Introduction to Internationalized Domain Names (IDNs)

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ASCII Domain Name Label

www.cafe-123.com

Third level domain · Second level domain · Top-level domain (TLD)

② **Forming ASCII Labels
Use LDH**
- **L**etters [A..Z a..z]
- **D**igits [0..9]
- **H**yphen [-]

Label length = 63
Other constraints (e.g., on hyphen)

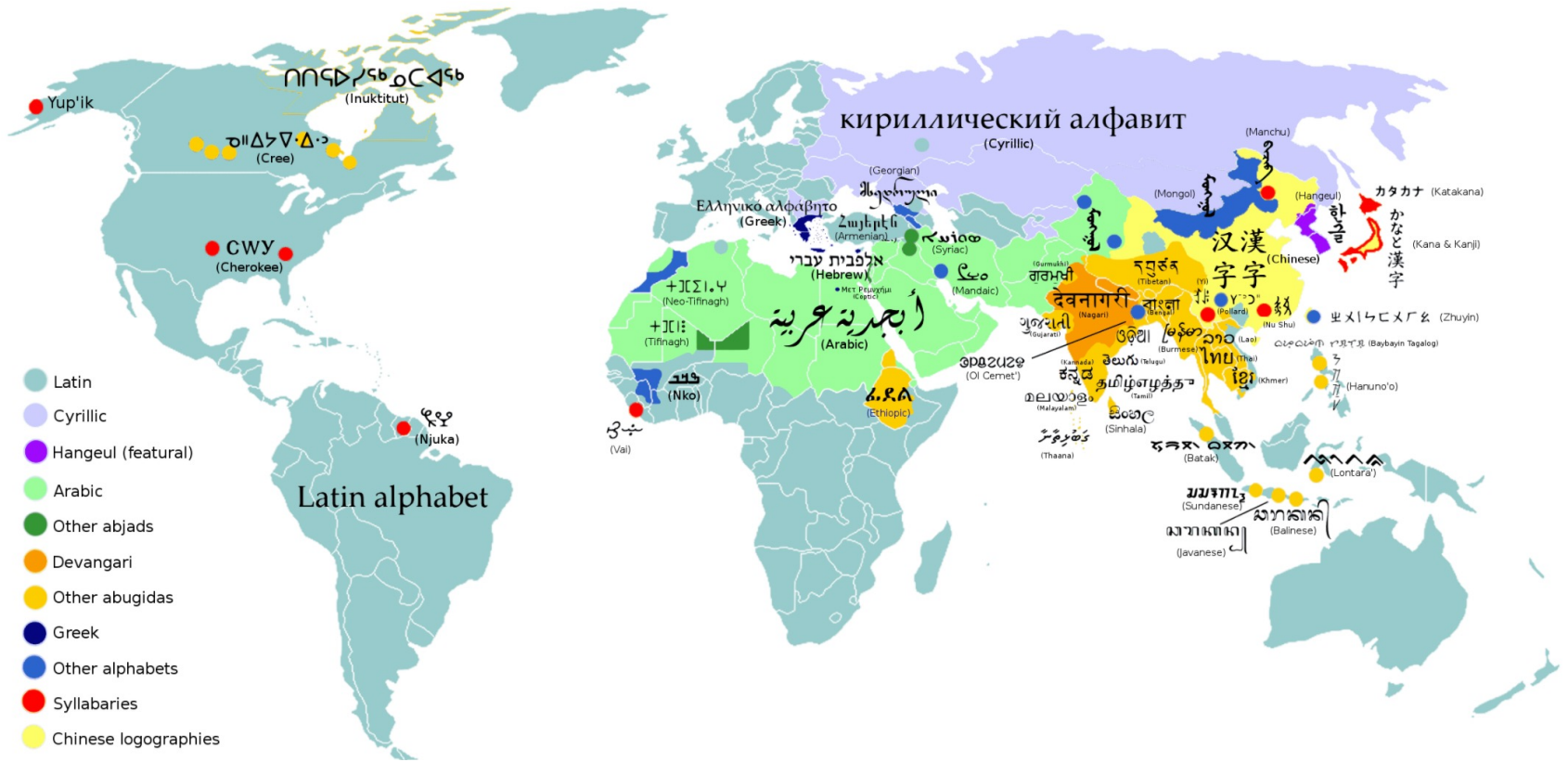① **Forming ASCII Labels
Use only Letters**
- Letters [A..Z a..z]

Label length = 63

Why Do We Need Internationalized Domain Names (IDNs)?

"The Web does not just connect machines, it connects people."

-- Tim Berners-Lee

"Language is just as important to building human connections online as it is offline." -- The Digital Language Divide

Scripts Used in the Africa Region

ASCII

lubakasai
swahili
northernsotho
farefare
afrikaans
swazi
malagasy
chokwe
kinyarwanda
bemba
southernndebele
nyungwe
shona
xhosa
seychelloiscreole
english
ndebele
sotho luvale zulu
swati kituba kikongo
capeverdeancreole
umbundu ganda lingala
mampruli

Latin Script

chichewa
dazaga
hassaniyya
bulu oromo
wolof fang guinea oshiwambo
tamazight mandinka
tonga
portuguese venda
jula krio
tswana bissau creole
tem
kimbundu gen juba arabic
hausa igbo lozi bari maba yoruba
pular zande
kanembu equatorialguineanpidgin
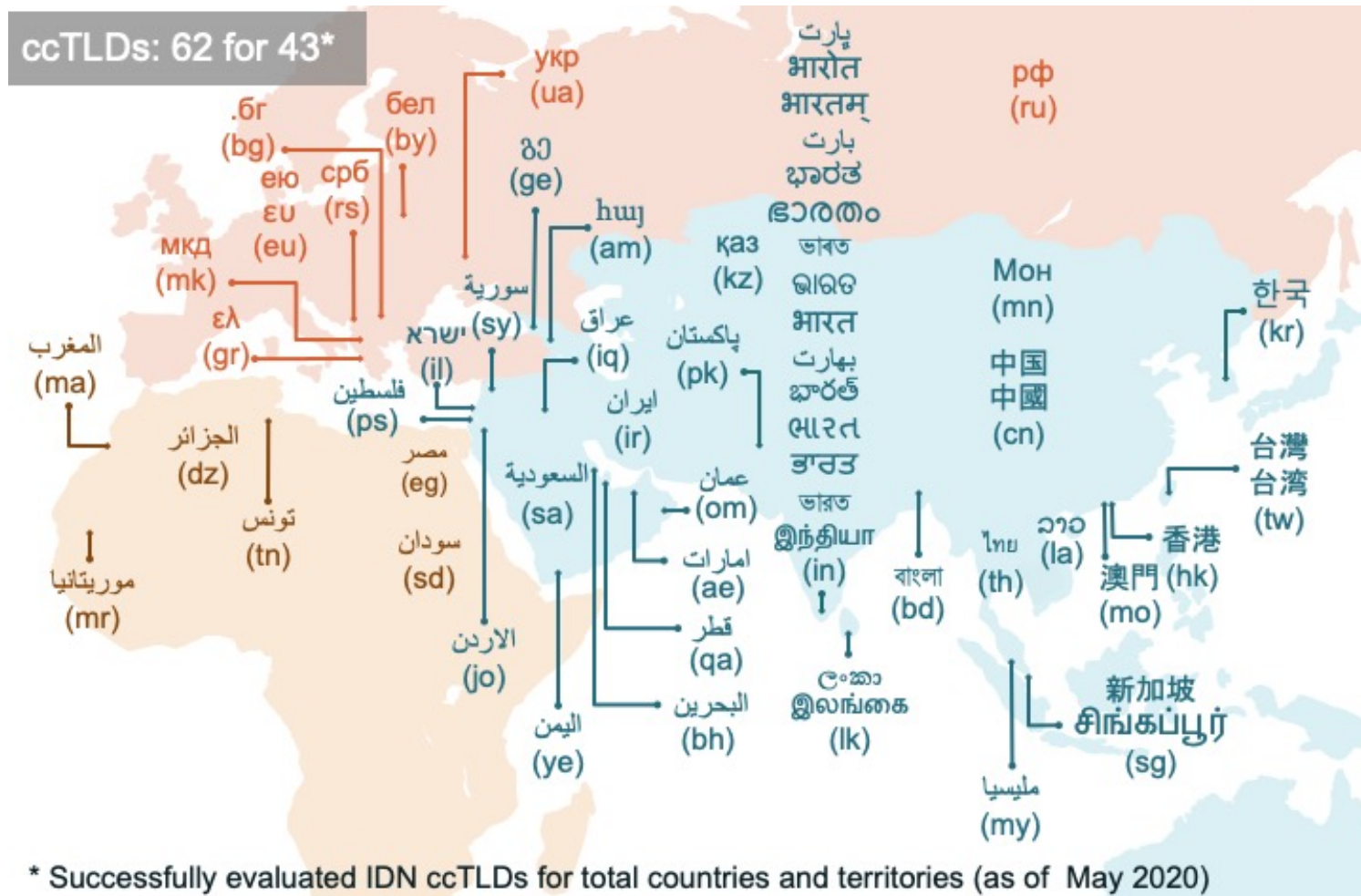bagirmi tsonga

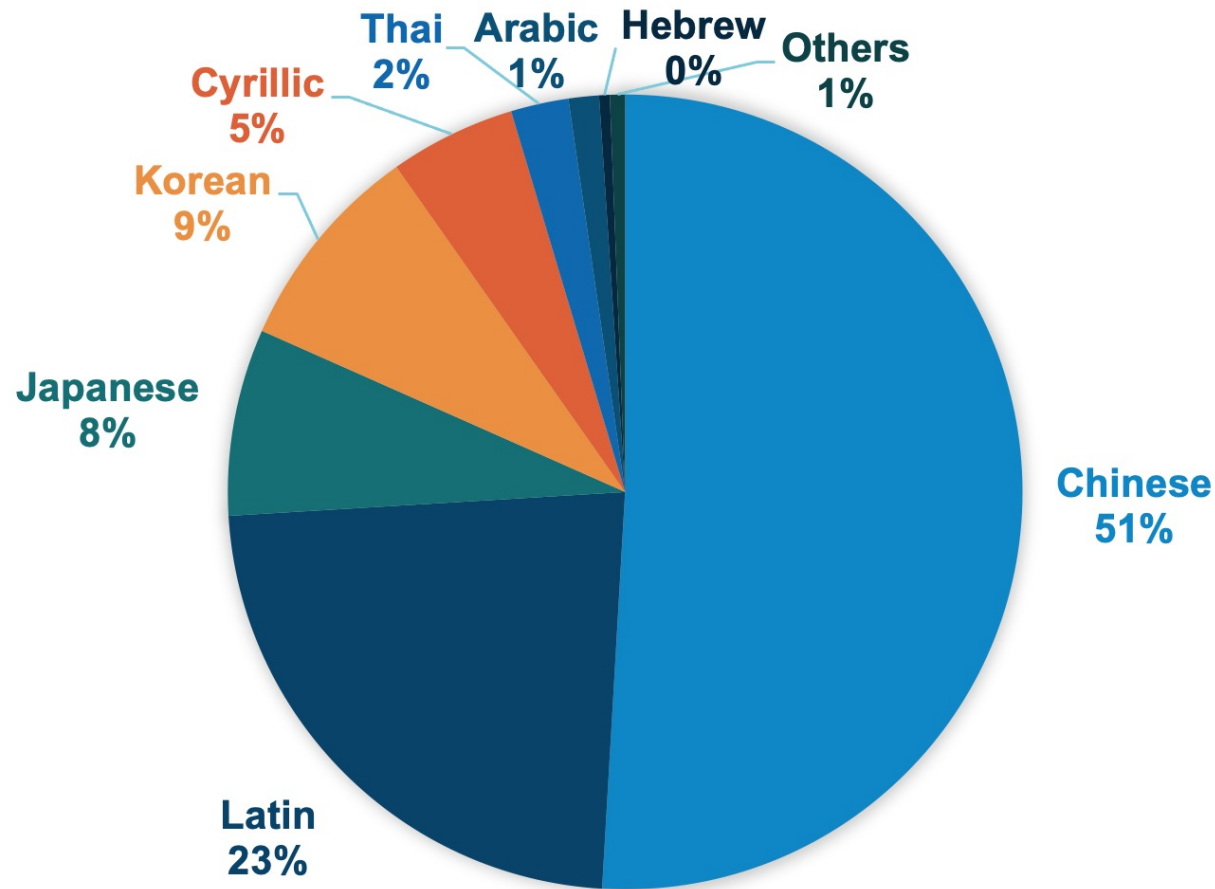## Ethiopic script

tigrina
tigriya
amharic

Arabic script

arabic
arabicegyptian

IDN Country Code Top-Level Domains (ccTLDs)

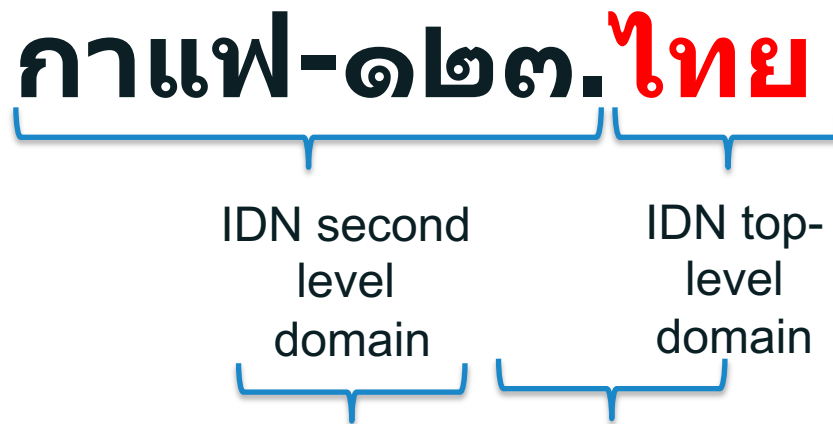⊙ Implement the string evaluation as part of the IDN ccTLD Fast Track process

ccTLDs: 62 for 43*

* Successfully evaluated IDN ccTLDs for total countries and territories (as of May 2020)

IDN Generic TLDs (gTLDs)

93 IDN gTLDs have been delegated

IDN Registrations by Script Under gTLDs (April 2021)

Thai 2%
Arabic 1%
Hebrew 0%
Others 1%
Cyrillic 5%
Korean 9%
Japanese 8%
Chinese 51%
Latin 23%

Based on 1.6 million registrations

Internationalized Domain Names (IDNs)

กาแฟ-๑๒๓.**ไทย**

IDN second level domain

IDN top-level domain

② **Syntax of IDN Labels**
Valid U-Label: Unicode code points as constrained by the "LDH" scheme within IDNA 2008 – sets baseline limiting to letters, marks and digits.

Syntax of IDN Labels ①
Valid U-Label, further constrained by the "letter" principle for TLDs.

Domain Names in Different Scripts

Arabic   Armenian   Georgian

Korean   Malayalam   Oriya

1. համընդհանուր-ընկալում-թեստ.հայ

2. ୟୁନିଭରସାଲ-ଏକସେପ୍ଟନ୍ସ-ଟେଷ୍ଟ.ଭାରତ

3. უნივერსალური-თავსობადობის-ტესტი.გე

4. 다국어도메인이용환경테스트.한국

5. സാർവത്രിക-സ്വീകാര്യതാ-പരിശോധന.ഭാരതം

6. تجربة-القبول-الشامل.موريتانيا

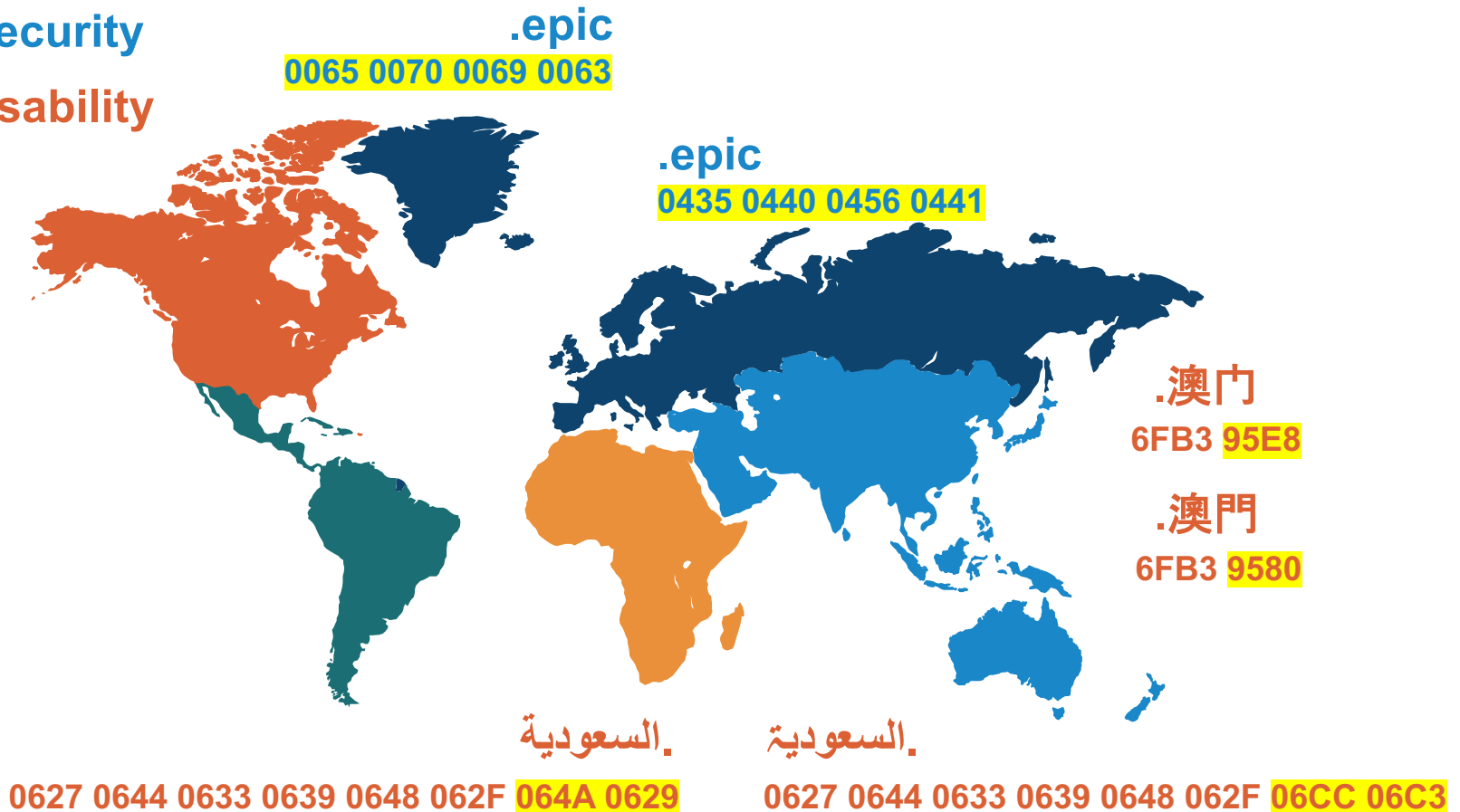# Domain Names in Different Scripts

1. hամընդhանուր-ընկալում-թեստ.hայ — Armenian

2. ଯୁନିଭରସାଲ-ଏକସେପ୍ଟନ୍ସ-ଟେଷ୍ଟ.ଭାରତ — Oriya

3. უნივერსალური-თავსობადობის-ტესტი.გე — Georgian

4. 다국어도메인이용환경테스트.한국 — Korean

5. സാർവത്രിക-സ്വീകാര്യതാ-പരിശോധന.ഭാരതം — Malayalam
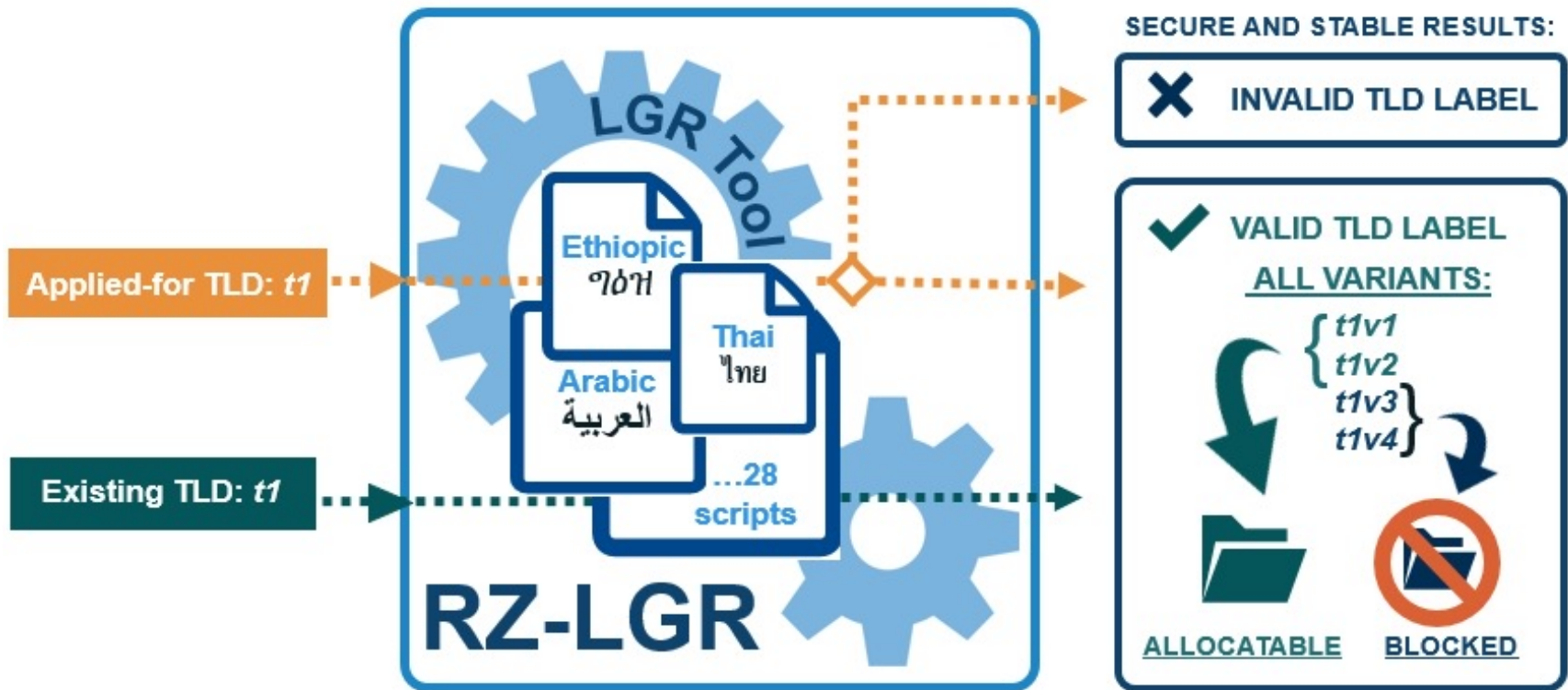
6. تجربة-القبول-الشامل.موريتانيا — Arabic

| 10

What are Variant Labels?

Variant labels are labels considered the *"same"* in some measure by a given community of Internet users.
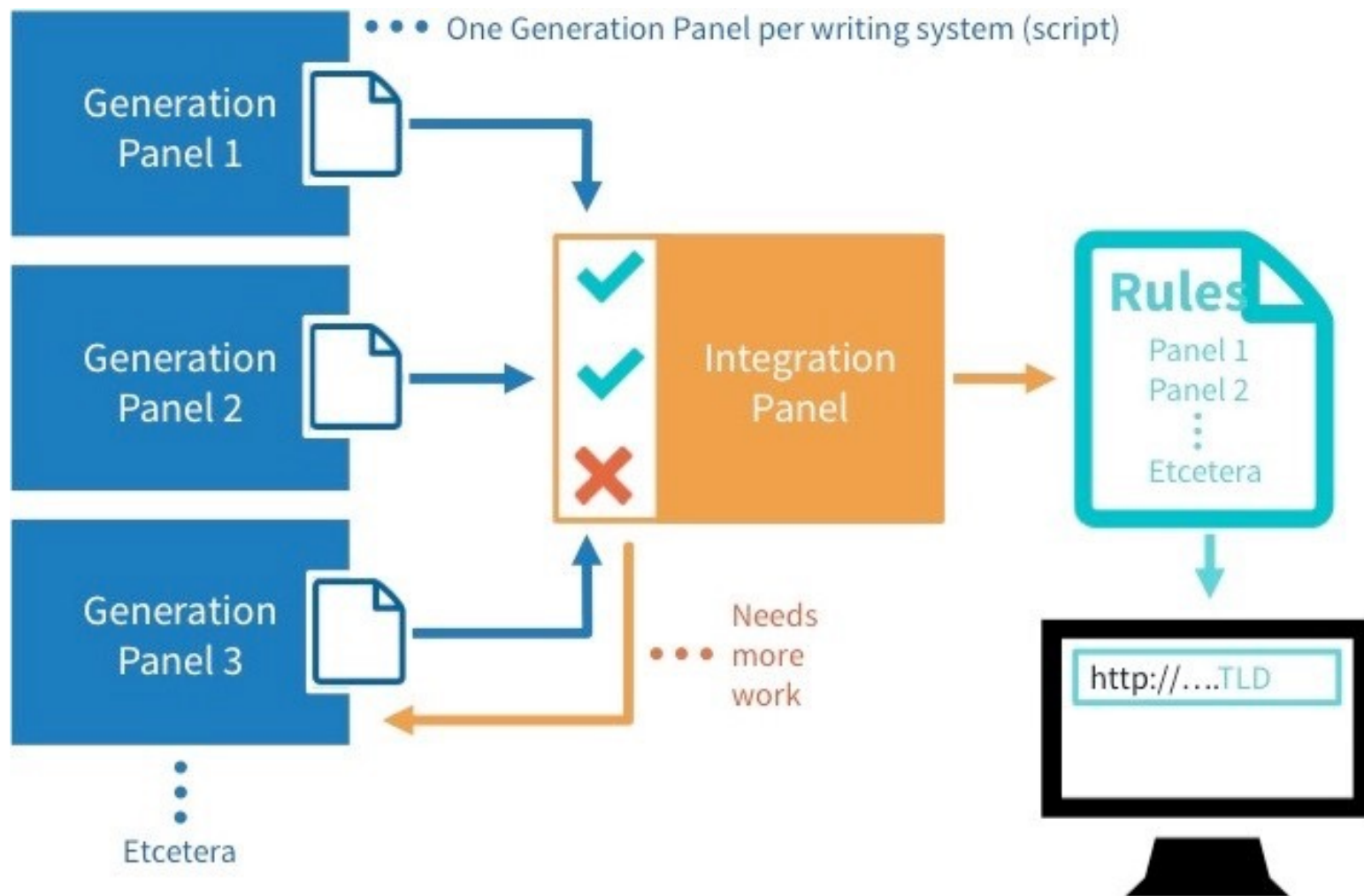
⊙ **Security**

⊙ **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

How Does Root Zone Label Generation Rules Work?

RZ-LGR Proposal Development Process

Community Contribution to IDNs

44 countries represented by GP members

10,000+ volunteer hours

270+ script community volunteers

9 years of work

386+ languages supported by Generation Panel work

26 unique scripts covered by LGR proposals

30+ Public Comment proceedings

17 Generation Panels

Current Status of RZ-LGR

- In 2019, the ICANN Board [resolved](#) that the GNSO and ccNSO take into account the Recommendations for Managing the IDN Variant TLDs - which integrated the use of RZ-LGR - in their policy development processes.

- In 2020, the ICANN Board [resolved](#) that the GNSO and ccNSO take into account the Recommendations for the Technical Utilization of the Root Zone Label Generation in their policy development processes.

- In 2021, the GNSO published its [Report on New gTLD Subsequent Procedures](#) which incorporates the use of RZ-LGR for the next round.

- RZ-LGR-5 [Public Comment](#): Closing 11 May 2022 and integrates 26 scripts: **Arabic**, Armenian, Bangla, Chinese (Han), Cyrillic, Devanagari, **Ethiopic**, Georgian, Greek, Gujarati, Gurmukhi, Hebrew, Japanese (Hiragana, Katakana, and Kanji [Han]), Kannada, Khmer, Korean (Hangul and Hanja [Han]), Lao, **Latin**, Malayalam, Myanmar, Oriya, Sinhala, Tamil, Telugu, and Thai.

What's Next?

- ⦿ Review the RZ-LGR-5 Public Comment and provide feedback.

- ⦿ Relevant IDN policies are currently being developed by the ccNSO and GNSO.

- ⦿ Scripts in the RZ-LGR will be eligible for the next new gTLD round.

- ⦿ Support Universal Acceptance (UA) efforts as IDNs need UA in order to work in all systems and websites.

- ⦿ Contact us: IDNProgarm@icann.org

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