

GNSO Expedited Policy Development Process on Internationalized Domain Names (EPDP-IDNs) Phase 1 Initial Report

Community Webinar

Donna Austin (EPDP-IDNs Chair)
Justine Chew (EPDP-IDNs Vice Chair)

17 May 2023



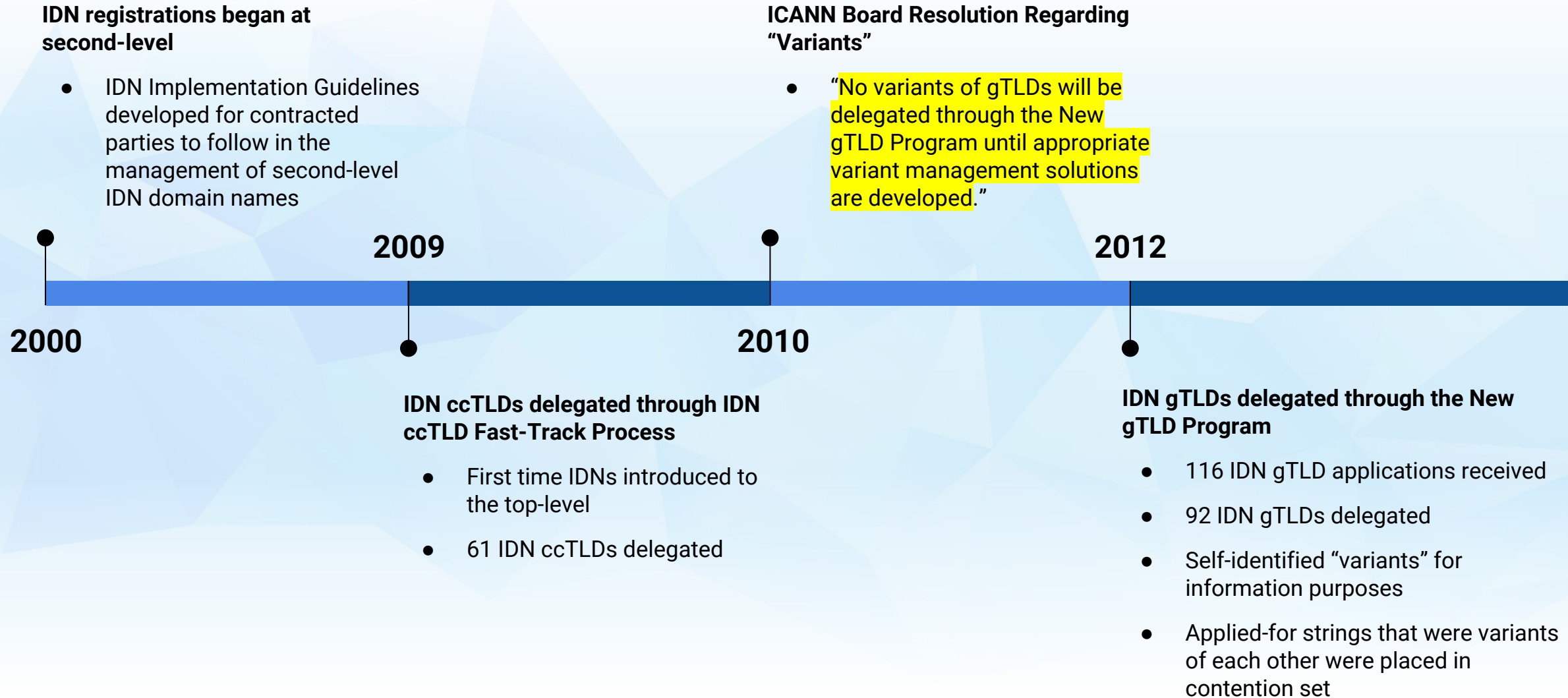
Agenda

- **Background:** Introduction of IDNs, Understanding Variants, RZ-LGR
- **IDN Related GNSO Policy Activities:** SubPro + EPDP-IDNs
- **Phase 1 Initial Report:** Preliminary Recommendations Overview & Highlight
- **Public Comment Reminder**
- **Q&A**
- **Appendix:** Resource Links

Background

Introduction to IDNs, Understanding Variants, RZ-LGR

Timeline: Introduction of IDNs



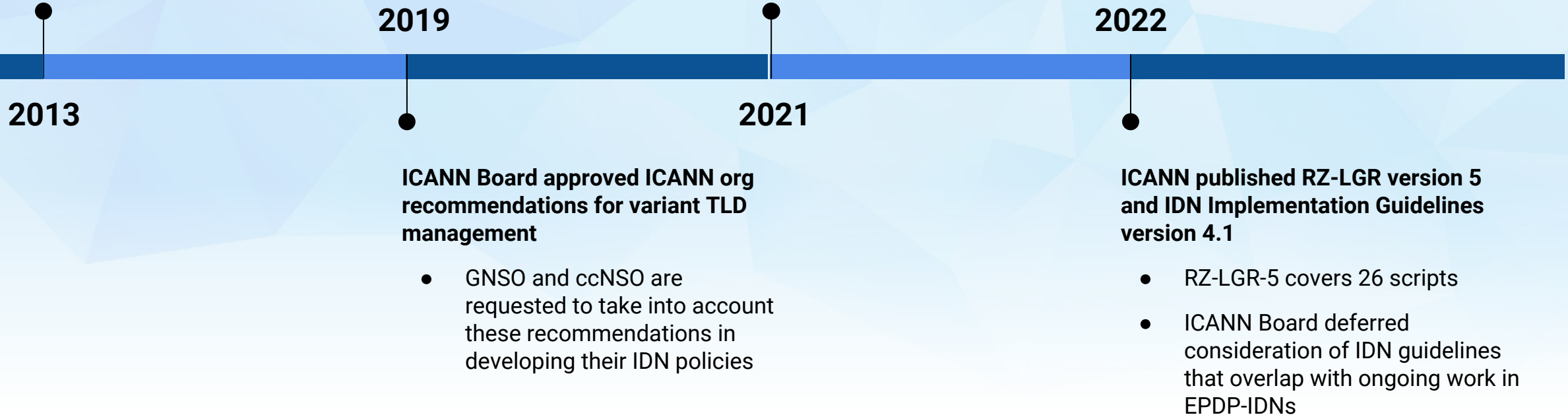
Timeline: Introduction of IDNs (Cont.)

ICANN Board endorsed procedure for developing Root Zone Label Generation Rules (RZ-LGR)

- Generation Panels started developing LGR proposals for defining parameters that determine valid IDN labels and their variants for the root zone across various scripts

GNSO and ccNSO kicked off new policy efforts on IDNs

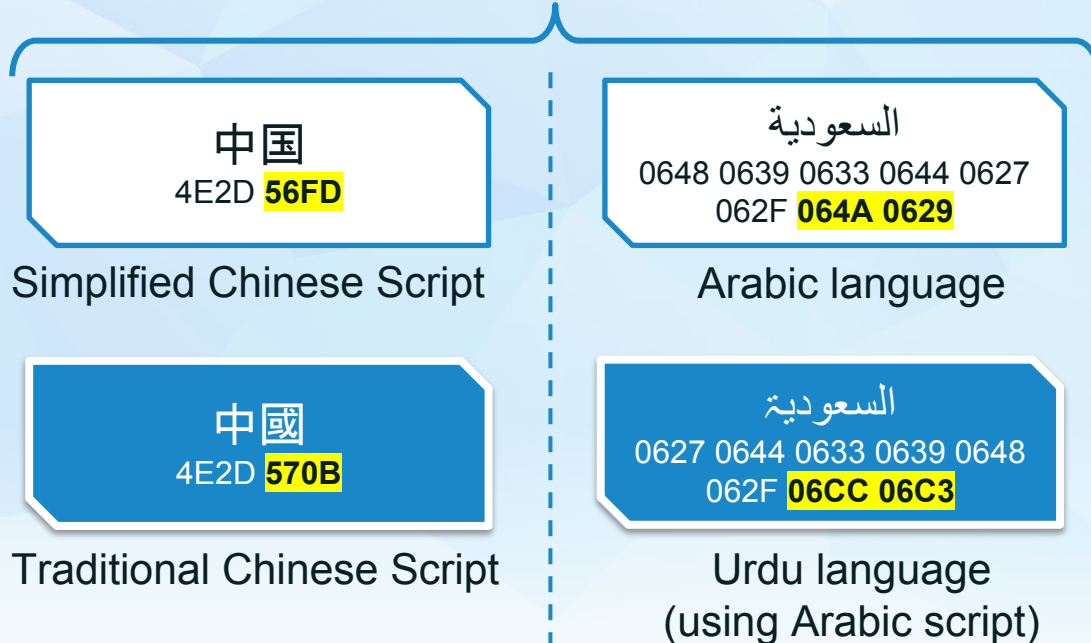
- GNSO New gTLD Subsequent Procedures PDP concluded in Feb 2021; Topic 25 on IDNs
- GNSO Council approved charter for Expedited PDP on IDNs in May 2021, started in Aug 2021
- ccNSO Council approved charter for ccPDP4 in Aug 2021



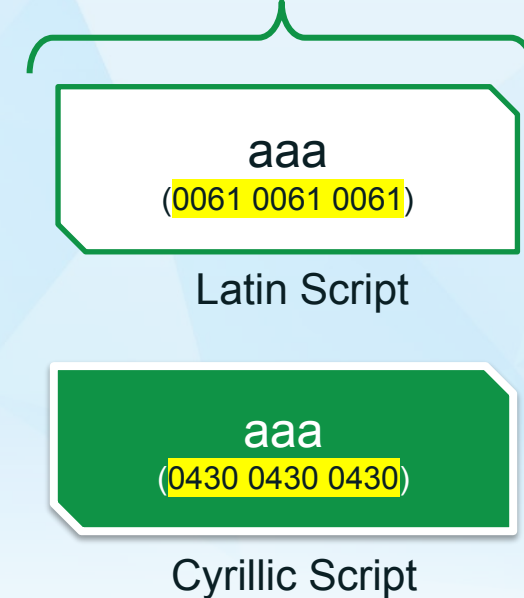
Understanding Variants: The Basics

Variant Labels are considered 'the same' by the respective script community

Example: Defining Variant for Usability Purpose



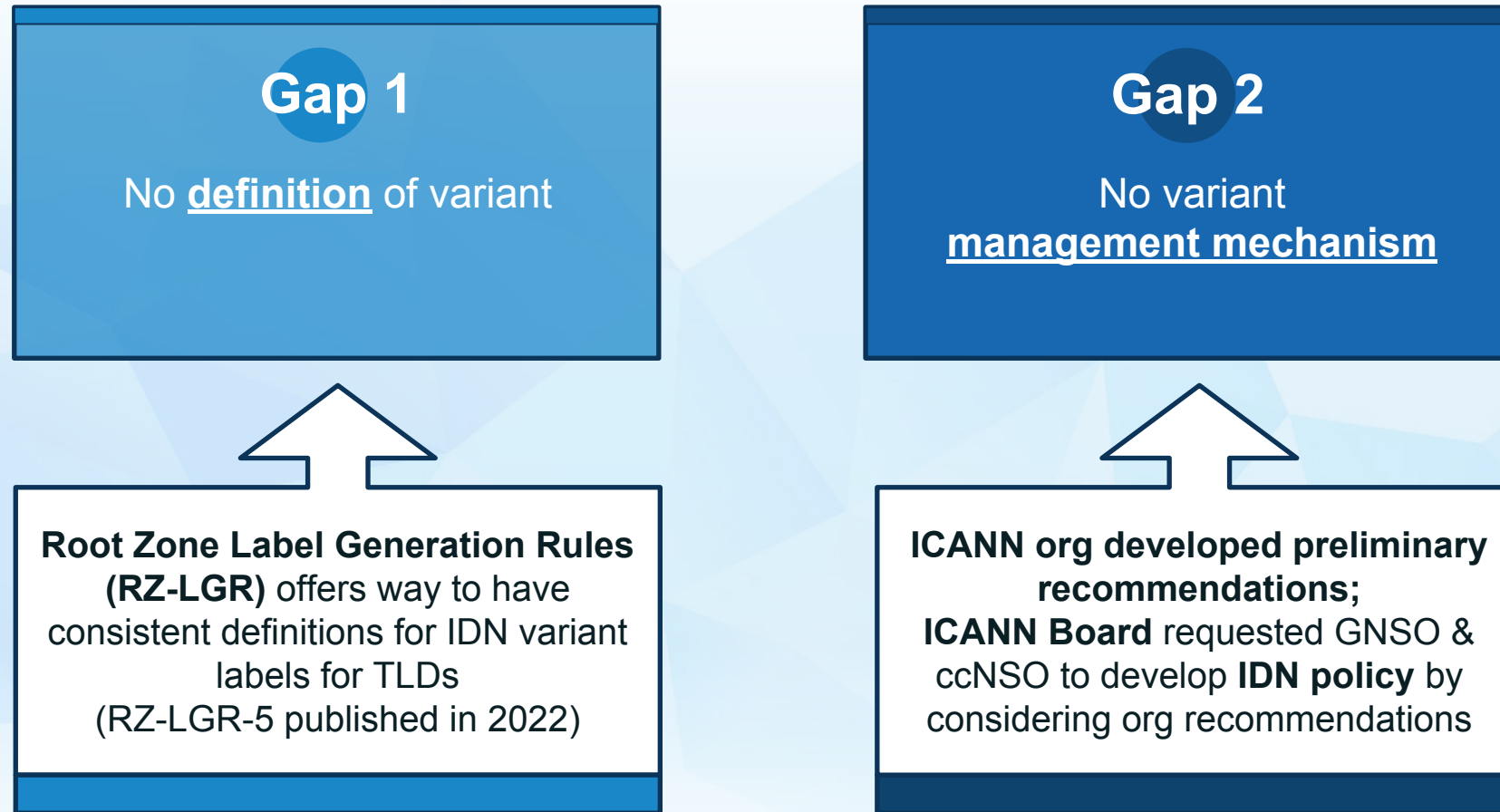
Example: Defining Variant for Security Purpose



Understanding Variants: Impact

- Variants exist in many scripts to serve language communities globally, potentially impacting billions of users
- **A single script can be used in multiple languages** and may be subject to variations due to how the languages work
- **DNS makes distinctions** between variant labels with different code points, but script communities recognize them as being **equivalent**
- Variants may exacerbate confusion risks among labels that may or may not be visually similar, potentially causing **security and stability issues in the DNS**

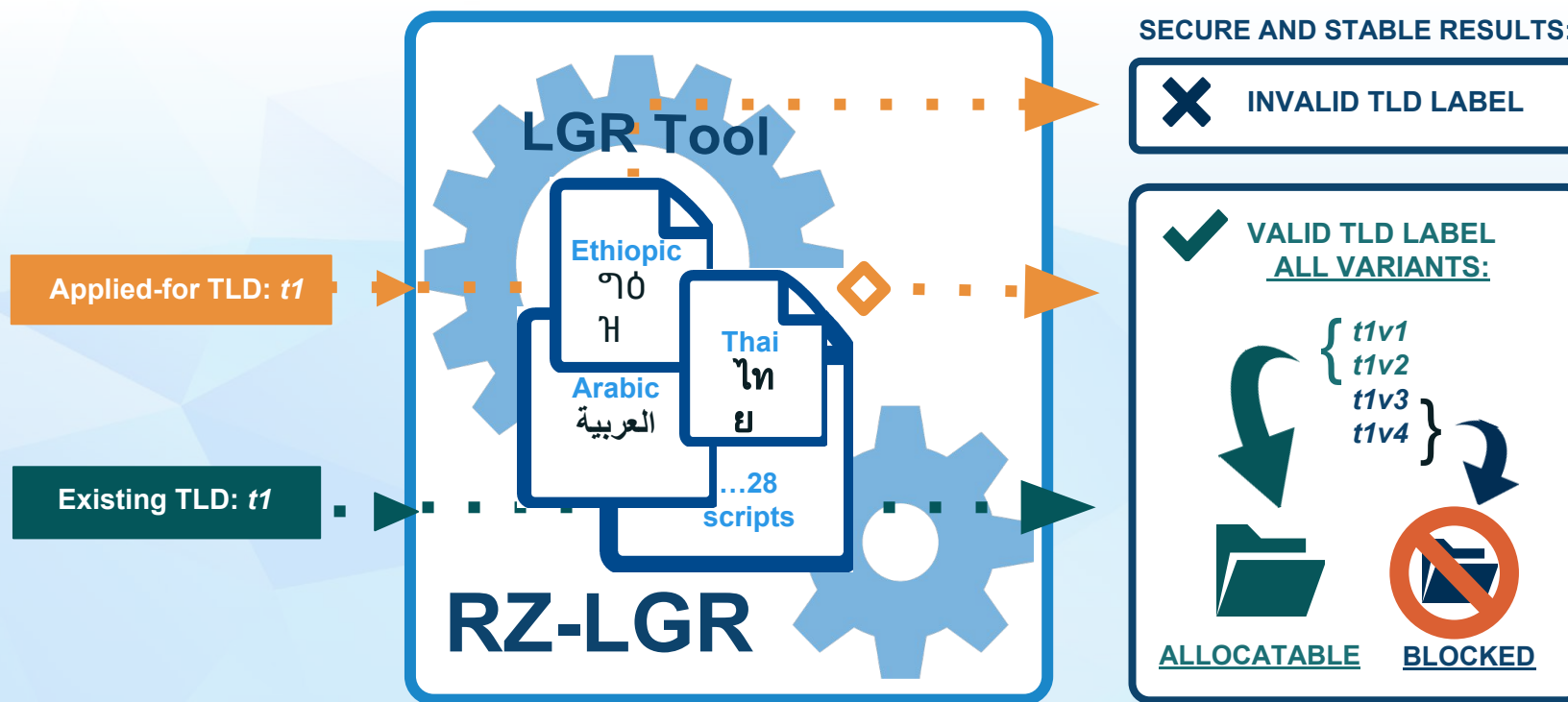
Why Variant gTLDs Have Not Been Delegated



Learn More:

<https://go.icann.org/idnstaffpaper>

Root Zone Label Generation Rules (RZ-LGR)



Total number of script communities (Generation Panels): 17

Total number of participant across script communities: 270+

Total number of languages represented: 386+

Total number of population represented: 5 billions

Total number of hours worked (estimated): 10,000+ hours

Total number of LGRs developed: 25

Using the RZ-LGR: Example Output & Key Terms

Primary (label 1): ----->

The label that is the source for calculating the variant label set and determining its variant labels that are allocatable or blocked in accordance with the RZ-LGR

Allocatable (labels 2, 7, 9, 10, 15, 17, 18, 23): ----->

A valid variant label eligible to be a top-level domain and available for application, allocation, and eventual delegation

Blocked (labels 3-6, 8, 11-14, 16, 19-22, 24): ----->

A valid variant label not eligible for allocation or delegation as a top-level domain

Variant Label Set (labels 1-24) ->

The set of labels that is calculated by the RZ-LGR using the primary label, which consists of: primary label + allocatable variant label(s) + blocked variant label(s).

#	Type	U-label	A-label	Disposition	Code point sequence
1	original	شبكة	xn--ngbc5azd	valid	U+0634 U+0628 U+0643 U+0629
2	varlabel	شبكة	xn--ngbx0cq	allocatable	U+0634 U+0628 U+0643 U+0647
3	varlabel	شبكة	xn--ngbx0c15a	blocked	U+0634 U+0628 U+0643 U+06BE
4	varlabel	شبكة	xn--ngbx0c95a	blocked	U+0634 U+0628 U+0643 U+06C0
5	varlabel	شبكة	xn--ngbx0cy6a	blocked	U+0634 U+0628 U+0643 U+06C1
6	varlabel	شبكة	xn--ngbx0c26a	blocked	U+0634 U+0628 U+0643 U+06C2
7	varlabel	شبكة	xn--ngbx0c66a	allocatable	U+0634 U+0628 U+0643 U+06C3
8	varlabel	شبكة	xn--ngbx0c31b	blocked	U+0634 U+0628 U+0643 U+06D5
9	varlabel	شبكة	xn--ngbc5az1b	allocatable	U+0634 U+0628 U+06A9 U+0629
10	varlabel	شبكة	xn--ngbx2d5u	allocatable	U+0634 U+0628 U+06A9 U+0647
11	varlabel	شبكة	xn--ngbx66ayc	blocked	U+0634 U+0628 U+06A9 U+06BE
12	varlabel	شبكة	xn--ngbx66a6c	blocked	U+0634 U+0628 U+06A9 U+06C0
13	varlabel	شبكة	xn--ngbx66agd	blocked	U+0634 U+0628 U+06A9 U+06C1
14	varlabel	شبكة	xn--ngbx66akd	blocked	U+0634 U+0628 U+06A9 U+06C2
15	varlabel	شبكة	xn--ngbx66aod	allocatable	U+0634 U+0628 U+06A9 U+06C3
16	varlabel	شبكة	xn--ngbx66a0f	blocked	U+0634 U+0628 U+06A9 U+06D5
17	varlabel	شبكة	xn--ngbc5a31b	allocatable	U+0634 U+0628 U+06AA U+0629
18	varlabel	شبكة	xn--ngbx2d9u	allocatable	U+0634 U+0628 U+06AA U+0647
19	varlabel	شبكة	xn--ngbx96asc	blocked	U+0634 U+0628 U+06AA U+06BE
20	varlabel	شبكة	xn--ngbx96a0c	blocked	U+0634 U+0628 U+06AA U+06C0
21	varlabel	شبكة	xn--ngbx96a4c	blocked	U+0634 U+0628 U+06AA U+06C1
22	varlabel	شبكة	xn--ngbx96a8c	blocked	U+0634 U+0628 U+06AA U+06C2
23	varlabel	شبكة	xn--ngbx96ahd	allocatable	U+0634 U+0628 U+06AA U+06C3
24	varlabel	شبكة	xn--ngbx96arf	blocked	U+0634 U+0628 U+06AA U+06D5

Not All Scripts Have Variants



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

- Variant - 22 scripts
- Allocatable variant - 7 scripts
- No variant - 4 scripts
- Work in progress - 2 scripts

IDN Related GNSO Policy Activities

SubPro PDP + EPDP-IDNs

IDN Related GNSO Policy Activities

Complete

New gTLD Subsequent Procedures PDP

- Topic 25 focuses on IDN related outputs
- ICANN Board adopted these outputs on **16 March 2023**
- Implementation effort underway to prepare for launching New gTLD Program Next Round

Ongoing

Expedited PDP on IDNs

- GNSO Council determined that Issue Report is not needed to initiate policy work on IDNs
- Charter approved by GNSO Council on **20 May 2021** (48 questions under 7 topics)
- Two-phased approach to facilitate SubPro implementation planning

Enable future delegation of variant gTLDs at the top-level

SubPro: What Was Discussed & Not Discussed

What SubPro outputs addressed

Partially adopted high-level ICANN org variant management recommendations for future gTLDs, such as:

- RZ-LGR as sole source for validating future gTLDs and calculating variant labels
- Variant gTLDs must be managed by the same registry operator and supported by backend registry service provider
- Second-level variant labels registered to the same registrant

What SubPro outputs did NOT address

- Whether ICANN org recommendations should apply to **existing gTLDs and second-level IDN variant domains**
- How to **operationalize** ICANN org recommendations
- **Other recommendations, studies, and advice related to IDNs** (e.g, technical utilization of RZ-LGR, SSAC Advice, IDN Implementation Guidelines)

EPDP-IDNs Overview

Who We Are:

- “Representative + Open” model: consisting members, participants, observers, and liaisons across ICANN community, board, and org

Our Role:

- Determine the approach for a consistent definition of variant gTLDs: utilization of RZ-LGR
- Develop policy that will allow for the introduction of variant gTLDs

Our Work:

- Apply SubPro recommendations to existing gTLDs and second-level domains
- Operationalize SubPro recommendations for existing and future gTLDs
- Address topics not discussed by SubPro

EPDP-IDNs Overview (Cont.)

Our Challenges:

- Permit delegation of variant gTLDs that meet user needs while maintaining DNS security/stability
- Allocatable and blocked variant labels introduce complexity due to their 'permutation'
- Charter requires coordination with SubPro Implementation Review Team (IRT) to address overlapping topics

Most Difficult Discussions So Far:

- Limiting the number of variant gTLDs that can be delegated
- Process by which existing IDN registry operators could apply for variant gTLDs
- Adapting the String Similarity Review (a test of whether a string is visually confusingly similar to another) to address introduction of variant gTLDs

Coordination with ccPDP4:

- ICANN Board requests coordination between GNSO and ccNSO to ensure consistent solution is developed for IDN variant ccTLDs and IDN variant gTLDs
- EPDP-IDNs and ccPDP4 (ccNSO's PDP that addresses IDN topic) appointed liaisons to each other; both groups met periodically to discuss alignment

Two Phased Approach: Project Plan & Timeline

	Phase 1	Phase 2 (Conservative Estimate)*
Scope	Top-level IDN variant management	Second-level IDN variant management
Timeline	<ul style="list-style-type: none"> Initial Report: 24 April 2023 Final Report: November 2023 	<ul style="list-style-type: none"> Initial Report: April 2025* Final Report: November 2025*
Topics	<p>A. Consistent definition and technical utilization of RZ-LGR</p> <p>B. “Same entity” at the top-level</p> <p>D. Processes/procedures related to the domain name lifecycle (top-level related questions)</p> <p>E. Adjustments to New gTLD Program</p>	<p>C. “Same entity” at the second-level</p> <p>D. Processes/procedures related to the domain name lifecycle (second-level related questions)</p> <p>F. Registration dispute resolution procedures and trademark protection mechanisms</p> <p>G. Process to update the IDN Implementation Guidelines</p>

**ICANN Board requested a project plan, by 15 June 2023, that identifies all charter questions that will impact the next Applicant Guidebook and a timeline by when the relevant recs will be delivered to the GNSO Council*

Phase 1 Initial Report

Preliminary Recommendations Overview & Highlight

Underlying Principles

RZ-LGR as the Sole Source

RZ-LGR will be the sole source to determine valid top-level domain labels, their variant labels, and disposition values of variant labels

Sec 4.1: Rec 1.1

Same Entity

At the top-level of the DNS, the same registry operator must manage the approved labels from the variant label set of a primary gTLD from the application, legal, and operational standpoints.

Section 4.2: Rec 2.1

Integrity of the Set

The relationship between a primary label and its allocatable and blocked variant labels shall not be infringed upon as long as the primary label exists

Section 4.3: Rec 3.1

Conservatism

Adopt a more cautious approach in the gTLD policy development as a way to limit any potential security and stability risks associated with the variant label delegation

Section 4.4

Sec 4.1 Overview: RZ-LGR as the Sole Source

Recommendation 1.1

- **The RZ-LGR must be the sole source to calculate variant labels and disposition values for existing delegated gTLDs from 2012 round**
 - Extend SubPro PDP output to existing gTLDs

Sec 4.2 Overview: Same Entity Principle

Recommendation 2.1

- **Any allocatable variant label of an existing IDN gTLD from the 2012 round, as calculated by the RZ-LGR, can only be allocated to the registry operator of the existing IDN gTLD or withheld for possible allocation only to that registry operator.**
 - Extend SubPro PDP output to existing gTLDs

Sec 4.3 Overview: App Submission, Admin Check, Initial Eval

- **When to apply for variant labels (Rec 3.1, 3.2, 3.3, 3.4, 3.15)**
 - Apply during an application round
 - Cannot precede primary label application
 - One application covers primary label + variant label(s)
 - One application covers variant label(s) only, after primary label is delegated
 - Existing registry operators: one-time exception for priority in processing order in Next Round
- **What to include in variant label application (Rec 3.5, 3.7, 3.16; IG 3.6, 3.8, 3.9)**
 - Why variant labels are sought
 - Ability to manage primary label + variant label(s)
 - Community TLD, GeoTLD, .Brand TLD: same documentation requirements as primary label
- **Cost for variant label application (Rec 3.10, 3.11, 3.12, 3.13, 3.14)**
 - **Follow cost recovery principle for the New gTLD Program**
 - **Conditions when base application fee, discounted application fee, additional fees, and waiver apply**

Sec 4.3 Overview: App Submission, Admin Check, Initial Eval (Cont.)

- **What cannot be applied-for (Rec 3.17, 3.18, 3.19, 3.20, 3.21, 3.22)**
 - Single-character labels; however, single-character labels in Han script can be applied for after relevant guidelines implemented
 - Variant labels of Reserved Names
 - Variant labels of Strings Ineligible for Delegation, but relevant protected organizations are allowed to apply
 - Labels not conforming to mandatory string requirements and RZ-LGR
- **Further adjustment due to RZ-LGR Implementation (Rec 3.22, 3.24; IG 3.23)**
 - System issues disqualification warning when a label is found “invalid” or “blocked”, but allows submission
 - Applicant can invoke challenge mechanism for DNS Stability Review to challenge RZ-LGR implementation
 - A label correctly assessed as “invalid” or “blocked” is disqualified

Rec 3.3 Highlight: Existing ROs Applying for Variant Labels

- EPDP consideration of standalone process for existing ROs to apply for variant labels prior to the next new gTLD application process.
- To understand feasibility, EPDP Team examined the New gTLD Program [process flow](#):
 - ◆ Assume future round(s) will have similar application and evaluation elements as 2012 round
 - ◆ Anticipate new elements based on SubPro PDP and EPDP-IDNs outputs
- EPDP Team observed the following:
 - ◆ Variant label application must go through the same steps and stages as any other application
 - ◆ New gTLD Program will require modification to accommodate gTLD variant applications
- Agree that most expedient and cost-effective path forward for existing ROs to apply for variant labels is through an application round

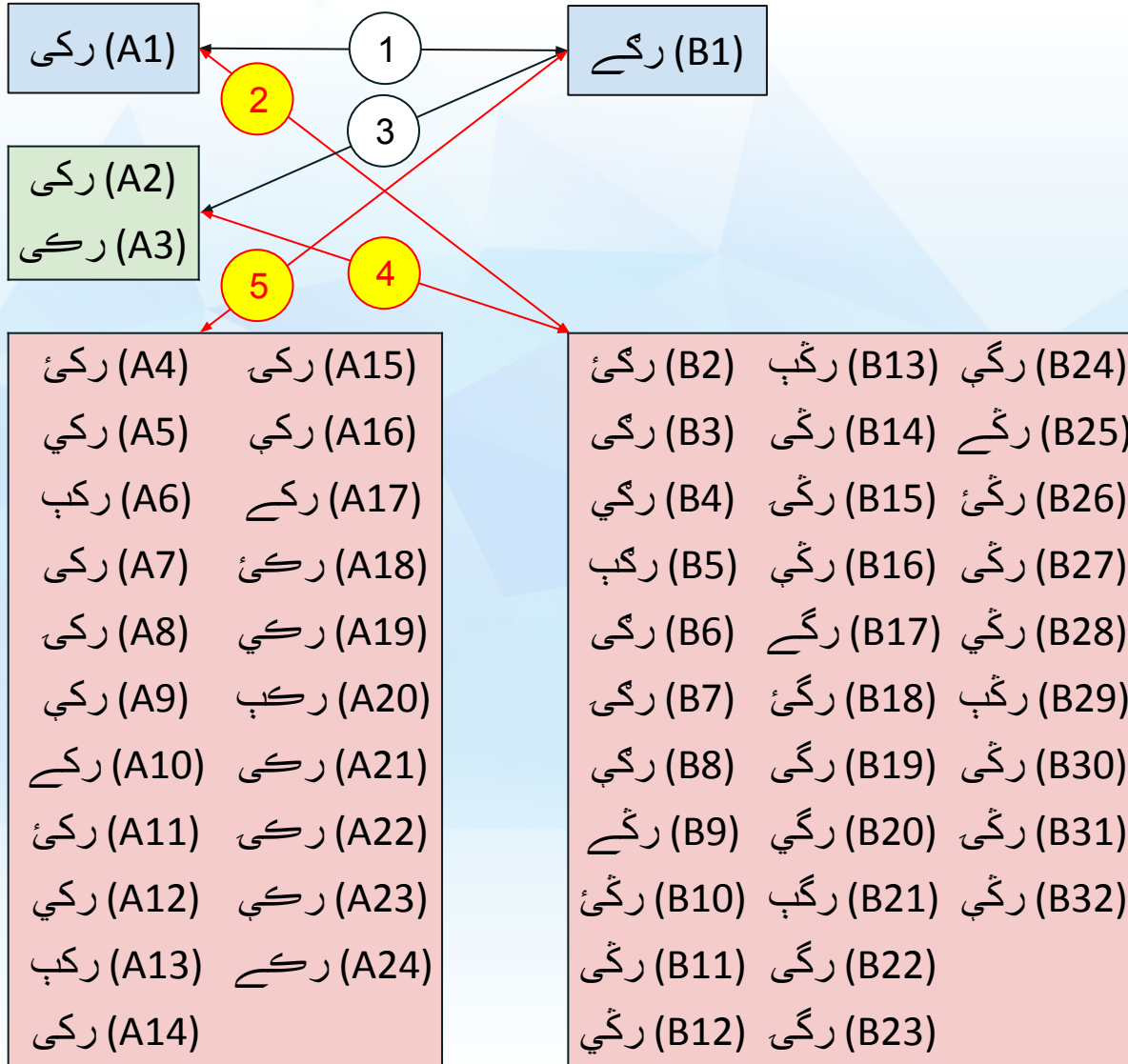
Rec 3.11-3.14 Highlights: Tiered Application Fee Structure

Apply for	Next Round	A Future Round After Next Round
New Applicant		
Primary label only	Base Application Fee	Base Application Fee
Primary label + ≤ 4 variant labels	Base Application Fee	Base Application Fee
Primary label + > 4 variant labels	Base Application Fee + (May Incur) Additional Fees	Base Application Fee + (May Incur) Additional Fees
Existing Registry Operator from 2012 Round		
≤ 4 variant labels	Base Application Fee <u>Waived</u>	Discounted Base Application Fee
> 4 variant labels	Base Application Fee <u>Waived</u> + (May Incur) Additional Fees	Discounted Base Application Fee + (May Incur) Additional Fees
Future gTLD Registry Operator		
≤ 4 variant labels	Not Allowed	Discounted Base Application Fee
> 4 variant labels	Not Allowed	Discounted Base Application Fee + (May Incur) Additional Fees

Sec 4.4 Overview: String Similarity Review

- **Apply the “Hybrid Model” for the String Similarity Review (Rec 4.1, 4.2, 4.3, 4.4)**
 - Extend visual similarity check to the entire variant label set of an applied-for label
 - Mitigate the potential risks from: 1) denial of service / no-connection; and 2) misconnection
 - Detect more combinations of visually confusable labels
 - Eliminate unnecessary complexity of comparing blocked against blocked
 - String Similarity Review Panel may decide whether / what blocked variant labels to omit
 - Omission must be based on guidelines / criteria, on the basis of manifestly low level of confusability between scripts
 - Additional research or study to identify such scripts
 - All labels from a variant label set share the same outcomes

Rec 4.1-4.3 Highlight: Using the Hybrid Model



May find the following confusingly similar labels...

- 2 رکی (A1) & رکی (B3) & رکی (B6)
- 4 رکی (A2) & رکی (B3) & رکی (B6)
- 4 رکی (A3) & رکی (B3) & رکی (B6)
- 5 رگے (B1) & رکے (A10) & رکے (A17) & رکے (A24)

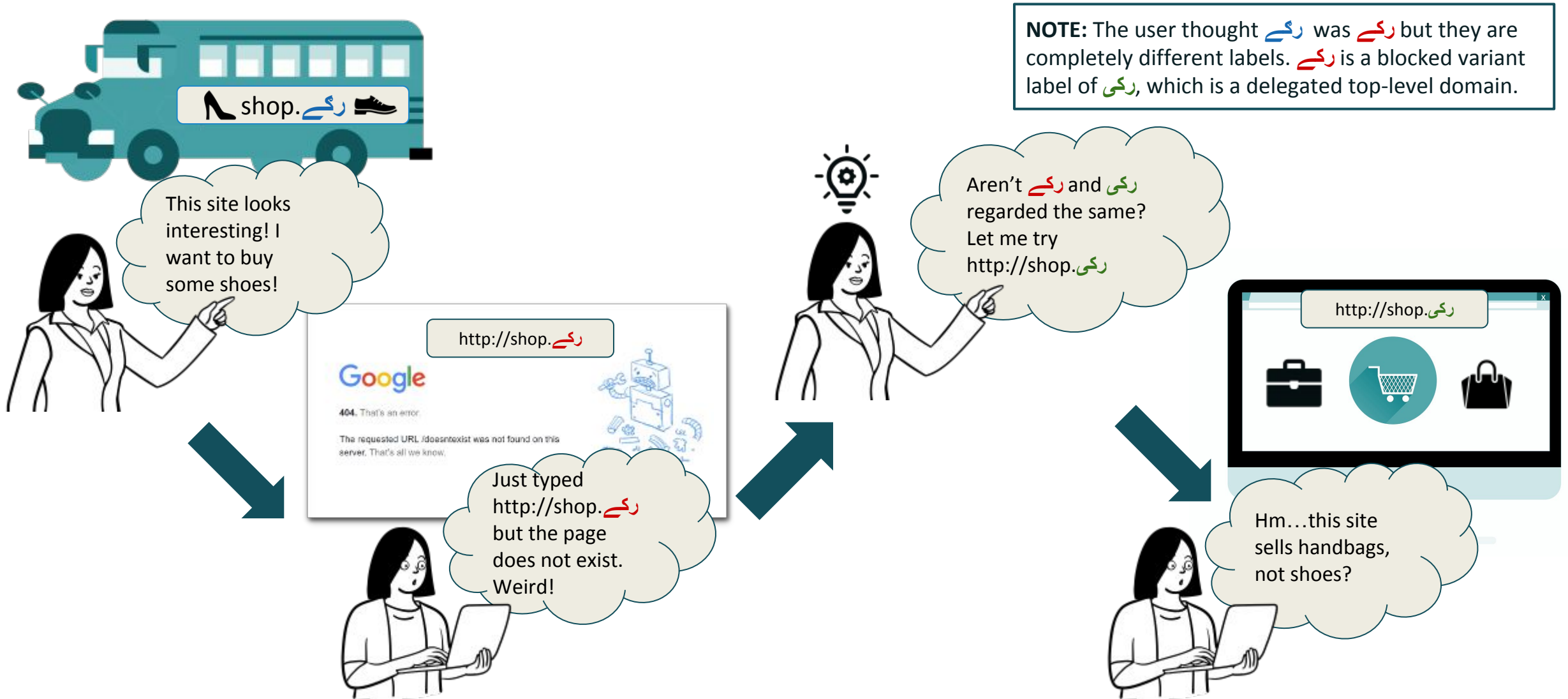
Potential outcome...

رکی (A1) & its variants A2-A24 AND رگے (B1) & its variants B2-B32 get processed in a contention set

If the Hybrid Model were not used...

رکی (A1) and رگے (B1) would have been both delegated with the misconnection risk. E.g., a user may mistake رکی (A1) as رکی (B3), a blocked variant of رگے (B1), but arrive at site controlled by a registrant different to رگے (B1).

Rec 4.1-4.3 Highlight: Scenario that Hybrid Model Aims to Prevent



Sec 4.5 Overview: Objection Processes

- **All applied-for variant labels subject to objection processes (Rec 5.1)**
- **String Confusion Objection (Rec 5.2, 5.3)**
 - Objection may be filed based on confusing similarity between labels as established by Hybrid Model
 - Outcomes consistent with 2012 Applicant Guidebook
- **Limited Public Interest, Legal Rights, Community Objections (Rec 5.4, 5.5)**
 - Objection may be filed against ONLY the applied-for primary label and variant labels
 - If objection against the primary label prevails, the application in its entirety is ineligible to proceed
 - If objection against only the variant label(s) prevails, the application may partially proceed

Sec 4.6 Overview: String Contention

- **Applied-for labels that are variant labels be placed in a contention set (Rec 6.1)**
- **The entire variant label set be processed in the contention set (Rec 6.2)**
 - One of the outcomes of String Similarity Review (see Rec 4.4)

Sec 4.7 Overview: Contractual Requirements

- **Apply “Integrity of the Set” Principle in Registry Agreement (Rec 7.1, 7.3, 7.5, 7.6; IG 7.2, 7.4)**
 - Future IDN gTLD: primary label and approved variant label(s) subject to one RA
 - Existing IDN gTLD: approved variant label(s) subject to a separate RA, but linked to the existing RA
 - Same registry fixed fee applies to a registry that manages variant gTLDs and one that manages a single gTLD
 - Registry-level transaction fee calculated based on cumulative number of registrations from a variant label set
 - Community TLD, .Brand TLD, GeoTLD, Category 1 Safeguards: variant labels bound by same restrictions as the primary label
- **Apply “Same Entity” Principle in Registry Agreement (Rec 7.7, 7.8, 7.9, 7.10, 7.11, 7.12, 7.13, 7.15; IG 7.14)**
 - Same registry service provider for each Critical Function for an existing IDN gTLD and its variant label(s)
 - Extend SubPro PDP output to existing gTLDs
 - All registry transition processes encompass the primary label and variant label(s)
 - Same data escrow provider be contracted for the primary label and variant label(s)

Sec 4.8 Overview: Delegation & Removal

- **Delegating variant labels (Rec 8.1, 8.2, 8.4, 8.5, 8.6, 8.7, 8.8; IG 8.3, 8.9)**
 - No ceiling value for delegated variant gTLDs is necessary
 - Create a framework for developing guidelines for managing variant labels by registries and registrars
 - Primary label and approved variant label(s) subject to same delegation timeframe
 - All delegated gTLDs and delegated / allocated variant labels be grandfathered despite updates of RZ-LGR
 - Generation Panels and Integration Panel make best efforts to retain full backward compatibility
- **Removing variant labels (Rec 8.10, 8.11, 8.12)**
 - Removal of primary label requires removal of its delegated variant label(s)
 - Removal of a delegated variant label may not require removal of the other labels from the variant label set, except when it is removed due to breach of contract

Why Ceiling Value Is Not Necessary

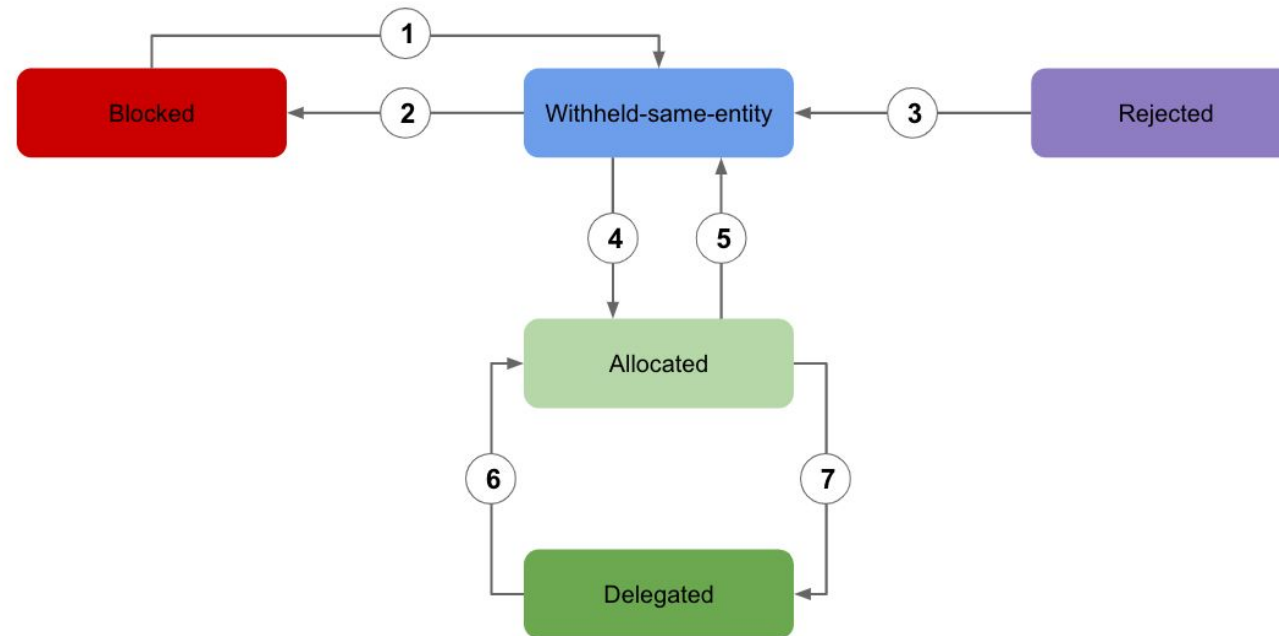
Recommendation 8.1: No ceiling value for delegated top-level variant labels from a variant label set is necessary as existing measures in the RZ-LGR to reduce the number of allocatable top-level variant labels, as well as economic, operational, and other factors that may impact the decision to apply for variant labels, will keep the number of delegated top-level variant labels conservative.

Recommendation 8.2: In order to encourage a positive and predictable registrant experience, a framework for developing guidelines for the management of gTLDs and their variant labels at the top-level by registries and registrars must be created during implementation.

- Except for Arabic, the other 6 scripts have **already limited the number of allocatable variant labels** (i.e., 1-2, 4)
- **Various factors** such as cost, operational competence, and potential challenges with variant management may result in a **conservative approach by applicants**
- SSAC confirmed the volume of delegated variant labels **does not necessarily create security/stability risks**
- **Guidelines for the management of variant labels by registries and registrars** should help address SSAC's concerns regarding the lack of a common approach in managing variant gTLDs
- **Framework** for developing the guidelines be **created during implementation**

Sec 4.9 Overview: Variant Label States

- Variant label states: delegated, allocated, withheld-same-entity, blocked, rejected (Rec 9.1)
- ICANN org record and track variant label states as long as the primary label remains delegated (IG 9.2)
- Variant label transition paths (Rec 9.3; IG 9.4)



Public Comment Reminder

Open: 24 April 2023

Close: 5 June 2023

Time Left: 19 Days

<https://www.icann.org/en/public-comment/proceeding/phase-1-initial-report-on-the-internationalized-domain-names-epdp-24-04-2023>

Submit your input via “Provide Your Input” button on the Public Comment page

For each preliminary recommendation, indicate level of support (or non-support) and explain rationale

Q&A

Appendix: Resource Links

- ❑ EPDP-IDNs Phase 1 Initial Report Public Comment:
<https://www.icann.org/en/public-comment/proceeding/phase-1-initial-report-on-the-internationalized-domain-names-epdp-24-04-2023>
- ❑ ICANN Board Resolution regarding “Variants”:
<https://www.icann.org/en/board-activities-and-meetings/materials/approved-resolutions-special-meeting-of-the-board-of-directors-25-09-2010-en#2.5>
- ❑ RZ-LGR Version 5: <https://www.icann.org/resources/pages/root-zone-lgr-2015-06-21-en>
- ❑ ICANN org Recommendations on Variant Management:
<https://www.icann.org/resources/pages/idn-variant-tld-implementation-2018-07-26-en>
- ❑ IDN Implementation Guidelines:
<https://www.icann.org/resources/pages/implementation-guidelines-2012-02-25-en>
- ❑ EPDP-IDNs Charter:
<https://gnso.icann.org/sites/default/files/policy/2021/presentation/CharterGNSOIDNsEPDPWorkingGroup20May21.pdf>