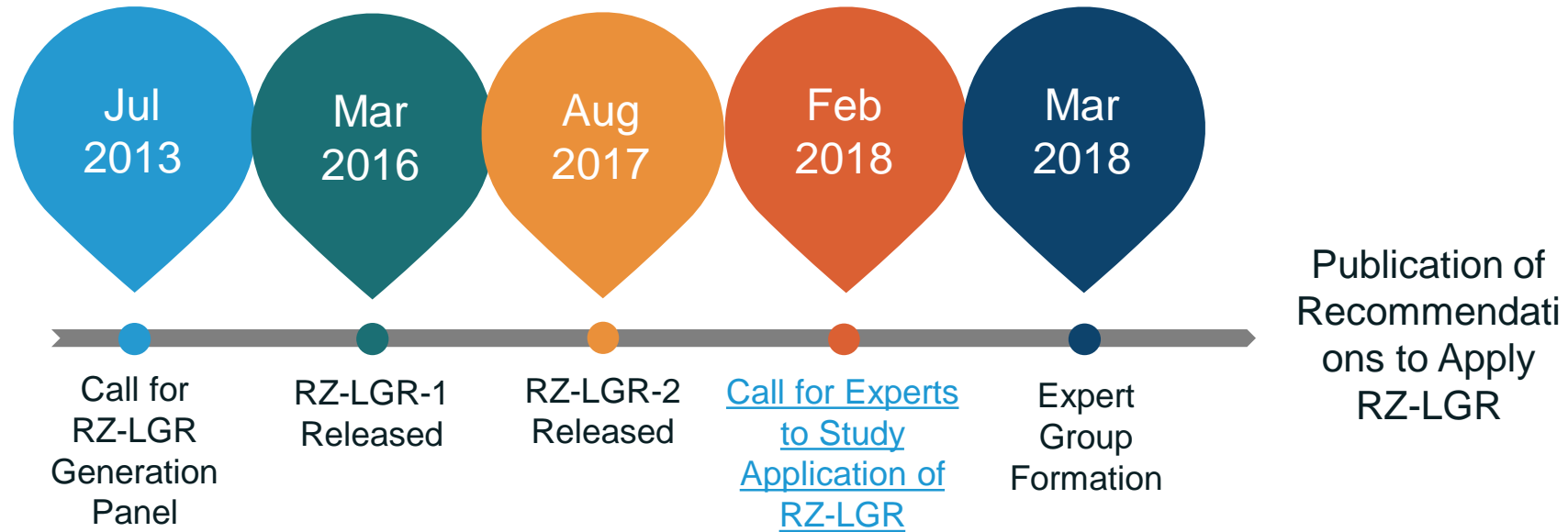
- Arabic, Ethiopic, Georgian, Khmer, Lao and Thai scripts integrated
- Armenian finalized – to be integrated after LGRs of related scripts received
- Available at www.icann.org/idn

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



Study Group Expertise and Composition

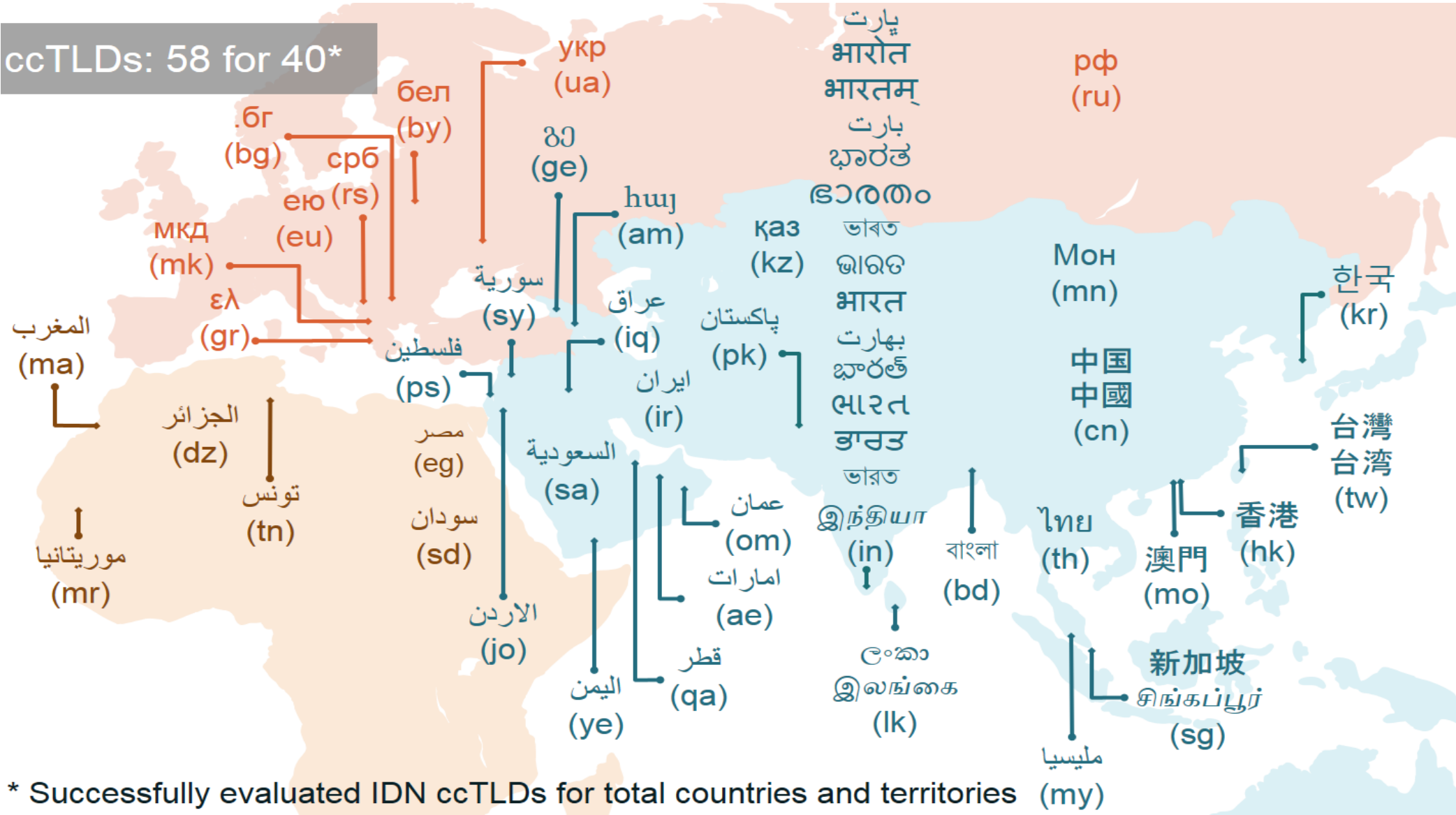
- Experts in IDNA2008 and related standards, Procedure to Develop and Maintain RZ-LGR, Script-based RZ-LGR proposal development, Technical evaluation for IDN new gTLDs and IDN ccTLDs, Unicode security considerations, IDN TLD usability challenges
- The group to be composed of experts from GNSO, ccNSO,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

LGR Toolset (beta)

- ◉ Label Generation Rulesets (LGRs) used to generate domain name labels, as specified in [RFC 7940](#)
- ◉ LGR Toolset currently allows for the following:
 - **Create** single LGR or merge multiple LGRs
 - **View** LGR in XML form or user friendly HTML form
 - **Use** a LGR to validate a label and determine its variant labels
 - **Manage** LGRs, by comparing or combining them
 - **Review** impact of a new or a revised LGR on existing labels
- ◉ Online beta deployment at: <https://lgrtool.icann.org/>
- ◉ Open source package(s) released with BSD license
 - Released at github: [lgr-core](#), [lgr-django](#), [munidata](#)
- ◉ [User guide](#) available for further details

IDN Country Code Top-Level Domains

ccTLDs: 58 for 40*



* Successfully evaluated IDN ccTLDs for total countries and territories

IDN ccTLD Fast Track Process

- Launched in late 2009
 - 58 IDN ccTLDs evaluated representing 40 countries/territories
 - 56 IDN ccTLDs delegated representing 38 countries/territories
 - Requests cover 33 languages in 19 scripts
- Currently under review
 - [Public comment](#) in January 2015 raised issues with second similarity review process (EPSRP)
 - [Board resolution](#) in June 2015 to review EPSRP
 - ccNSO formed Working Group (WG) on EPSRP
 - [Public comment](#) in July 2016 on updated EPSRP guidelines
 - [Final report](#) published, incorporating feedback and discussion
 - ccNSO adopted the final report by WG on EPSRP
 - [Joint ccNSO SSAC Response](#) to ICANN Board
 - ICANN Board [approved](#) risk mitigation step in string similarity in October 2017

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
 - Training on IDNs, Dec 2017, Maldives
 - Sinhala GP training and F2F meeting, Dec 2017, Sri Lanka
 - Neo-Brahmi GP F2F meeting, Dec 2017, Sri Lanka
 - 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, ...}@icann.org

Thank You

- ⦿ For information on IDN Program projects, please visit:
www.icann.org/idn
- ⦿ For queries regarding the IDN Program, please email:
IDNProgram@icann.org

IDN Implementation Guidelines

Mats Dufberg

IDN Implementation Guideline Working Group Co-Chair

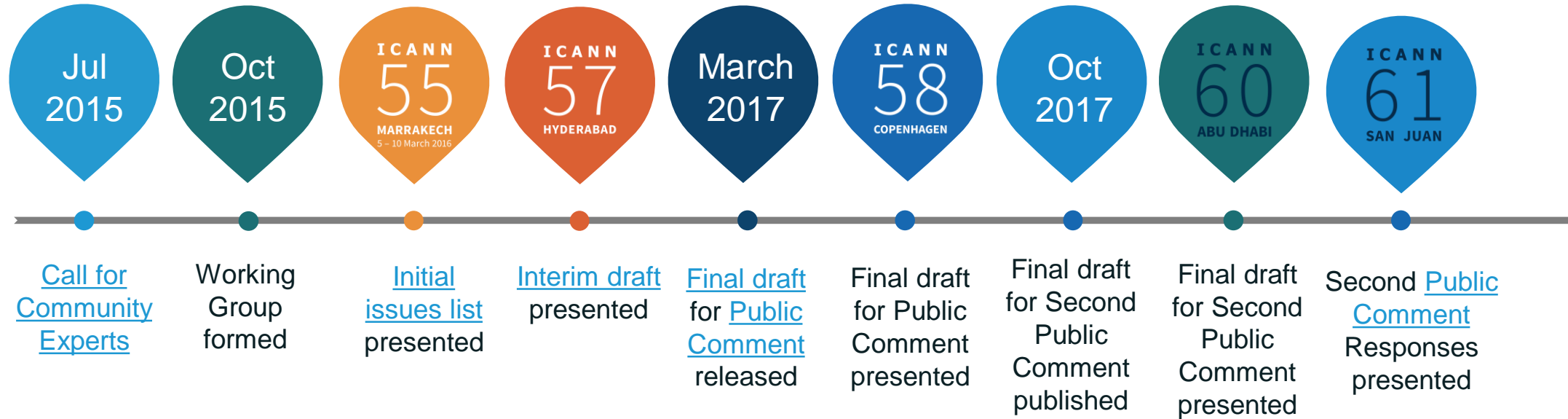
Agenda

- ◉ Purpose and Status
- ◉ IDN Guidelines WG
- ◉ Scope and Topics
- ◉ Next Steps
- ◉ Q/A

Purpose

- ⊙ Background
 - For second-level IDN registration policies and practices
 - To minimize the risk of cybersquatting and consumer confusion
- ⊙ Relevance
 - gTLD – registries and registrars offering IDNs contractually bound
 - Required by most Registry Agreements
 - For example, new gTLD Registry Agreement: Specification 6 Section 1.4
 - Required by many Registrar Agreements
 - For example, 2013 Registrar Accreditation Agreement: Additional Registrar Operation Specification Clause 3
 - IDN ccTLDs – “expected” by the Fast Track Process

Status

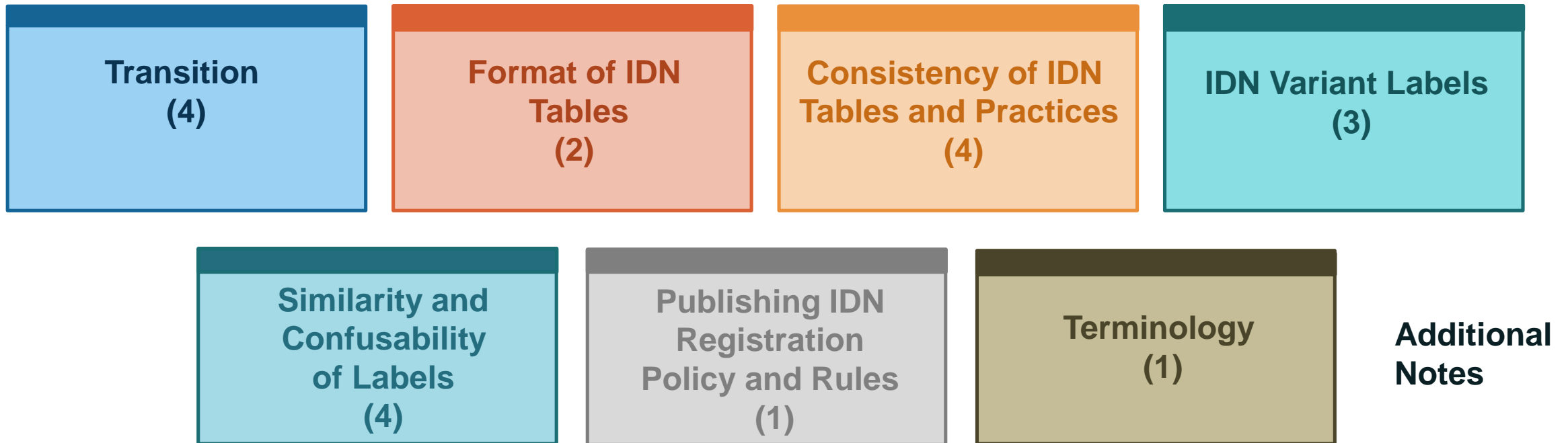


IDN Guidelines WG (IDNGWG)

	Name	Organization	SO/AC
1	Satish Babu	ISOC-TRV	ALAC
2	Wael Nasr	TLDVILLA LLC	ALAC
3	Mats Dufberg	IIS	ccNSO
4	Pablo Rodríguez	Puerto Rico TLD	ccNSO
5	Edmon Chung	.asia	GNSO
6	Christian Dawson	i2Coalition	GNSO
7	Chris Dillon		GNSO
8	Kal Feher	Neustar	GNSO
9	Dennis Tan	Verisign	GNSO
10	Jian Zhang (until 7 April 2017)	KNET	GNSO
11	Patrik Fältström (will only review)		SSAC

Scope and Topics

- 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:



Next Steps

- ⦿ Finalize IDN Guidelines 4.0 after second public comment
- ⦿ Submit final IDN Guidelines 4.0 for consideration by ICANN Board

- ⦿ Final Draft of IDN Implementation Guidelines 4.0 available at www.icann.org/idn
- ⦿ Visit IDN Guidelines wiki page for the list of WG members, email archive, call recordings and summaries: <https://community.icann.org/display/IDN/IDN+implementation+Guidelines>
- ⦿ For feedback, email at: idngwg@icann.org or IDNProgram@icann.org

Community Updates

- Latin GP
- Neo-Brahmi GP

Latin Generation Panel (Latin GP) Update

Mats Dufberg
Latin GP

Latin GP Overview - Introduction

1

Short History

2

Scope of Work

3

Members

4

Organization of Working
Groups

5

Work Accomplished

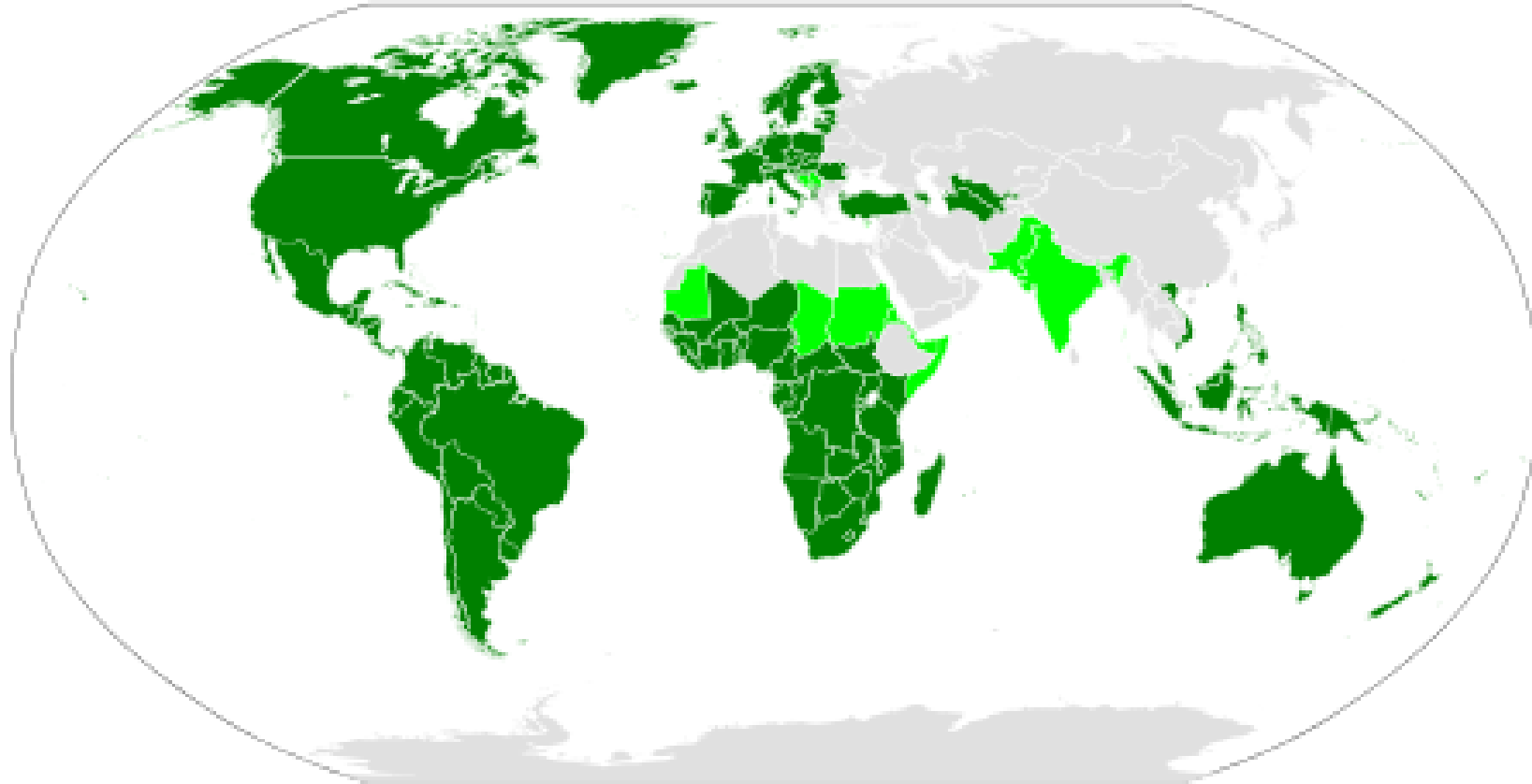
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Project
Timeline

Latin GP Overview - Short History

- ◉ Summer 2016 - GP restarted with new call for volunteers
- ◉ Real work started October 2016
- ◉ GP proposal finalized and sent to ICANN at the beginning of May 2017
- ◉ GP seated on [Monday, 15 May 2017](#)
 - ◉ [Proposal for Formation of Latin Generation Panel](#)
 - ◉ GP proposal for inclusion and exclusion principles were sent for an informal public review in September 2017
 - ◉ During fall of 2017, GP has collected information from 209 languages
 - ◉ GP has proposed new code points for MSR-3

Latin Script Geographic and Linguistic Spread



The dark green areas show the countries where the Latin script is the sole main script.

Light green shows countries where Latin co-exists with other scripts.

Grey areas - Latin-script alphabets are sometimes extensively used in areas colored grey due to the use of unofficial second languages, such as French in Algeria and English in Egypt, and to Latin transliteration of the official script, such as [pinyin](#) in China or [rōmaji](#) in Japan.

Latin GP Overview – Scope of Work

- ⦿ Maximal Starting Repertoire version 2 (MSR-2), will switch to MSR-3 when done
- ⦿ Lowercase letters
- ⦿ Unicode ranges
 - Controls and Basic Latin
 - Controls and Latin-1 Supplement
 - Latin Extended-A
 - Latin Extended-B
 - IPA Extensions
- ⦿ Non exhaustive list of 455 languages in scope
- ⦿ Non exhaustive list of EGIDS 1-5 languages contains 300 languages
- ⦿ Non exhaustive list of EGIDS 1-4 languages contains 180 languages
- ⦿ Maximal Starting repertoire version 2 (MSR-2) shows 279 Latin script code points

Note: **EGIDS** stands for the Expanded Graded Intergenerational Disruption Scale. This is a tool that is used to measure the status of a language in terms of endangerment or development.

Latin GP Overview – Members

- ⦿ 14 members, 3 observers
- ⦿ Language representatives
 - Africa
 - Asia
 - Australia and Oceania
 - Europe
 - North America
- ⦿ Diversity
 - Community Representatives
 - Linguistic Experts
 - Registry/Registrar Experts
 - Policy Experts
 - Technical Community, DNS Experts
 - IDNA/Unicode Experts

Latin GP Overview - Challenges and Solutions

⦿ Challenges

- Many languages
- Many code points to process
- Not enough members to cover workload

⦿ Solutions

- Process languages with EGIDS=1-4 first (180)
- Consider processing languages with EGIDS=5 (120)
 - 29 languages with at least 1 million users are included
- Define simple procedure for developing Latin script repertoire
- Workload divided in two groups
 - Repertoire Working Group
 - Variant Working Group

Latin GP Overview – Organization of Working Groups

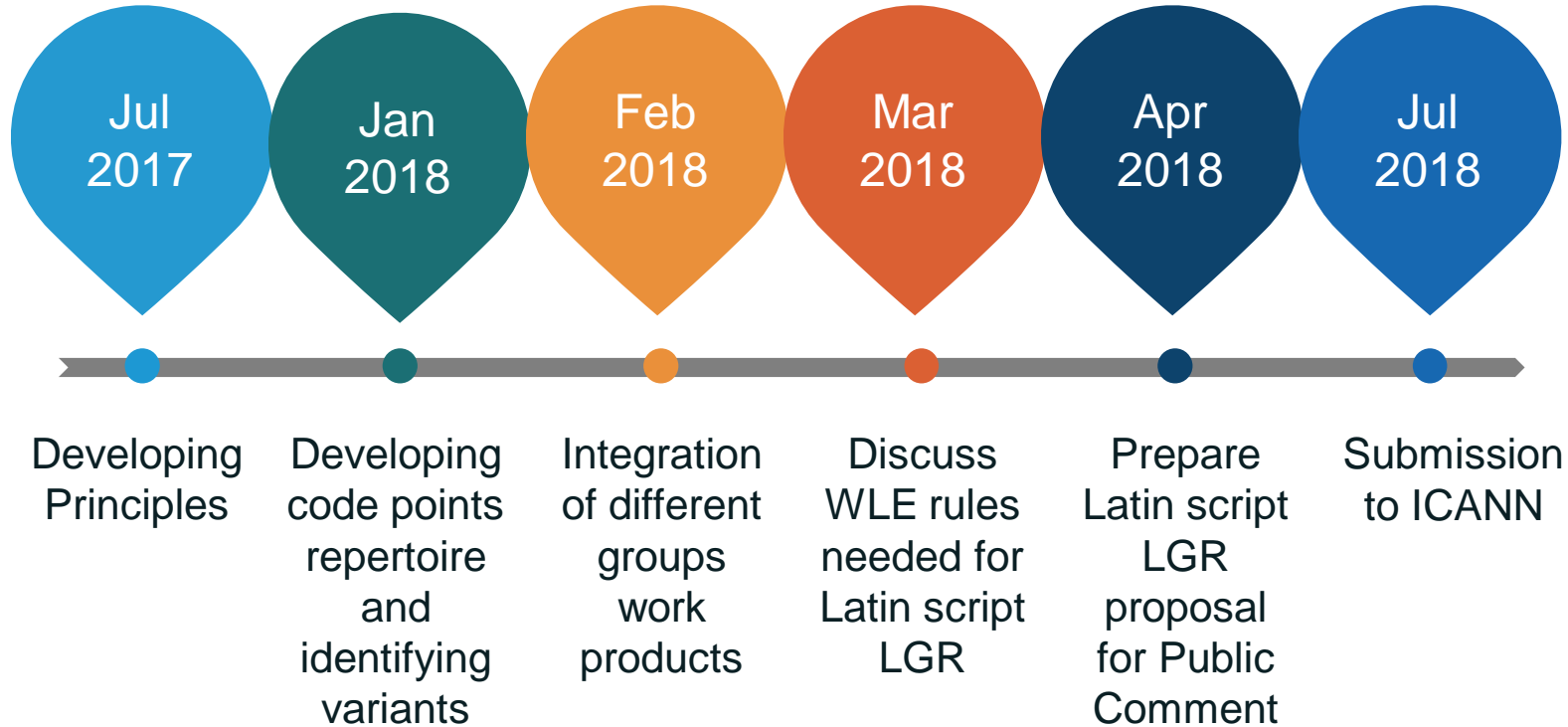
- ⊙ Repertoire Working group
 - 10 members
 - Developing Principles for Inclusion and Exclusion of Code Points in Latin Script for the Root Zone LGR
 - Processing Languages to build the repertoire
- ⊙ Variant Working Group
 - 4 members
 - Developing Principles for Analysis of Variants in the Latin Script for the Root Zone LGR
 - Identifying variants

Latin GP Overview – Work Accomplished

- ◉ Developing Repertoire
 - 180 of 180 EGIDS 1- 4 languages processed
 - 29 EGIDS 5 languages processed
 - 195 of 279 MSR-2 code points attested
 - 3 non-MSR-2 code points are in MSR-3 proposal
- ◉ Developing Variants
 - Variants with Cyrillic script - work in progress
 - Variants with Greek script – work in progress
 - Variants with Armenian script – work in progress
 - In-script variants - to be started

Note: Figures as of 16 February 2018

Latin GP Overview – Project Timeline



**To Summarize: work started on 15 May 2017
14 months is estimated time for project duration**

Thank You and Questions

Neo-Brahmi Generation Panel (NBGP) Update

Ajay Data
Co-chair, NBGP

Agenda

1

Introducing NBGP:
Scope: Scripts,
Languages, Geo
Coverage

2

NBGP Members and
Expertise

3

Efforts and Progress
so far - Timeline

4

Methodology

5

Cross-Script Variant
Analysis

6

Future Plan of Action

NBGP Overview

1

Introduction

Generate proposals for script specific LGRs, based on community expertise and requirements. Ensure Global Acceptability of Neo-Brahmi Script based language IDN'S and variants.

2

Scope

Devanagari, Gujarati, Bengali, Gurmukhi/Punjabi, Odia/Oriya, Tamil, Kannada, Telugu and Malayalam.

3

Geo Coverage

India, Sri Lanka, Nepal, Bangladesh

4

Coverage

Devanagari under the **Brāhmī** family is used by 11 out of 22 scheduled languages of India - Bodo, Dogri, Hindi, Kashmiri, Konkani, Maithili, Marathi, Nepali, Sanskrit, Santhali and Sindhi.

5

Why Devanagari

Devanagari is also used by 45 other languages in India, and is being adopted by new literary tribal languages of Arunachal Pradesh, Bihar and Andaman & Nicobar Islands. It is also popularly used in Fiji, Mauritius, Malaysia, England, Canada, South Africa, and Indonesia

NBGP Members

Co-chairs: Dr. Ajay Data, Dr. Mahesh D. Kulkarni, Prof. Udaya Narayana Singh

Key members: Akshat S. Joshi, Jay Paudyal, Harish Choudhary, Raiomond Doctor, Bal Krishan Bal, Gurpreet Lehal, Chitrita Chatterjee, Rajiv Kumar, Abhijit Dutta, Anupam Agrawal

Members: 56 members from India, Nepal, Sri Lanka

Bengali

Atiur Rahman Khan

Devanagari

Akshat S. Joshi

Gujarati

Raiomond Doctor

Gurmukhi

Gurpreet Singh Lehal



Kannada

U.B. Pavanaja

Malayalam

Anivar A. Aravind

Oriya

Kuldeep Patnaik

Tamil

Shanmugam R

Telugu

Uma Maheshwar G Rao

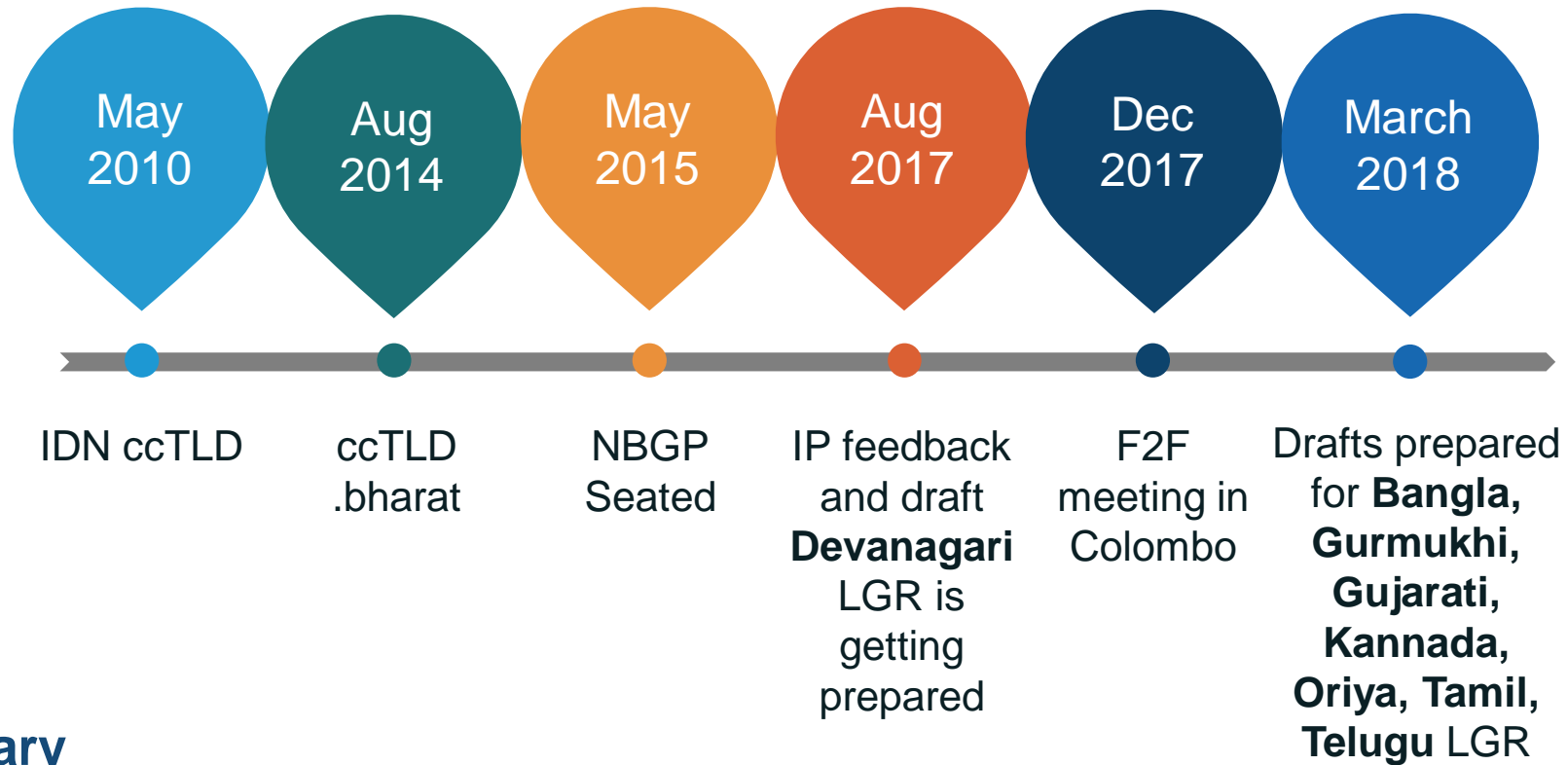
Status as of 1 January 2017

Script	Suffecient Resource Onboard?	Prepare the first draft of the LGR	Finalize the draft	Proposal is agreed by NBGP	Create XML	XML is agreed by NBGP	Creat the test labels file	Number of revision rounds with the IP	Incoperate IP Feedback	Public Comment	Finalize after Public Comment
Devanagari	✓	On Going									
Gujarati	?										
Gurmukhi	?										
Kannada	?										
Malayalam	?										
Tamil	?										
Telugu	?										
Bengali	?										
Oriya	?										

Status as of 3 March 2018

Script	Suffecient Resource Onboard?	Prepare the first draft of the LGR	Finalize the draft	Proposal is agreed by NBGP	Create XML	XML is agreed by NBGP	Creat the test labels file	Number of revision rounds with the IP	Incoperate IP Feedback	Public Comment	Finalize after Public Comment
Devanagari	✓	✓	✓	✓	✓	✓	✓	6	Waiting for IP Feedback		
Gujarati	✓	✓	✓	✓	✓	✓	✓	1	Ongoing, due 5 Mar		
Gurmukhi	✓	✓	✓	✓	✓	✓	✓	1	Ongoing, due 5 Mar		
Kannada	✓	✓	✓	✓	✓	✓	✓	1	Ongoing, due 5 Mar		
Malayalam	?	Ongoing, due ?									
Tamil	✓	✓	✓	✓	✓	Ongoing, due 5 Mar					
Telugu	✓	✓	✓	✓	✓	✓	✓	1	Ongoing, due 5 Mar		
Bengali	✓	✓	✓	✓	✓	Ongoing, due 5 Mar					
Oriya	✓	✓	✓	✓	✓	Ongoing, due 5 Mar					

Timeline



Summary

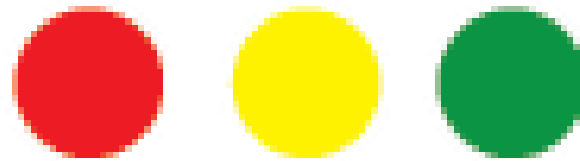
Draft LGR for Devanagari is at final stages to be released for public comments
LGR for Bangla, Gurmukhi, Gujarati, Kannada, Oriya, Tamil and Telugu are in discussion with IP

Methodology Followed to Achieve the Goal

1. Attracting members – No rejection policy
2. Fixed date and time for update conference all (fixed agenda)
3. F2F meetings
4. Follow-up on fixed date and time
5. Finalising champion for each script and internal scope
6. Organising cross scripts calls
7. Motivating members / Appreciations
8. Lead by example to join each call and contribute to resolve
9. Involve Government stakeholders
10. F2F meetings at every opportunity
11. Collaborative document update and view
12. Taking support from ICANN for XML and expert view from other LGR experience
13. Submitting document to IP for review
14. Phased feedback approach from IP
15. WhatsApp group for quick update / follow up and reminders
16. Personal calls to group leaders with expert connect
17. Division of Responsibility

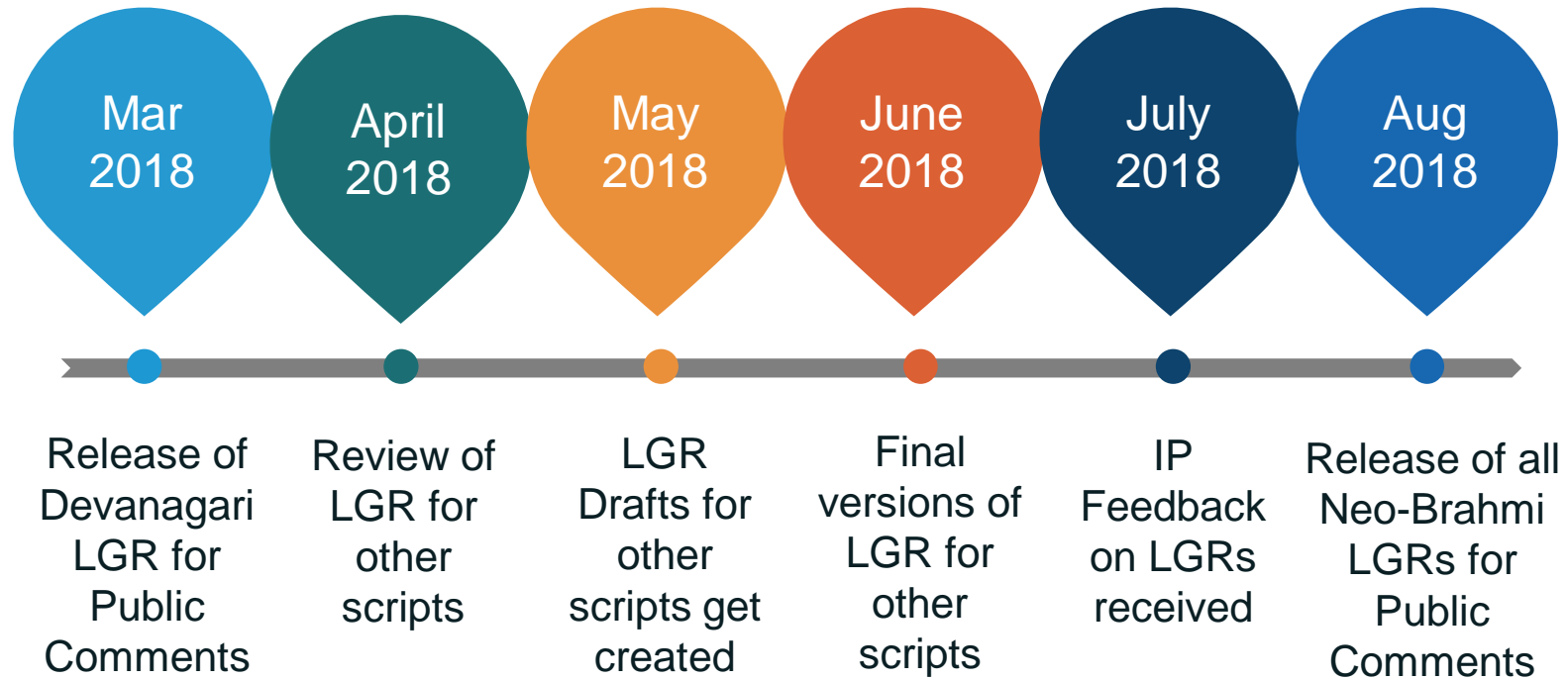
Cross-Script Variant Analysis Mechanism

- The GP identified multiple script pairs including Devanagari-Gurmukhi (देवनागरी - ਗੁਰਮੁਖੀ), Kannada-Telugu (ಅಕ್ಷರಮಾಲೆ - తెలుగు లిపి) and Tamil-Malayalam (தமிழ் - മലയാളലിപി) for the cross-script variant analysis
- The panel had a detailed discussion on cross-script variant characters to determine an agreeable mechanism to identify them
- The panel converged on a solution to tag each pair of candidate cross-script variant code points with one of the three colors



- **Red** – Indistinguishable or identical by users of scripts: document as variant code points
- **Yellow** – Similar but distinguishable by users of scripts: document as reference in appendix
- **Green** – Not similar

Future Timeline



Join & Contribute

Please join our social media platform

@nbgp_community

Or

Visit our Wiki page for membership and current status

<https://community.icann.org/display/croscomlgrprocedure/Neo-Brahmi+GP>

Sarmad Husain

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Dr. Ajay Data

@ajaydata

ajay@data.in

Engage with ICANN and IDN Program



Thank You and Questions

Visit us at icann.org/idn

Email: IDNProgram@icann.org



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