IDN Variant TLD Implementation

Status, Recommendations and Next Steps

GNSO Council

18 April 2019

Objectives of This Session

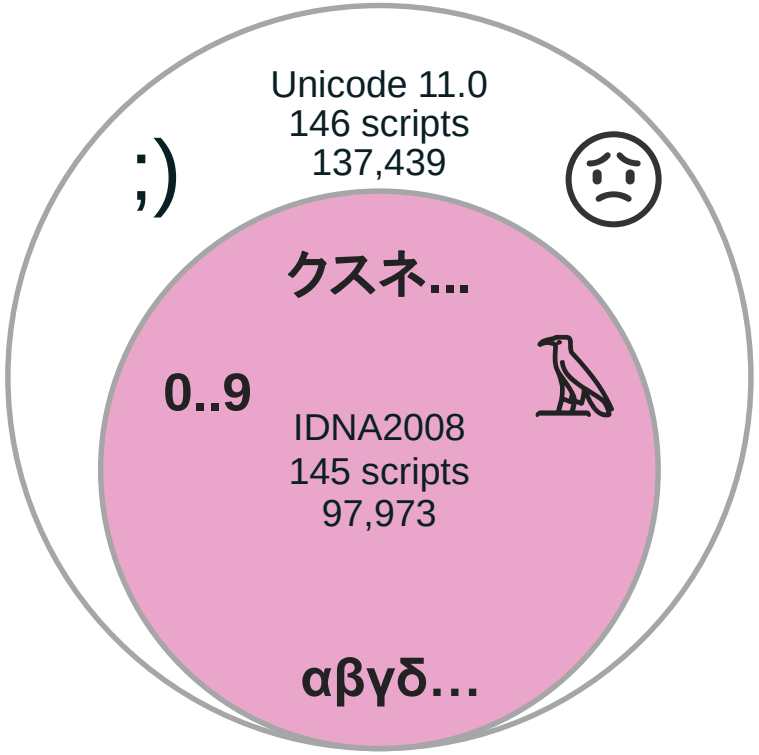
- What:
  1. Understand
     1. IDN variant top-level domains (TLDs)
     2. Status of IDN variant TLDs
     3. Next steps for GNSO
- Why:
  - IDN variant TLDs are needed by the community
  - Requires consistent policy for implementation

The BIG Picture for IDNs: Usability with Security and Stability

IDN Second Level Domain

ตัวอย่าง.ไทย

IDN Top Level Domain



*IDNA2008 expects registries at all levels will reduce opportunities for confusion by **restricting characters** or **using variant techniques***

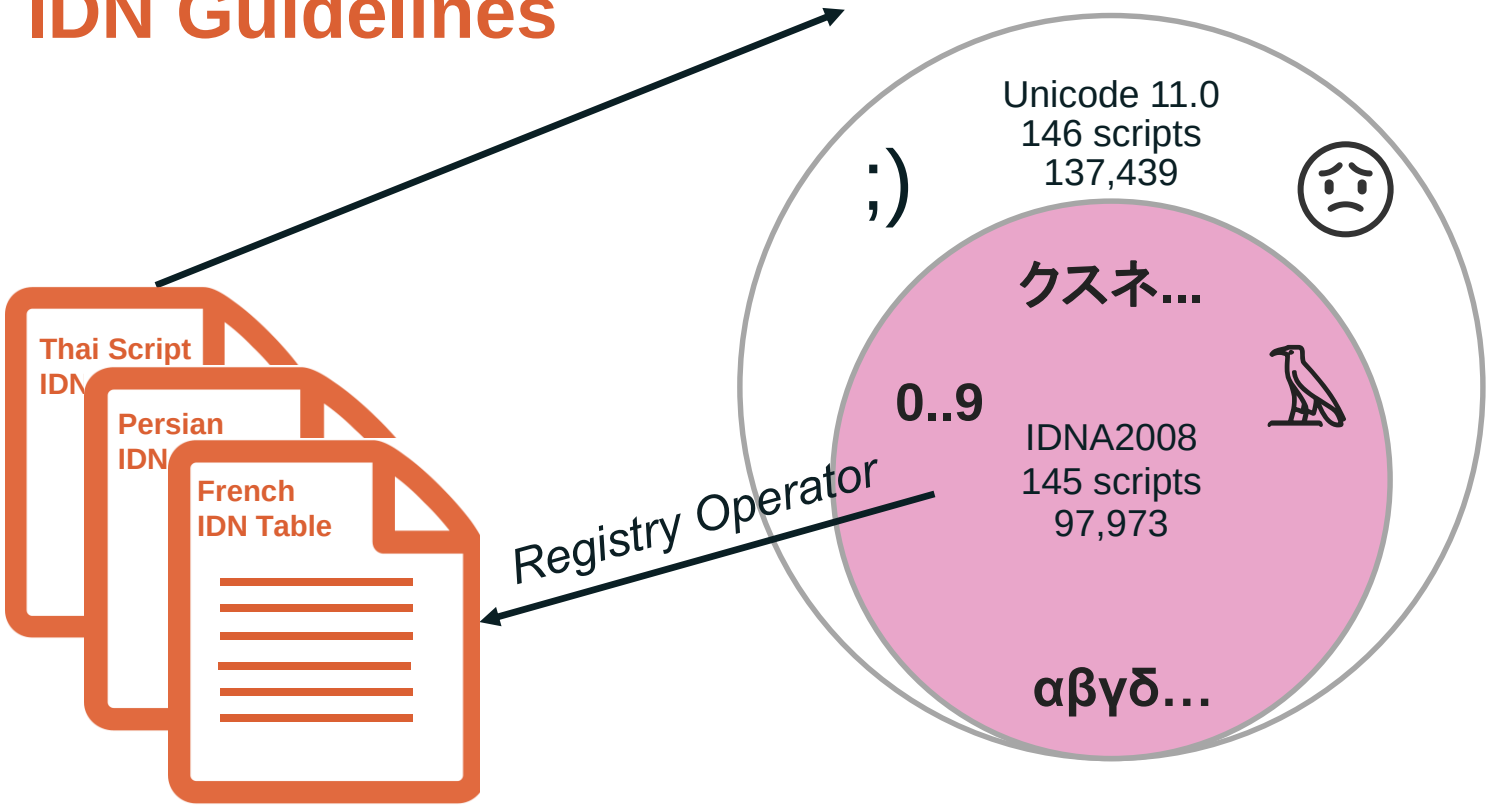
The BIG Picture for IDNs: Usability with Security and Stability

IDN Second Level Domain

ตัวอย่าง.ไทย

IDN Top Level Domain

IDN Guidelines



IDN Tables

Script or language

IDNA2008 expects registries at all levels will reduce opportunities for confusion by ***restricting characters*** *or* ***using variant techniques***

The BIG Picture for IDNs: Usability with Security and Stability

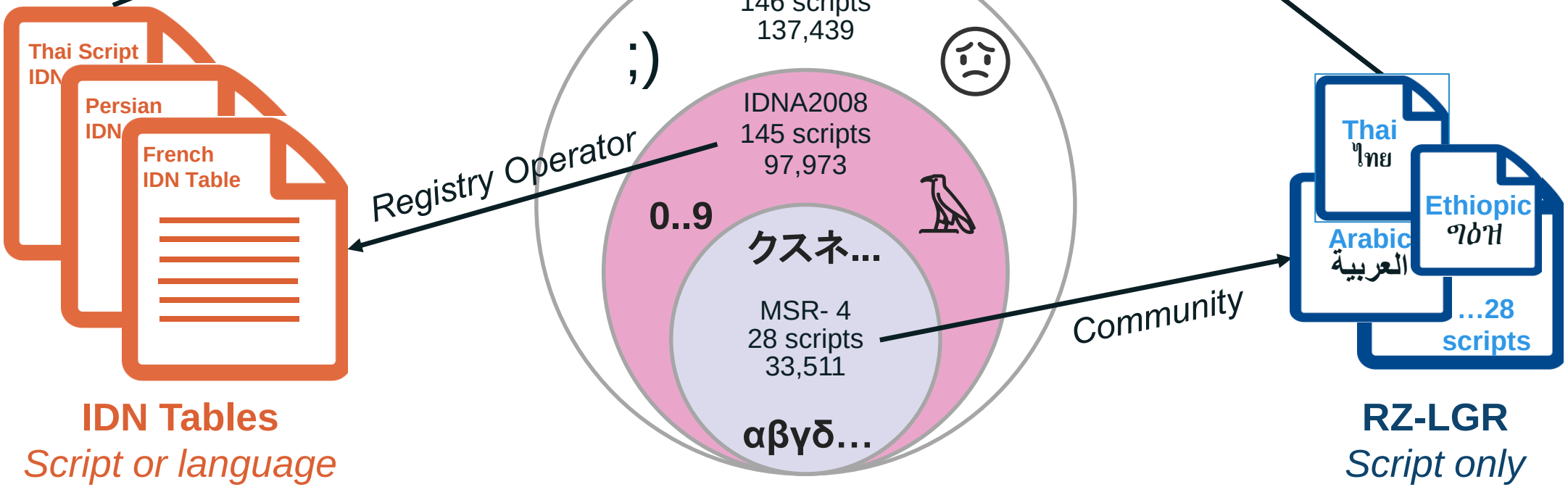
IDN Second Level Domain

IDN Guidelines

ตัวอย่าง.ไทย

IDN Top Level Domain

IDN Variant TLD Recommendations



IDN Tables

Script or language

RZ-LGR

Script only

IDNA2008 expects registries at all levels will reduce opportunities for confusion by ***restricting characters*** *or* ***using variant techniques***

Understanding IDN Variant TLDs

- Security
- Usability

.epic
0065 0070 0069 0063

.epic
0435 0440 0456 0441

.澳门
6FB3 95E8

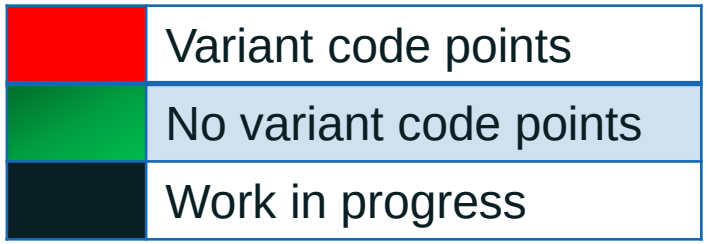
.澳門
6FB3 9580

السعودية.
0627 0644 0633 0639 0648 062F 064A 0629

السعودية.
0627 0644 0633 0639 0648 062F 06CC 06C3

Which Scripts have Variant Code Points?

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

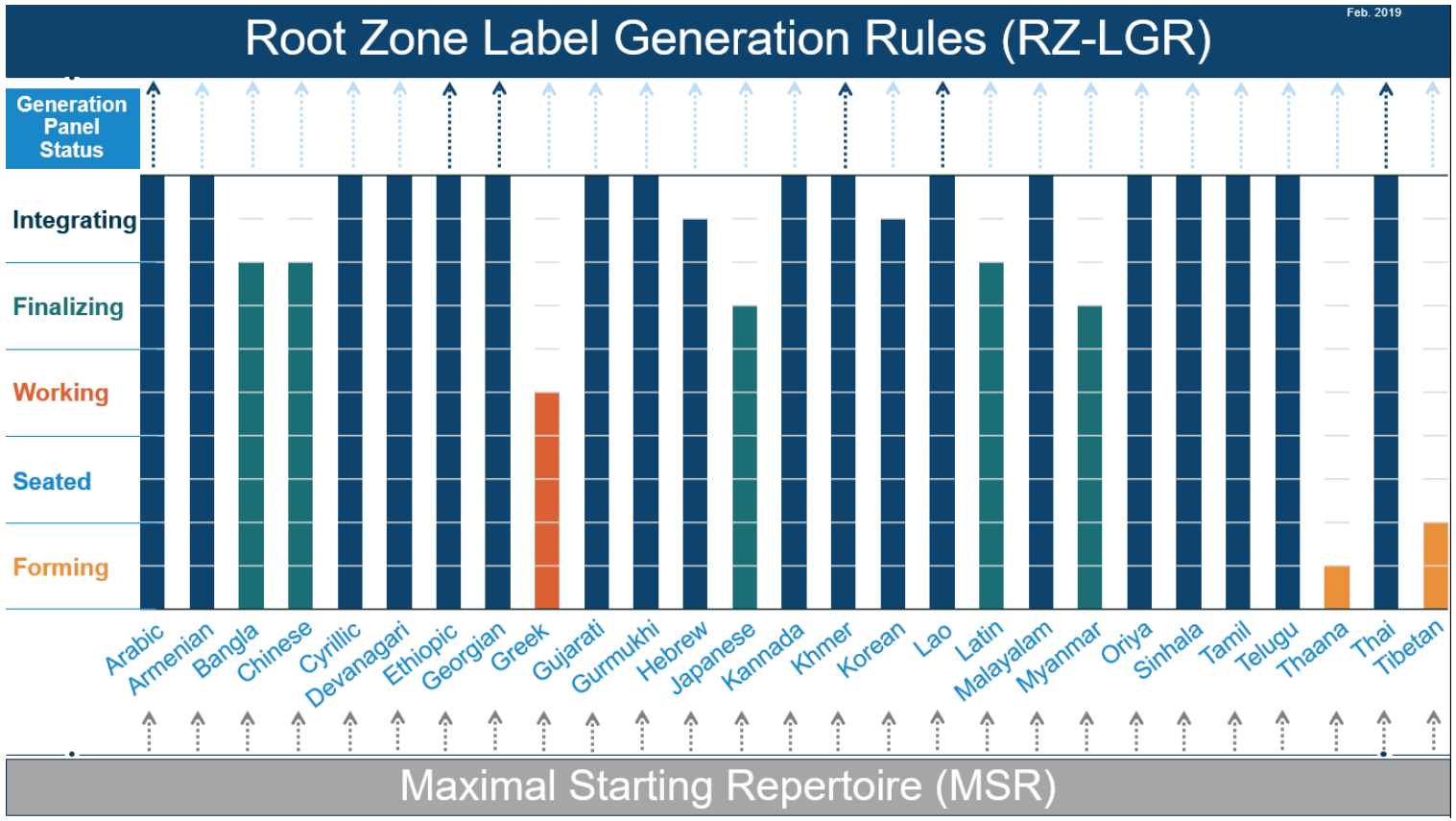


Status of IDN Variant TLDs – Background

- Variant labels are hard - interpretation of “same” varies across script
- On 25 September 2010, the ICANN Board resolved:
  - **“No variants of gTLDs will be delegated through the New gTLD Program until appropriate variant management solutions are developed.”**
- Undertook studies on Arabic, Chinese, Cyrillic, Devanagari, Greek, and Latin scripts in 2011 to understand the variant phenomenon
- Issues collated in the Integrated Issues Report, IIR (2012) - identified following gaps:
  1. **No definition of IDN variant TLDs**
  2. **No IDN variant TLD management mechanism**

Status of IDN Variant TLDs – Definition of Variants

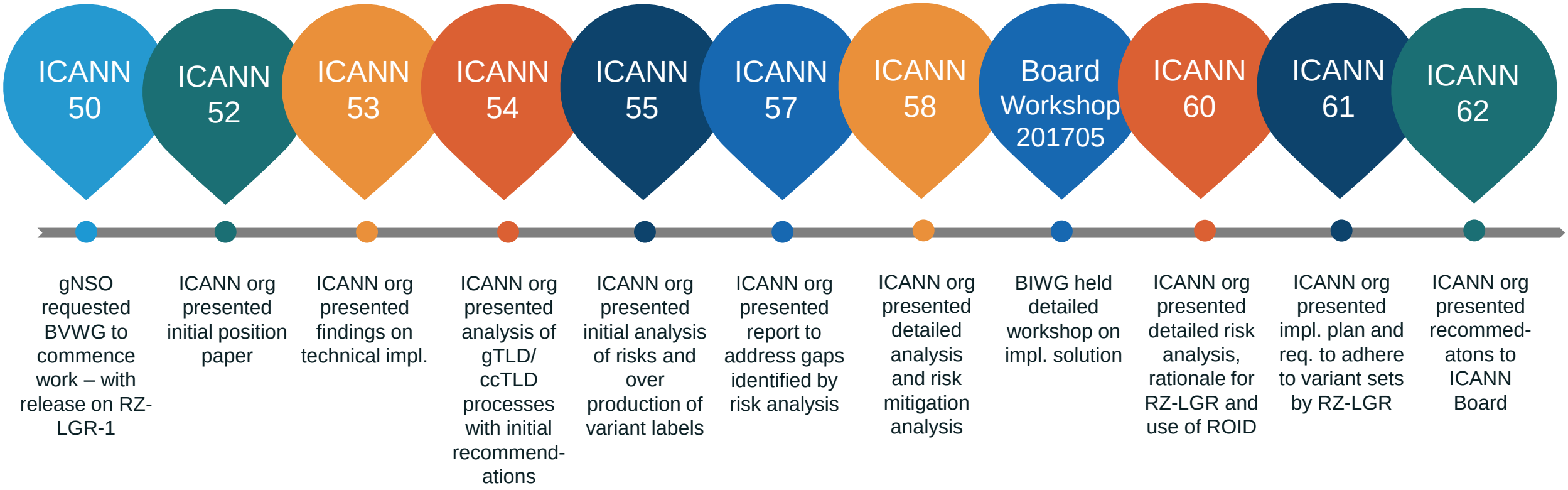
- **Gap 1: No definition of variants**
- Solution: Define using Root Zone Language Generation Rules (RZ-LGR) Procedure – based on community input
  - On 11 April 2013, the ICANN Board resolved to implement the Procedure
  - RZ-LGR-2 in August 2017 with Arabic, Ethiopic, Georgian, Khmer, Lao and Thai scripts
  - 19 of 28 proposals published; other script panels working to develop RZ-LGR proposals



Status of IDN Variant TLDs – Variant Management Mechanism

- **Gap 2: No IDN variant TLD management mechanism**
- Solution: ICANN org developed a set of recommendations
  - Starting premises of the recommendations based on
    - IDNA 2008, Integrated Issues Report, SAC 60
  - Existing processes analyzed
    - New gTLDs Applicant Guidebook and IDN ccTLD Fast Track Process
  - A conservative solution proposed
    - Implemented for the first time, so conservatism to manage risks; allows to accommodate experience over time

Development of Recommendations under BIWG Guidance



- Recommendations released for public comment in 25 July 2018

Status of IDN Variant TLDs – Variant Management Mechanism

- Six documents published on 5 February 2019:
  1. IDN Variant TLD Implementation – Executive Summary
  2. IDN Variant TLD Implementation – Motivation, Premises and Framework
  3. IDN Variant TLD Implementation – Recommendations and Analysis
  4. IDN Variant TLD Implementation – Rationale for RZ-LGR
  5. IDN Variant TLD Implementation – Risks and their Mitigation
  6. IDN Variant TLD Implementation – Appendices (A: Definitions, B: Use of ROID, C: Limiting Allocated Variant TLDs)
- Recommendations approved by ICANN Board on 14 March 2019
  - Requested GNSO and ccNSO to take these into account in policy development, in a consistent manner

Next Steps for GNSO Following the ICANN Board Resolution

- Consider the recommendations and associated analysis for policy and procedures for IDN Variant TLDs
  - Nine recommendations
  - Analysis and impact
    - Application
    - Delegation
    - Operations
  - Associated materials
    - Rationale for RZ-LGR
    - Risks and mitigation
    - How to determine same registrant?
    - Minimizing variants for delegation
- Coordinate with ccNSO for a consistent solution for TLDs

Thank You

Appendix: Recommendations for IDN Variant TLD Implementation

Recommendations for IDN Variant TLDs

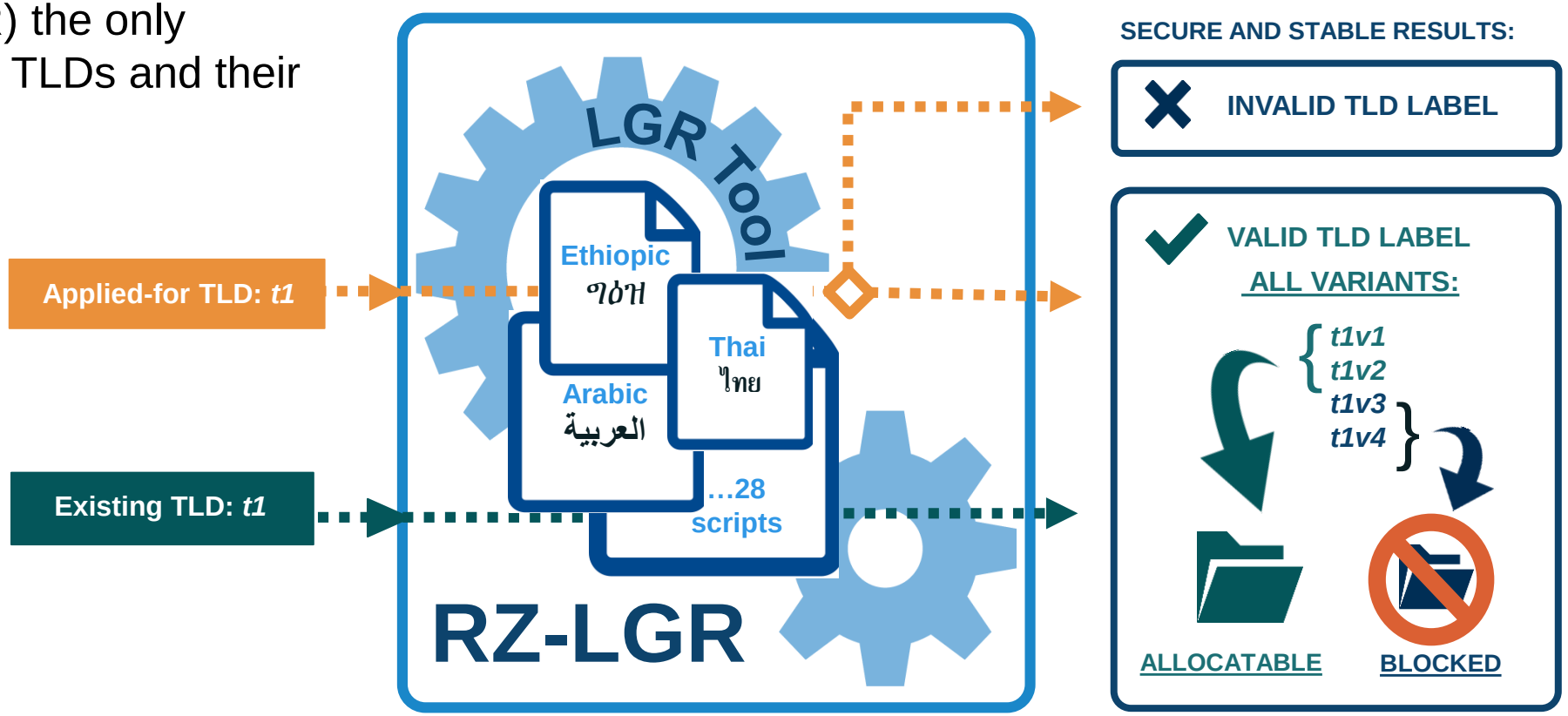
	Administrative	Policy	Implementation
Root Zone	***Rec.2*** *Variant TLDs allocated to same entity: {t1, t1v1, …}* ***Rec.7*** *Variant TLDs operated by same registry service providers*	***Rec.1*** *Root Zone Label Generation Rules (RZ-LGR) the only source for valid TLDs and their variant labels*	***None***
Second Level	***Rec.3*** *Same label under variant TLDs registered to the same entity: s1.t1 and s1.t1v1* ***Rec.4*** *Second-level variant labels under variant TLDs registered to the same entity: s1.t1, s1v1.t1, s1.t1v1 and s1v1.t1v1*	***Rec.5*** *Variant labels allocatable or activated under variant TLDs not necessarily same* ***Rec.6*** *Second-level IDN tables under variant TLDs harmonized*	***None***
Subordinate Zones	***None***	***None***	***None***

Additional at Root Zone and Second Level:

Rec.8 *Existing policies and procedures updated to accommodate these recommendations*
Rec.9 *All other existing top-level and second-level policies apply, unless identified otherwise*

Recommendations for IDN Variant TLD Implementation

1. Root Zone Label Generation Rules (RZ-LGR) the only source for valid TLDs and their variant labels

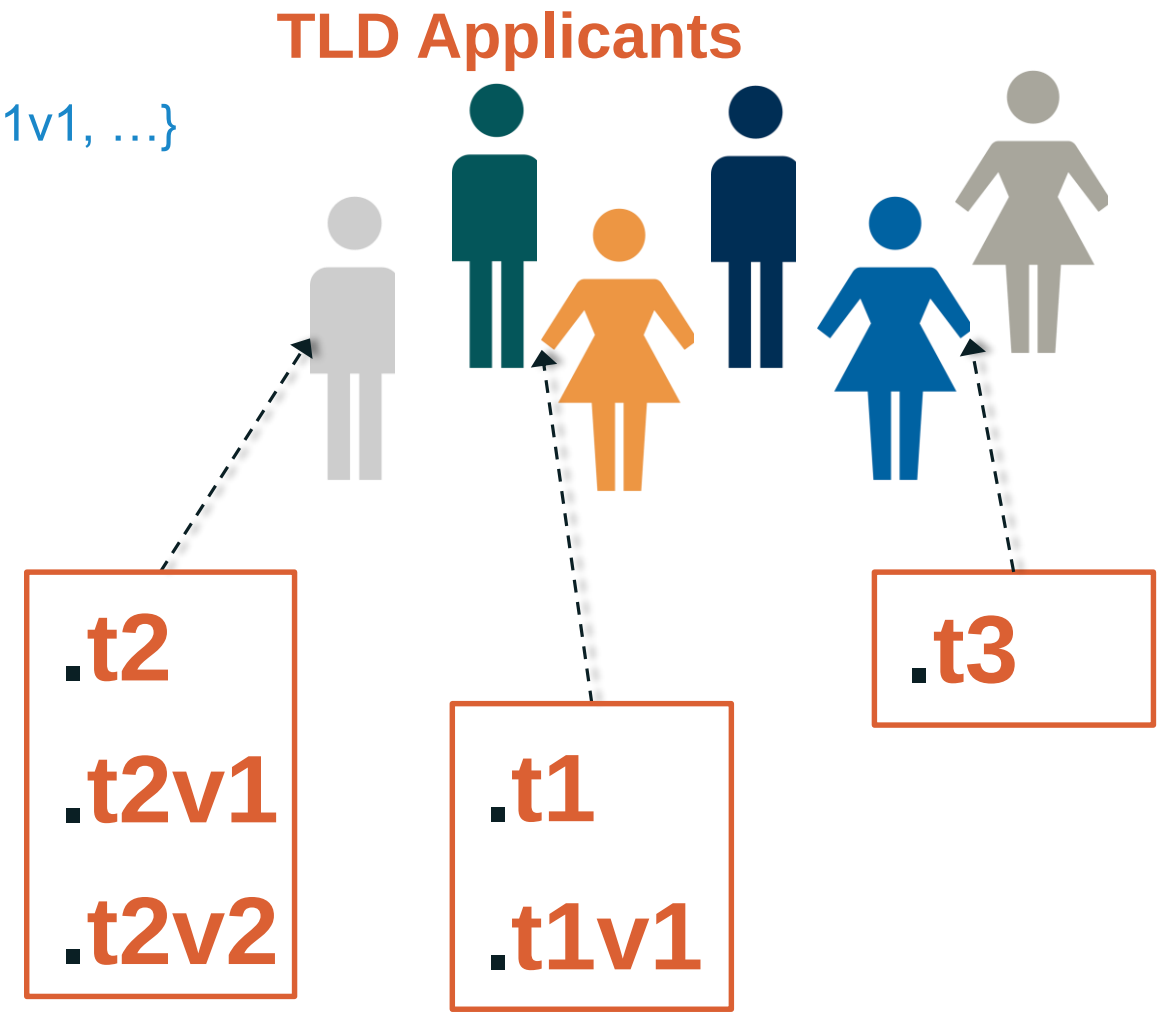


Recommendations for IDN Variant TLD Implementation

2. Variant TLDs allocated to same entity: {t1, t1v1, …}

t = top-level domain label

v = variant label

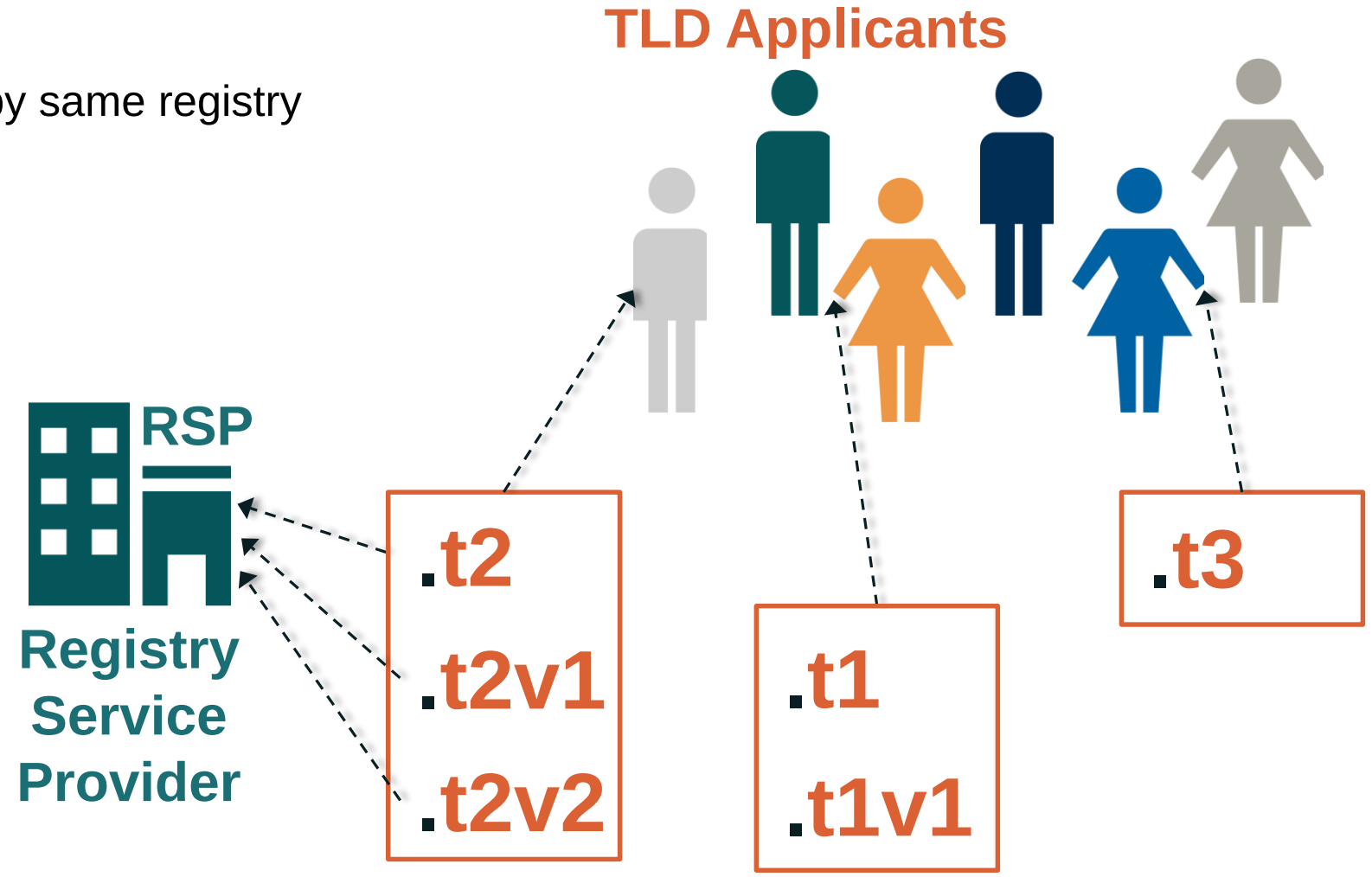


Recommendations for IDN Variant TLD Implementation

3. Variant TLDs operated by same registry service providers

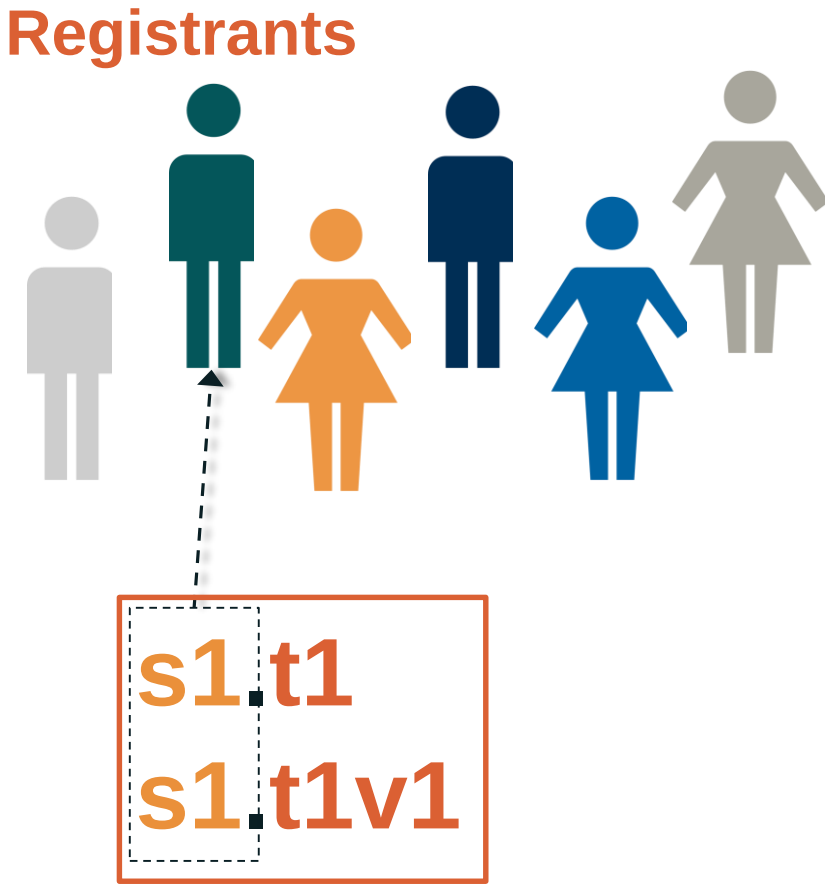
t = top-level domain label

v = variant label



Recommendations for IDN Variant TLD Implementation

4. Same second-level label under variant TLDs registered to the same entity: s1.t1 and s1.t1v1



t = top-level domain label

s = second-level domain label

v = variant label

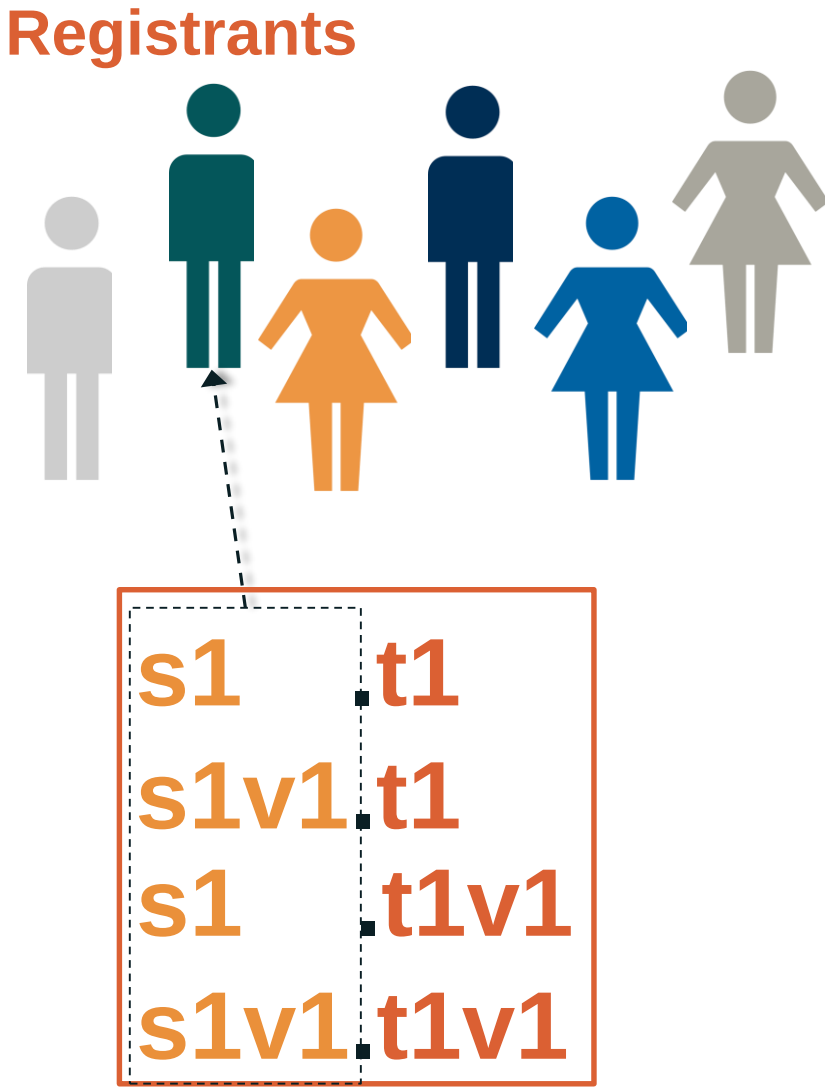
Recommendations for IDN Variant TLD Implementation

5. Second-level variant labels under variant TLDs registered to the same entity: s1.t1, s1v1.t1, s1.t1v1 and s1v1.t1v1

t = top-level domain label

s = second-level domain label

v = variant label



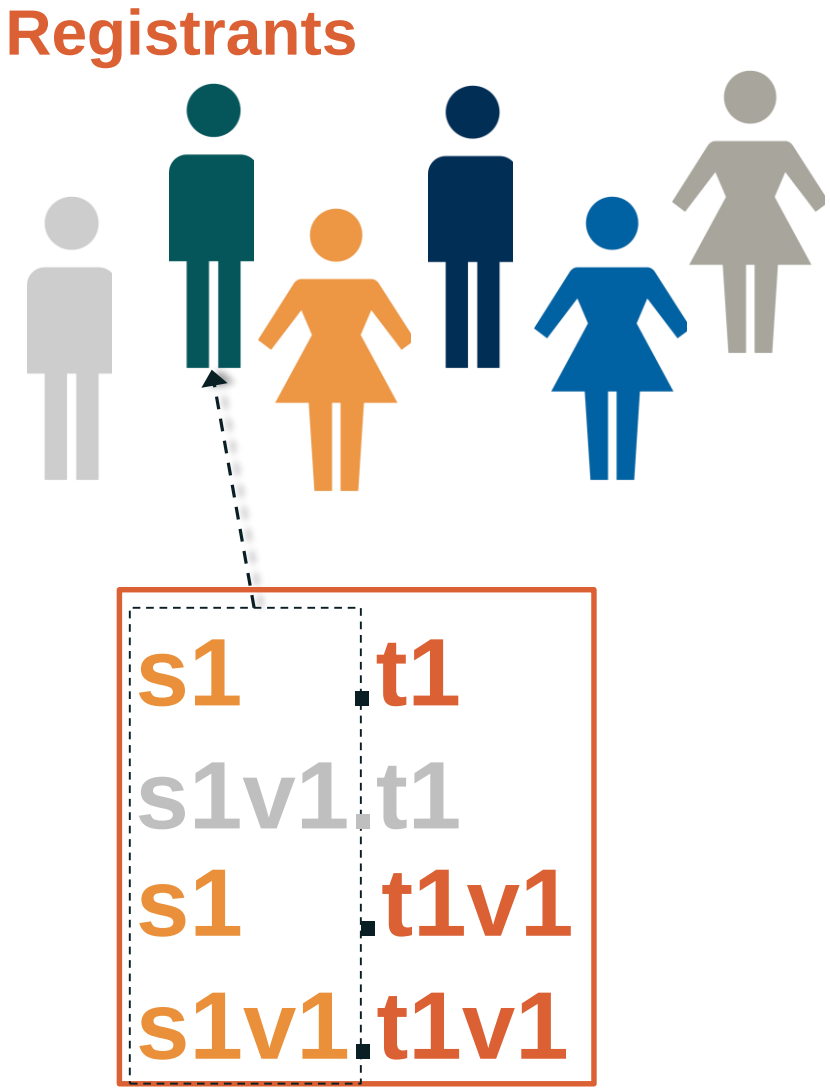
Recommendations for IDN Variant TLD Implementation

6. Second-level variant labels allocatable or activated under variant TLDs not necessarily exactly the same

t = top-level domain label

s = second-level domain label

v = variant label



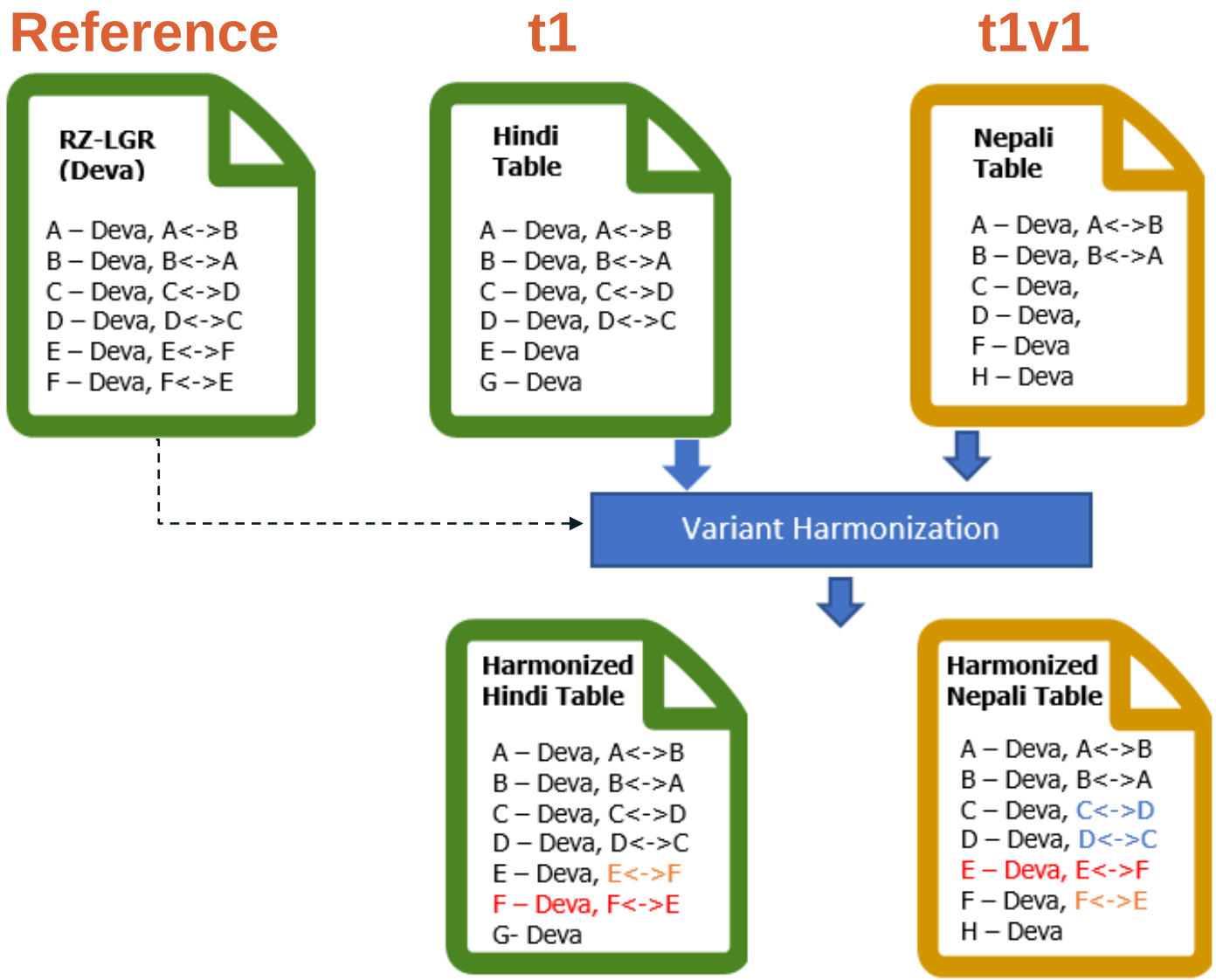
Recommendations for IDN Variant TLD Implementation

7. Second-level IDN tables under variant TLDs harmonized. If {s1, s1v1,…} are variant labels under t1, then they can never be non-variant labels under t1v1.

t = top-level domain label

s = second-level domain label

v = variant label



Recommendations for IDN Variant TLD Implementation

8. Existing policies and procedures updated to accommodate these recommendations
9. All other existing top-level and second-level policies apply, unless identified otherwise