



82 | COMMUNITY FORUM



Internationalized Domain Name (IDN) Updates

IDN Programs

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ICANN 82 Prep Week

24 February 2025



Agenda

- Analysis of Internationalized Domain Names in Reputation Block List Data
- Update on IDN-Related Policy Development and Implementation
 - Summary of IDN-Related Policies
 - IDN Implementation Guidelines version 4.1 timeline
- Thaana Script Root Zone Label Generation Rules (RZ-LGR) (Naail Abdul Rahman)
- Reference LGR for Second Level by Unified Canadian Aboriginal Syllabics Working Group (Louis Houle)
 - Languages using Unified Canadian Aboriginal Syllabics Script
 - Languages using Latin Script
- Balinese Script for Second Level (Prof. Yudho Giri Sucahyo)
- Q&A

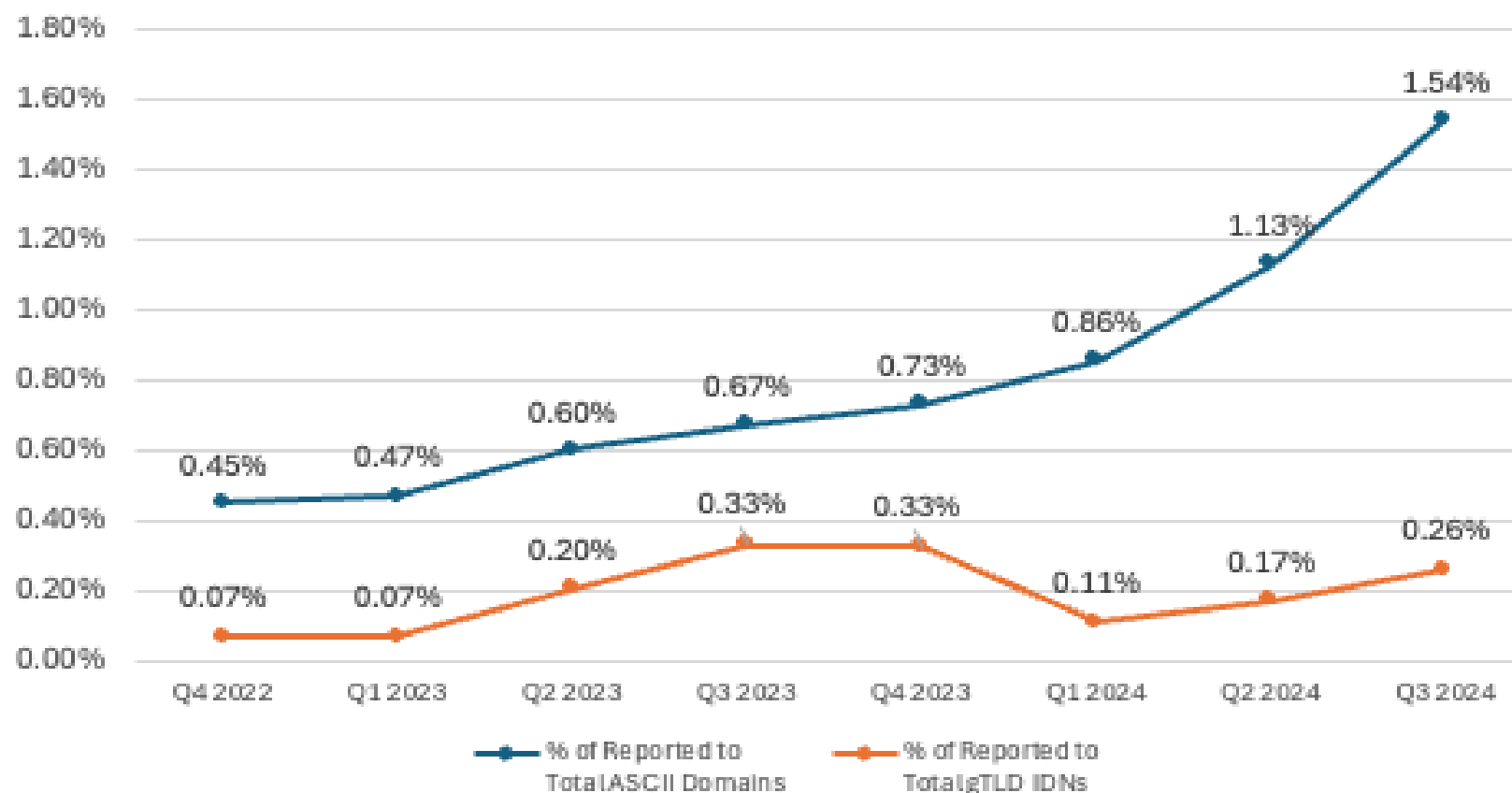
Analysis of IDNs in Reputation Block List Data

IDN Data in Reputation Block List (RBL) Analysis Introduction

- ICANN published the [Analysis of IDNs in Reputation Block List Data Report](#) in February 2025
- Important to note that RBL data concerns reported rather than verified cases of abuse
 - This study seeks to evaluate IDNs under generic top-level domains (gTLDs) being reported in RBL and NOT whether they are actually being used for abuse
 - The report provides analysis of the data from October 2022 to September 2024
- The following questions were analyzed:
 - How do the reported IDNs with security threats compare with the reported American Standard Code for Information Interchange (ASCII) domain names?
 - How are the reported IDNs distributed over the different types of security threats¹?
 - How are the reported IDNs distributed over different scripts?

Reported ASCII Domain Names Vs. Reported IDNs

- Percentage of reported ASCII domain names vs. reported IDNs based on the data from Q4 2022 – Q3 2024 (October 2022 to September 2024)
- This represents an average ratio of 4.3 to 1 for ASCII domain names and IDNs under gTLDs



Threat Type Distribution

- Both ASCII and IDN domain names have a similar distribution of the security threats across different threat types
- **Spam** is the most reported security threat type for both ASCII domain names and IDNs
 - 71.68% of reported ASCII domain names
 - 68.39% of reported IDNs
- **Phishing** is the second most reported security threat type for both ASCII domain names and IDNs
 - 26.77% of reported ASCII domain names
 - 31.34% of reported IDNs

Script Analysis of Reported IDNs

- The majority of the reported IDNs
 - Latin script (0.33% of total Latin IDNs)
 - Chinese (Han) script (0.29% of total Chinese (Han) IDNs)

Script	Number of Reported IDNs	Number IDN Registrations of the Script	Percentage
Chinese (Han)	1,981	686,178	0.29%
Latin	1,325	395,658	0.33%

Next Steps

- ICANN org will consider integrating the IDN-related analysis into [ICANN Domain Metrics](#) to make this information on security threats available over time

Update on IDN-Related Policy Development and Implementation

Summary of IDN-Related Policy Development for gTLDs

- Final Report on the new gTLD Subsequent Procedures Policy Development Process ([Sub Pro](#)), Topic 24: String Similarity, and Topic 25: IDNs, [adopted](#) by the ICANN Board in March 2023
- Phase 1 Final Report on the Internationalized Domain Names (IDN) Expedited Policy Development Process ([IDN EPDP Phase 1](#))
 - ICANN Board [adopted](#) most recommendations based on the [scorecard](#) in June 2024
 - Some pending recommendations based on the [scorecard](#) were [adopted](#) in September 2024
- Phase 2 Final Report on the IDN EPDP ([IDN EPDP Phase 2](#))
 - ICANN Board sought feedback by the public comment [proceeding](#), closed 03 February 2025
- [PDP Latin Script Diacritics](#)
 - Charter [adopted](#) by the GNSO Council on 19 December 2024

IDN-Related Policy Development for IDN ccTLDs

- The fourth ccNSO Policy Development Process (ccPDP4) for (De-)Selection of IDN ccTLDs will replace the [IDN ccTLD Fast Track Process](#)
 - The ccNSO Council [adopted](#) the Recommended Policy, as per its resolution 203-04, in March 2024
 - The [Board Report](#), dated 13 June 2024, was submitted to the Board for consideration

IDN Implementation Guidelines Version 4.1

- The IDN Implementation Guidelines were developed by the community and designed to minimize the risk of cybersquatting and consumer confusion under top-level domains (TLDs)
 - Contractually binding through the gTLD Registry Agreement
 - Recommended through the IDN country code top-level domain (ccTLD) Fast Track Process
- The notice of implementation for version 3.0 was published in 2011
- The ICANN Board adopted [version 4.1](#) in September 2022, ICANN org published version 4.1 and has been working on its implementation
- ICANN [announced](#) the implementation timeline for contracted parties in October 2024
 - IDN Guideline 4.1 Implementation in effect - 30 April 2025

Update on Thaana Script Root Zone Label Generation Rules (RZ-LGR)

Naail Abdul Rahman, Thaana Script Generation Panel Chair

Introducing Thaana Generation Panel Members

Aminath Saeed

Senior Lecturer,
Linguistics, MNU



Abo Shafyu

Type Designer,
Akuru Type



Dr. Fawaz Shareef

Vice Chancellor, MNU



Naail Abdul Rahman

Software Engineer,
Intellea



Hassan Irfran

Co-Founder, MICTA

Thaana Script RZ-LGR Development Methodology

- Further develops the work done on the [Reference LGR for the Second Level](#) for [Thaana script](#)
 - Regular online meetings every fortnight
 - Collaborative effort with ICANN to align with global standards
 - Incorporate feedback from second-level work
- Alignment with RZ-LGR development [procedure](#)
- Validation against data-set
 - Derived from the second-level LGR development process (created a wordlist...)
 - Validated with Unicode standards, usage
 - Input from the local community
 - Strict policies to address domain name security and linguistic accuracy

Public Consultation

- Online Public Consultation, 21 January 2025
- On-site Public Consultation, 30 January 2025
 - Participants: 47 community members attended this meeting, including tech experts, government, academia, civil society, and media



Key Discussion

- Repertoire
 - To consider excluding the Arabic extended code point
- Variant
 - Variant analysis with other related scripts
- Rules
 - Building rules for Root-Zone LGR to ensure security and avoid misuse

Timeline

- The GP is finalizing the proposal, in consultation with the Integration Panel
- Aim for public comment in March 2025

Update on Reference LGR for Second Level by Unified Canadian Aboriginal Syllabics (UCAS) and Canadian Latin Script Working Group

Louis Houle, UCAS WG Co-Chair

Overview of UCAS - Canadian Latin Working Group

- Working group with currently 25 members, including:
 - Language experts: linguists, typography experts, Unicode, language scholars
 - Domain name industry: registries, registry operators; technology and DNS specialists
 - Community members: language technologists, community linguists, community and official representatives
- Working group [wiki page](#) is a common open space for: past recorded meetings, agendas, summary notes, documentation, specific language code points répertoire, LGR proposal, code points attestation, XML-HTML LGR

<https://community.icann.org/display/croscomlgrprocedure/UCAS+Script+Reference+LGR+GP>

Scope of Work and Methodology

- Scope of work Canadian UCAS - Canadian Latin Script Indigenous languages
 - Syllabic script First Nations and Inuit Canadian Languages = 30 languages
 - Latin script First Nations and Inuit Canadian Languages = 76 languages
 - Some US-Canadian cross-border First Nation Languages = $\pm$ 15 languages
- Work methodology / phasing
 - Documentation (linguistic orthography – grammar)
 - Code Points Repertoire (combining, pre-composed, sequencing Unicode, property value)
 - LGR Proposal
 - Code points contemporary attestation – ICANN verification
 - XML-HTML
 - Public comment phase
 - Publication

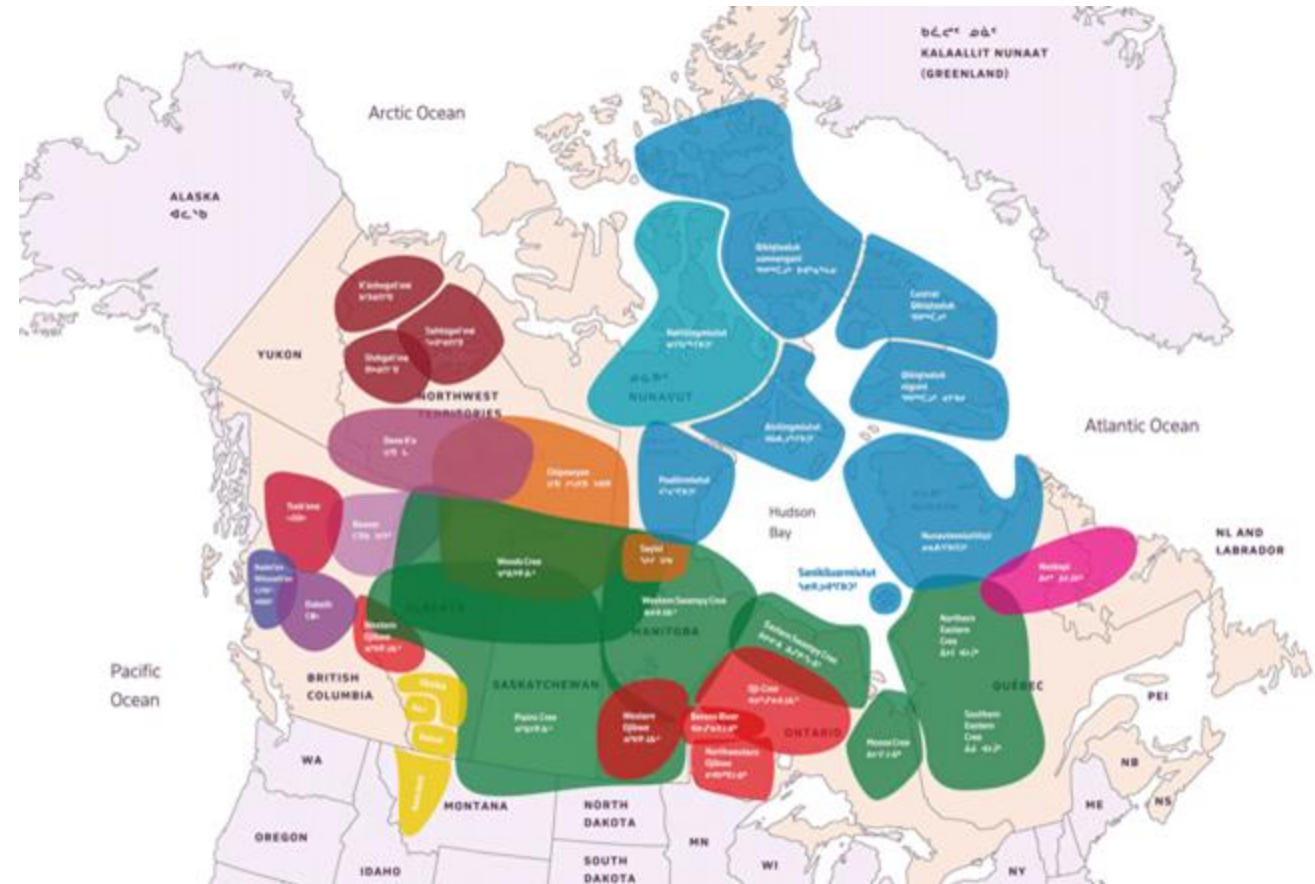
Reference LGR for Languages in UCAS Script - Background

- UCAS – Syllabics Languages family: Inuit, Algonquian, Na-Dene

○ Inuit 7 languages

○ Algonquian 11 languages

○ Na-Dene 12 languages



Reference LGR for Languages in UCAS Script - Status

- Inuit languages – completed Second-Level Reference **iu-Cans** LGR [published](#) November 2024
- Algonquian languages (expected for second half 2025)
 - LGR ready for next public comment phase:
 - Naskapi LGR
 - Northern Eastern – Southern Eastern Cree LGRs
 - Moose Cree LGR
 - Eastern Swampy Cree LGR
 - Western Swampy Cree LGR
 - Plains Cree LGR
 - LGR proposals in development:
 - Woods Cree LGR
 - Oji-Cree LGR
 - Ojibwe LGR
 - Western Ojibwe
- Na-Dene Languages LGR
 - LGR first steps initiated by early summer 2025

Motivation for Considering Canadian Languages in Latin Script

- Inuit communities and First Nations in some instances have syllabic script and Latin script languages with official recognized status
- Latin script code points gap analysis was conducted taking into account:
 - The current Latin script reference LGR
 - The code points property value
- The objectives are:
 - To remediate linguistic and typographic gaps for some languages by creating a proposal for updating the Latin script reference LGR for second-level
 - To make the information available for the languages using IDNA2008 disallowed code points



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Reviewing Canadian Languages in Latin Script - Status

- Latin Script LGR for Québec's Eastern Canada First Nations and Inuit languages, including 12 languages: 2 Inuit, 2 Iroquoian, 8 Algonquian

ISO 639 Code	ISO 639 English	Language Native Name
abe	Western Abnaki	W8banaki, Abénakis
alg	Algonquin	Anicinabemowin
atj	Atikamekw	Nehiromowin
crl	Northern East Cree	Îyiyû Ayimûn
crj	Southern East Cree	Înû Ayimûn
iku	Inuktitut	Inuktitut, Inuktut
ike	Eastern Canadian Inuktitut	Inuttitut, Nunatsiavummiutitut
mic	Mi'kmaq	Mi'gmaq, Míkmamasimk
moe	Innu, Montagnais	Innu-aimun
moh	Nohawk	Kanien'keha
pqm	Malecite-Passamaquoddy	Wolastoqey, Passamaquoddy
wdt	Wendat	Wendatj

Balinese Script for Second Level

Prof. Yudho Giri Sucahyo, Ph.D

Opening of Balinese Second-Level Domain Names by PANDI

- PANDI **officially launched the Balinese script Second-Level Domain (SLD)** to support Bali's digital presence
- The SLD is designed for **communities, businesses,** and the **local government** to promote their identity online
- Why it matters:
 - Strengthens **Bali's cultural and economic branding** in the digital space
 - Helps **local entrepreneurs and tourism industries** establish an online presence
 - Encourages **greater Internet adoption with a localized domain extension**
- PANDI is actively collaborating with **local stakeholders** to drive adoption and awareness

SLD Launch by the Bali Provincial Government

- The **Bali Provincial Government** officially supports the adoption of the **Balinese Script SLD** as a unique digital identity
- **Collaboration between PANDI and the government** ensures proper regulation and promotion of the domain
- Benefits for local governance and businesses:
 - Enables **official websites and platforms** with Balinese script SLD for trusted information
 - Strengthens **regional branding** in tourism, arts, and commerce
 - **Encourages local SMEs to establish their online presence** using Balinese script SLD
- This initiative aligns with Bali's **cultural preservation and modernization efforts**



Digital Training for Balinese Script Educators

- **Hundreds of educators and digital literacy advocates** have participated in Balinese script training
- Training focuses on:
 - **Understanding Balinese script in a digital context** (input methods, Unicode support)
 - Web development and social media usage with Balinese script
 - Teaching methodologies for spreading digital literacy to students and communities
- Why is this important?
 - Ensures **Balinese script remains relevant** in modern digital communication
 - Empowers educators to **create digital content** in Balinese script
 - Bridges the gap between **traditional literacy and modern technology**



Balinese Script Website Competition

- To **promote the use of Balinese script online**, PANDI is organizing a **website development competition**
- The competition encourages participants to:
 - **Design websites featuring Balinese script** in content, UI, and navigation
 - Showcase **innovative use cases**, such as news portals, educational platforms, and tourism sites
 - Utilize **Balinese script SLD** as part of the initiative
- Expected impact:
 - Raises **public awareness** about Balinese script's digital potential
 - Motivates **developers and designers** to integrate local scripts in their projects
 - Drives **more content creation and accessibility** in Balinese script

Draft Unicode Proposal for Balinese Script

- PANDI has **developed a draft Unicode proposal** to enhance Balinese script support in digital systems and elevate the status from "Limited Use" to **"Recommended"**
- Why is this necessary?
 - The current Unicode implementation has **limitations in representation and usability**
 - Additional characters and improvements are needed for **accurate digital use**
 - Unicode compliance will enable **broader adoption across operating systems and platforms**
- This initiative is a **major step toward preserving and revitalizing Balinese script** in the digital era

Proposal to Elevate Bali Script Status to Recommended in Unicode

I. Introduction

Language is an essential aspect of human life, enabling more effective and meaningful communication. It serves as a medium for expressing thoughts, emotions, spirituality, behavior, ethnic identity, civilization, art, and much more.

Bali, one of Indonesia's many islands, is internationally recognized for its rich, diverse, and deeply rooted cultural heritage. As of 2023, Bali's population was approximately 4.3 million, with an annual growth rate of around 1.01%. That same year, the number of students enrolled in elementary, middle, and high schools—including vocational and special education schools—reached 758,174, across nearly 3,200 schools on the island.

The Balinese language is a compulsory subject in all schools across Bali as part of the local content curriculum. Students begin learning and practicing it from elementary through high school, with instruction provided in both the traditional Balinese script.

The Bali script, a member of the Brahmic family of scripts, is a vital part of Balinese culture and heritage, deeply intertwined with the island's rich artistic traditions. Historically, the script has served as the primary medium for documenting sacred Hindu texts, philosophical treatises, historical records, and knowledge in the form of palm-leaf manuscripts (*lontar*). These documents form an invaluable archive of Balinese identity, reflecting the island's intellectual history.

Despite its historical significance, the Bali script continues to play a vital role in contemporary Balinese life. It is evident in public signage, educational curricula, and official documents, serving as a symbol of pride. The script bridges the past and present, showcasing the richness of Balinese culture in an increasingly modern and digitalized world.



GOVERNMENT OF BALI
PEMERINTAH PROVINSI BALI
BALI
JALAN BASUKI RAHMAT DENPASAR - BALI (80235), TELEFON (0361) 224671
Website : www.baliprov.go.id

Bali, 20 Mei 2021
Kepada

Yth. Kepala Perangkat Daerah di lingkungan
Pemerintah Provinsi Bali,
di -
Tempat

SURAT EDARAN
NOMOR 13409 TAHUN 2021

TENTANG
PENULISAN AKSARA BALI
PADA KOP SURAT NASKAH DINAS
DI LINGKUNGAN PEMERINTAH PROVINSI BALI

Menindaklanjuti Peraturan Gubernur Bali Nomor 80 Tahun 2018 tentang
Perlindungan Dan Penggunaan Bahasa, Aksara, dan Sastra Bali serta
Penyelenggaraan Bulan Bahasa Bali, maka perlu dilakukan penyesuaian pelaksanaan
Tata Naskah Dinas di lingkungan Pemerintah Provinsi Bali, khususnya pada bagian
Kop Surat yang wajib menggunakan tulisan Aksara Bali di atas tulisan Latin. (contoh
terlampir).

Figure 4. Bali Province instructed to use
Balinese script on every official letterhead

IDN-UA Related Sessions at ICANN82

IDN-UA Related Sessions at ICANN82

- Prep Week:

- Internationalized Domain Name (IDN) Updates – Monday, 24 February 2025 - 08:30-09:30 PST (16:30 -17:30 UTC)
- Universal Acceptance (UA) Community Update – Wednesday, 26 February 2025 - 12:30-13:30 PST (20:30 - 21:30 UTC)

- Meeting Week:

- ccNSO: Universal Acceptance Committee Session – Saturday, 8 March 2025 - 15:00-16:00 PST
- GDS: SubPro IRT Work Session (3 of 5) – Sunday, 9 March 2025 - 16:30 - 17:30 PDT
- Updating Systems for the Evolving TLD Landscape - Tuesday, 11 March 2025 - 10:30 - 12:00 PDT
- String Similarity Evaluation and New gTLD Program: Next Round – Wednesday, 12 March 2025 - 09:00-10:00 PDT
- Universal Acceptance (UA) Progress and the Strategy Forward for Digital Inclusion – Wednesday, 12 March 2025 - 10:30-12:00 PDT
- ccNSO: Exploring Blockers and Drivers for UA Readiness - Wednesday, 12 Mar 2025 – 16:30 - 17:30 PDT

Engage with ICANN – Thank You and Questions



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