

APAC Space Web Conference



27 January 2022

Agenda

- **Welcome Remarks** – Jia Rong Low, Vice President , Stakeholder Engagement & Managing Director, ICANN APAC (3 mins)
- **Public Comment: Additional Unicode Scripts for Support in Internationalized Domain Names (IDNs)** – Sarmad Hussain, Senior Director, IDN and UA Programs (20 mins)
 - What to Know & How to Participate
- **Community Discussion** – facilitated by Satish Babu, APAC Space Community Facilitator (10 mins)
- **Public Comment: Proposal for Myanmar Script Root Zone Label Generation Rules (RZ-LGR)** – Pitinan Kooarmornpatana, Senior Manager, IDN Programs & Yin May Oo, Co-Chair, Myanmar Script Generation Panel (12 mins)
 - What to Know & How to Participate
- **Community Discussion** – facilitated by Satish Babu, APAC Space Community Facilitator (10 mins)
- **AOB**
 - NomCom Application Openings for Leadership Positions – Pam Little, NomCom Delegate (5 mins)

Welcome Remarks



Jia-Rong Low

VP, Stakeholder Engagement &
Managing Director, ICANN APAC

APAC Space



- ❖ “Space for APAC community members
- ❖ Community-led bi-monthly Sessions — web conference, or face-to-face at ICANN Meetings
- ❖ ”Practice ground” to facilitate community discussion for ICANN participation
 - ❖ DNS industry topics
 - ❖ ICANN Policy Development Processes, and
 - ❖ ICANN Reviews

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Public Comment: Supporting Additional Scripts in IDNs



Sarmad Hussain
IDN and UA Programs Senior
Director

Background

- [ICANN's Mission](#), as part of its Bylaws, mandates:
 - ICANN's authority or ability to adopt or implement policies or procedures that take into account the use of domain names as natural-language identifiers.
- Domain names are identifiers defined by the Internationalized Domain Names standard (IDNA2008), which is based on the Unicode standard.
- IDNA2008 standard:
 - Uses an algorithmic mechanism for code points using their properties to determine inclusion.
 - Asks to put additional constraints to address to create secure and stable domain name labels.
 - Does not conduct a script-based review for inclusion.

Background

- ICANN has been working with the relevant script communities to develop secure and stable solutions to support the various scripts in IDNs.
- Using the RZ-LGR Procedure, so far ICANN has focused on supporting 28 scripts by developing the Root Zone Label Generation Rules (RZ-LGR).
 - The 28 scripts are shortlisted in the [Maximal Starting Repertoire \(MSR\)](#), having common and widespread use by the script communities.
 - The scripts include: Arabic, Armenian, Bengali, Cyrillic, Devanagari, Ethiopic, Georgian, Greek, Gujarati, Gurmukhi, Han, Hangeul, Hebrew, Hiragana, Kannada, Katakana, Khmer, Lao, Latin, Malayalam, Myanmar, Oriya, Sinhala, Tamil, Telugu, Thaana, Thai and Tibetan.
- Same 28 scripts are used to develop [reference LGRs for the second level](#), also used to evaluate the IDN tables for gTLDs.

Question to Address

- Unicode 14.0 has [159 scripts](#), including contemporary and historic scripts.
 - Unicode states that not all 159 scripts may be suitable for identifiers, like domain names.
- Which additional scripts from these 159 could ICANN org support in domain names?
 - At the top level?
 - At the second and other levels?

Script Categories by Unicode

- Unicode standard discusses the use of these 159 scripts in identifiers in [Unicode Standard Annex #31: Unicode Identifier and Pattern Syntax](#).
- Unicode categorizes 159 scripts into three sets:
 - Excluded scripts
 - Limited use scripts
 - Recommended scripts
- **Excluded scripts (Table 4)**
 - 94 scripts.
 - Scripts not in customary modern use, and thus may want to exclude from identifiers (include historic and obsolete scripts, scripts used mostly liturgically, and regional scripts used only in very small communities or with very limited current usage).
 - Some scripts also have unresolved architectural issues that make them currently unsuitable for identifiers.
 - Examples: Brahmi, Coptic, Egyptian Hieroglyphs, Gothic, Mongolian, Nabataean, Ugaritic, etc.

Script Categories by Unicode

- **Limited use scripts (Table 7)**

- 34 scripts.
- Modern scripts that are in more limited use. To avoid security issues, some implementations may wish to disallow the limited-use scripts in identifiers.
- Examples: Balinese, Canadian Aboriginal Syllabics, Cherokee, Javanese, Limbu, Nko, Syriac, Tifinagh, etc.

- **Recommended scripts (Table 5)**

- 29 scripts + Common and Inherited scripts.
- Scripts with widespread modern customary use, or regional scripts in modern customary use by large communities.
- Include: Arabic, Armenian, Bengali, Cyrillic, Devanagari, Ethiopic, Georgian, Greek, Gujarati, Gurmukhi, Han, Hangul, Hebrew, Hiragana, Kannada, Katakana, Khmer, Lao, Latin, Malayalam, Myanmar, Oriya, Sinhala, Tamil, Telugu, Thaana, Thai and Tibetan.

Evaluating Unicode Scripts for Use in IDNs

- ICANN engaged Unicode and IDN experts to review the UAX#31 in the context of IDNs.
- The experts analyzed the different scripts and script categories for their use in IDNs.
- They have finalized their analysis and recommendations in the report: [Evaluating Unicode Scripts for Use in IDNs](#).

Script Category in UAX#31	Root Zone	Second Level
Recommended scripts	✓	✓
Limited Use scripts	✗	✓
Excluded scripts	✗	✗

✓ = may qualify but requires analysis on case-to-case basis.

✗ = does not qualify.

Evaluating Unicode Scripts for Use in IDNs

- Why Limited Use scripts on case-to-case basis? (see the report for more detailed discussion)
 - A script can potentially present significant security or stability issues.
 - The script community is not available to consult to develop reference Label Generation Rules for the script.
 - There is very limited information available online about how the script is used.
 - ...
- Without sufficient information on the use of the script and having active community support, it is challenging to develop reference Label Generation Rules for the script and therefore to support the script in IDNs safely.

Examples of Risks with Limited Used Scripts

U-Label	A-Label	Script	Code Points
APPLE	xn--g9de3mpaa	Cherokee	U+13AA U+13E2 U+13E2 U+13DE U+13AC
SAP	xn--g9d9gza	Cherokee	U+13DA U+13AA U+13E2
ceo	xn--qh9azay	Kayah Li	U+A90D U+A915 U+A900
FACEBOOK	xn-- 3l8aoahl9fnwa	Lisu	U+A4DD U+A4EE U+A4DA U+A4F0 U+A4D0 U+A4F3 U+A4F3 U+A4D7
VERISIGN	xn-- 9l8auaedo4dpb	Lisu	U+A4E6 U+A4F0 U+A4E3 U+A4F2 U+A4E2 U+A4F2 U+A4D6 U+A4E0
NETFLIX	xn-- 7l8asahg4c0ar	Lisu	U+A4E0 U+A4F0 U+A4D4 U+A4DD U+A4E1 U+A4F2 U+A4EB
ICANN	xn-- em8amaa8cs	Lisu	U+A4F2 U+A4DA U+A4EE U+A4E0 U+A4E0
new	xn--tgfg7f	Tai Le	U+1952 U+1971 U+1955
BREAD	xn--2ne8jzc0dn	Canadian Syllabics	U+15F7 U+1587 U+15F4 U+15C5 U+15DE
BIT	xn--sn8aqfuc	Vai	U+A557 U+A56F U+A50B

Examples of Risks with Limited Used Scripts

*Recommended Scripts

U-Label	A-Label	Script	Code Points
ဝဂ္ဂဟ္ဓ	xn--9hf1bqr	New Tai Lue	U+199E U+1985 U+19A2 U+1998
ဝဂ္ဂဟ္ဓ	xn--pid2bj1n	Myanmar *	U+1040 U+1002 U+1015 U+1018

U-Label	A-Label	Script	Code Points
မ္ဍဝ္	xn--zifd6c	New Tai Lue	U+19A0 U+199E U+19B1
မ္ဍဝ္	xn--dwcs4g	Malayalam *	U+0D17 U+0D20 U+0D3E

U-Label	A-Label	Script	Code Points
ডঢ়	xn--15bc4a	Bangla (Bengali) *	U+09A1 U+09A2 U+09AC
ডঢ়	xn--r98ajac	Syloti Nagri	U+A812 U+A811 U+A80C

Examples of Risks with Limited Used Scripts

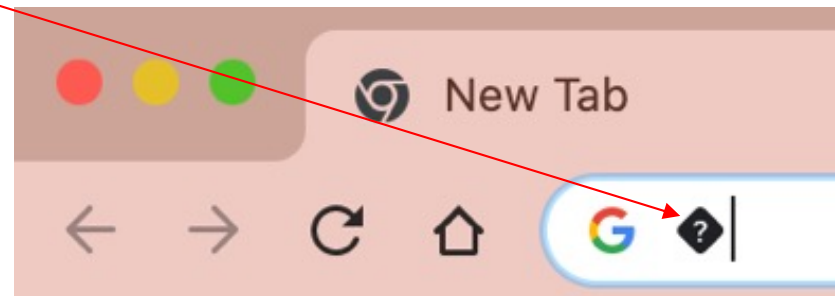
- Unstable Rendering Issues

Newa script

	1140	1141	1142	1143	1144	1145	1146	1147
0	ꠄ	ꠅ	꠆	ꠇ	ꠈ	ꠉ	ꠊ	
1	ꠋ	ꠌ	ꠍ	ꠎ	ꠏ	ꠐ	ꠑ	
2	ꠒ	ꠓ	ꠔ	ꠕ	ꠖ	ꠗ		
3	ꠘ	ꠙ	ꠚ	ꠛ	ꠜ	ꠝ		
4	ꠞ	ꠟ	ꠠ	ꠡ	ꠢ	ꠣ		
5	ꠤ	ꠥ	ꠦ	ꠧ	꠨	꠩		

Based on IDNA 2008, this code point is Protocol Valid (PVALID) as published on IANA [website](#)

11400- PVALID NEWA LETTER A..
1144A NEWA SIDDDHI



U+11420 glyph does not render in the browser address bar (Chrome on MAC OS)

- Some Limited Use scripts with rendering issues : Adlam, Chakma, Nyiakeng Puachue Hmong, Miao, Newa, Osage, Hanifi Rohingya, Tifinagh, and Wancho.

Public Comment Details

- Public Comment: <https://www.icann.org/en/public-comment/proceeding/additional-unicode-scripts-for-support-in-internationalized-domain-names-05-01-2022>
 - Opened: 5 January 2022
 - Closed: 15 February 2022
 - The community is being asked to provide feedback on the analysis and the recommendations presented in the report on [Evaluating Unicode Scripts for Use in IDNs](#) to guide ICANN org's continuing work on the implementation of IDNs.

Public Comment Details

- Based on the discussion in the report, should ICANN org support IDNs at the second level in the scripts identified as *Limited Use* by Unicode in UAX#31, where specific scripts will be finalized on a case-to-case basis using the criteria in the report?
 - Yes, *Limited Use* scripts should be supported at the second level on a case-to-case basis based on the criteria in the report.
 - If you selected “yes”, are there any specific script(s) that should be clearly supported? If so, please list them and explain why?
 - No, *Limited Use* scripts at the second level should not be supported.
 - If you selected “no”, *Limited Use* scripts should not be supported for IDNs at the second level, please explain why?

Public Comment Details

- Are there any changes needed in the criteria suggested to select the *Limited Use* scripts for support at the second level on a case-to-case basis?
 - Yes, see the suggested changes specified below.
 - If yes, please suggest the changes in the criteria for shortlisting scripts for IDNs at the second level:
 - No, a change is not needed in the existing criteria in the report.

Public Comment Details

- Should ICANN support IDNs at the second level in scripts identified as *Excluded* by UAX#31 for identifiers?
 - No, *Excluded* scripts should not be supported at the second level, in line with Unicode recommendation in UAX#31.
 - Yes, *Excluded* scripts should be supported at the second level, despite the caution and concerns documented by the Unicode in UAX#31, based on the reasons provided below.
 - Given the caution provided by Unicode in UAX#31, if *Excluded* scripts should still be supported, please explain why, and how the issues identified in UAX#31 and the report would be addressed or mitigated. Also indicate if the reason provided is generally applicable or only for the script(s) being specified.

Public Comment Details

- Are there any additional factors which should be considered by the Integration Panel, in addition to the findings of this report using the categorization provided in the UAX#31, for shortlisting the scripts for the Root Zone Label Generation Rules?

Open Community Discussion



Satish Babu
APAC Space Community Facilitator

Public Comment: Myanmar Script Root Zone Label Generation Rules (RZ-LGR)



Pitinan Kooarmornpatana
IDN Programs Senior Manager



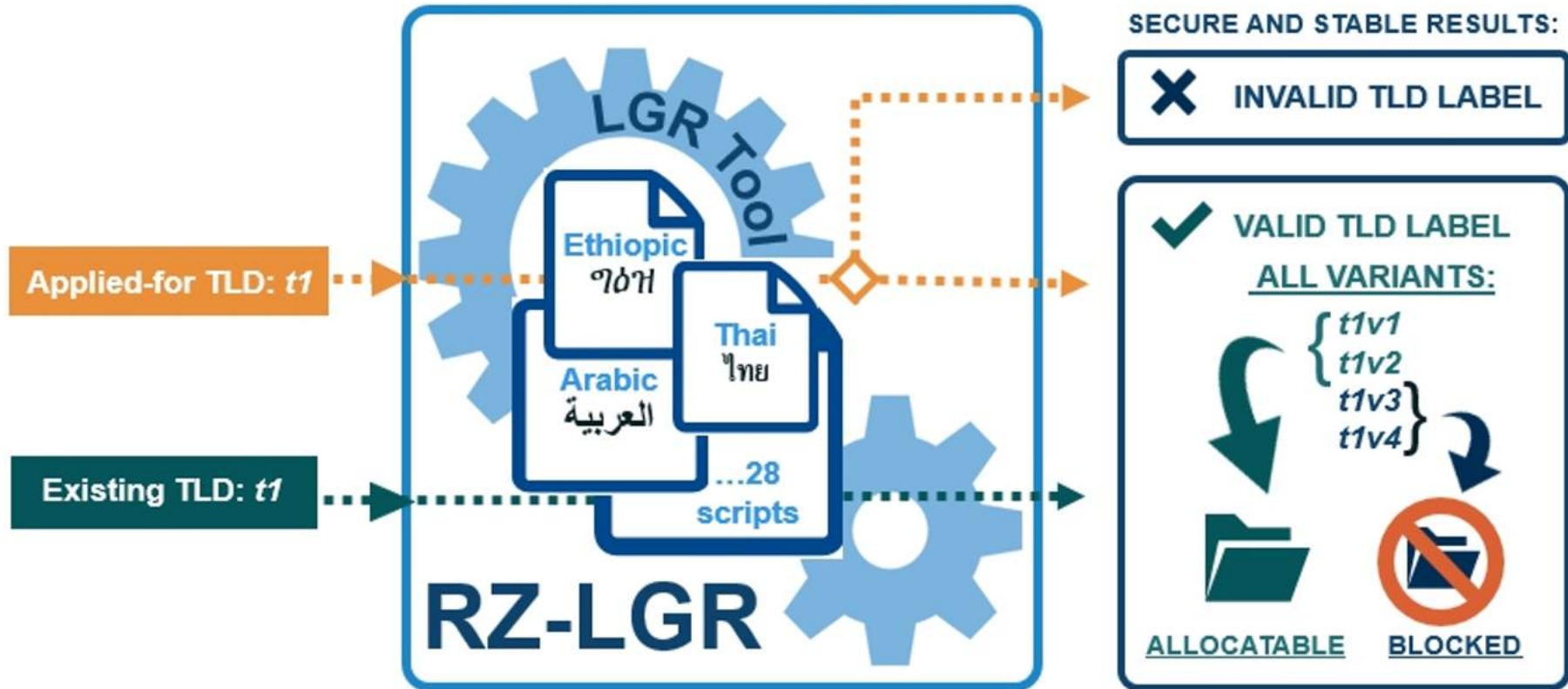
Yin May Oo
Myanmar Script Generation Panel Co-
Chair



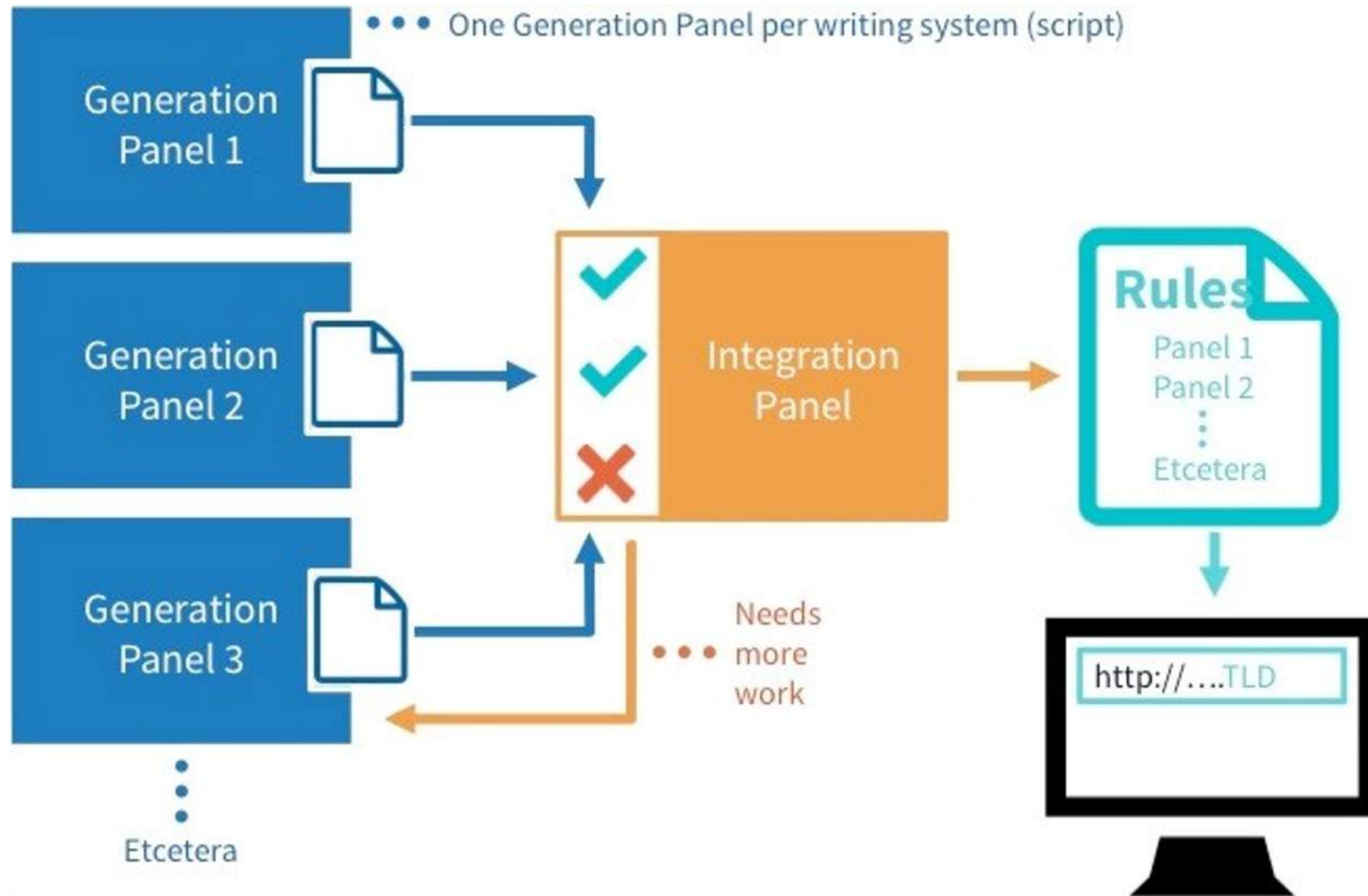
A Brief History of Root Zone Label Generation Rules (RZ-LGR)

- The ICANN community identified the need for variant top-level domains (TLDs). The [Integrated Issues Report](#) identified the need to define variant TLDs as a prerequisite.
- The community identified RZ-LGR as the mechanism to define variant TLDs and specified the [LGR Procedure](#) to develop RZ-LGR, [approved](#) by the ICANN Board for implementation for use with gTLDs and IDN ccTLDs in 2013
- 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 of new gTLDs.

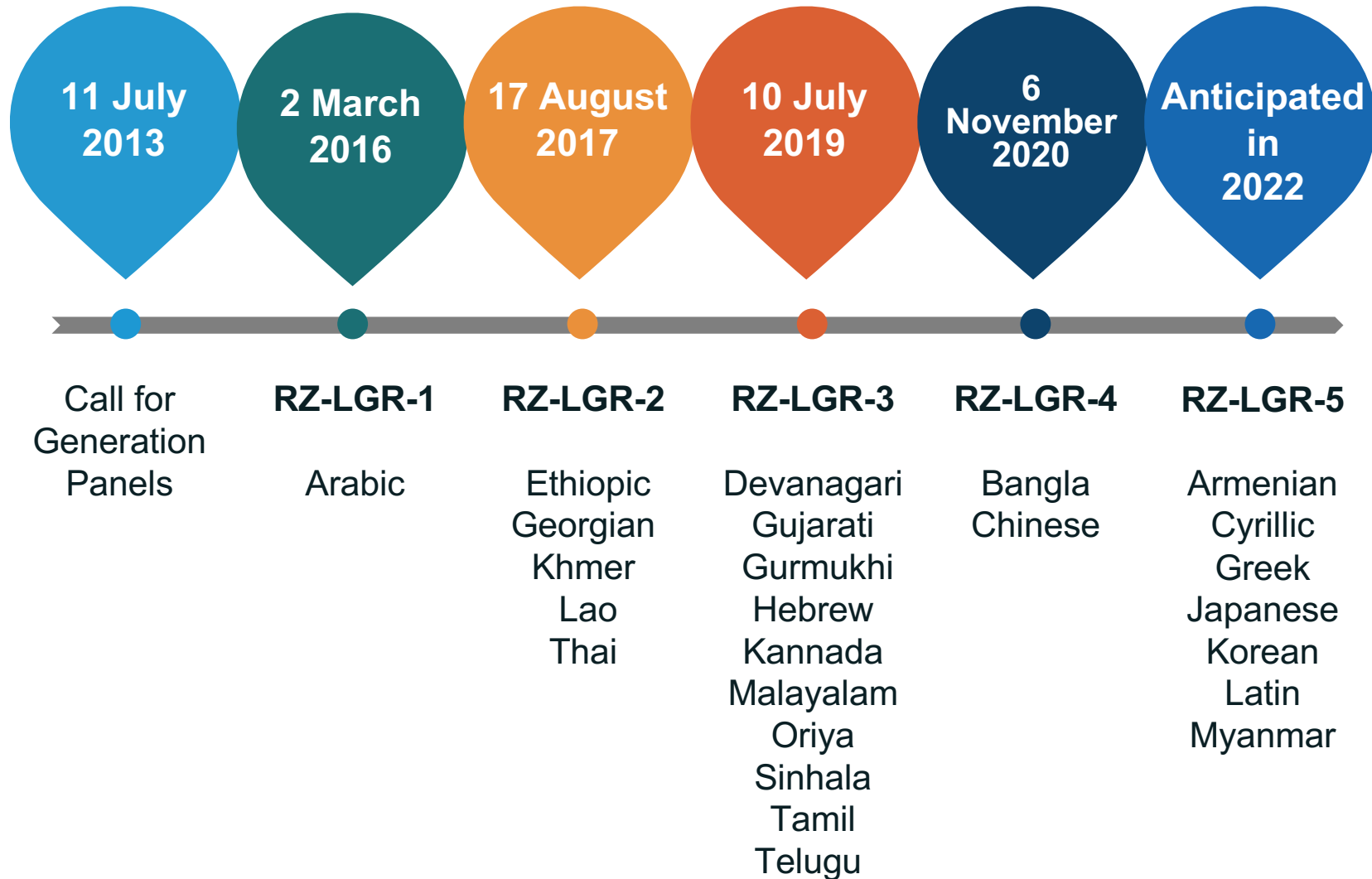
How Does RZ-LGR Work?



RZ-LGR Proposal Development Process



RZ-LGR Development Timeline



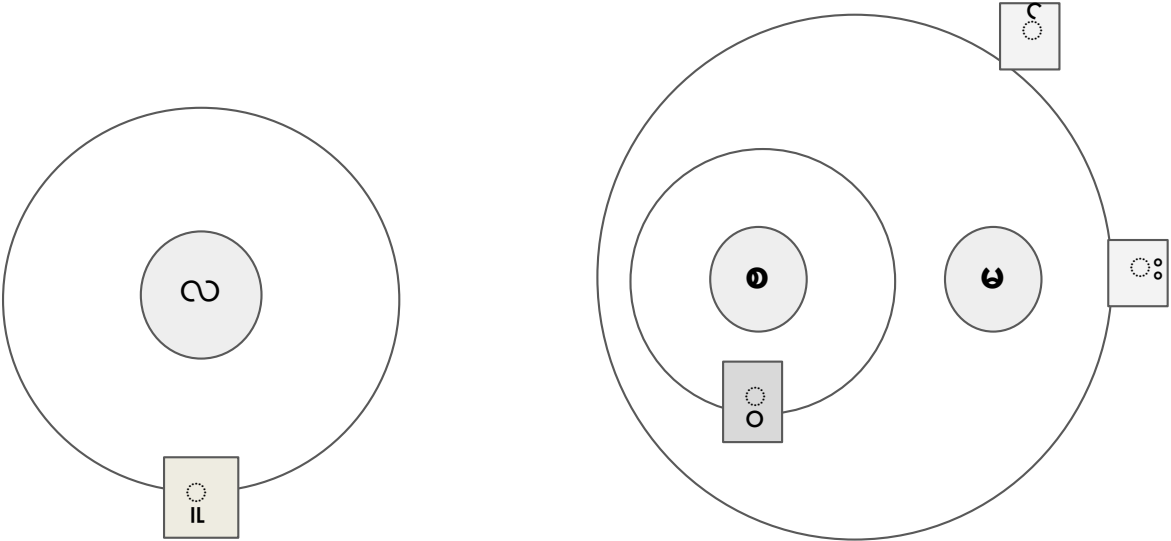
Next Steps

Summary of Generation Panel (GP) Work

Script	Start	End	Days	2014	2015	2016	2017	2018	2019	2020	2021	2022
Arabic	14-Feb-14	18-Nov-15	642									
Armenian	3-Feb-15	5-Nov-15	275									
Bangla	26-May-15	20-May-20	1821									
Chinese	24-Sep-14	26-May-20	2071									
Cyrillic	10-Dec-15	3-Apr-18	845									
Devanagari	26-May-15	22-Apr-19	1427									
Ethiopic	22-Dec-15	17-May-17	512									
Georgian	17-Jun-16	24-Nov-16	160									
Greek	31-Oct-16	15-Jul-21	1718									
Gujarati	26-May-15	6-Mar-19	1380									
Gurmukhi	26-May-15	22-Apr-19	1427									
Hebrew	15-Oct-18	24-Apr-19	191									
Japanese	17-Mar-15	30-Sep-21	2389									
Kannada	26-May-15	6-Mar-19	1380									
Khmer	17-Jun-15	15-Aug-16	425									
Korean	1-Feb-16	1-May-21	1916									
Lao	15-Sep-15	31-Jan-17	504									
Latin	15-May-17	23-Sep-21	1592									
Malayalam	26-May-15	26-Jun-20	1858									
Myanmar	28-Jun-18	ongoing	-									
Oriya	26-May-15	6-Mar-19	1380									
Sinhala	3-Jan-18	22-Apr-19	474									
Tamil	26-May-15	6-Mar-19	1380									
Telugu	26-May-15	7-Jun-19	1473									
Thaana	TBD											
Thai	6-Oct-15	25-May-17	597									
Tibetan	TBD											

Introduction

example label - လူ့စွမ်း (meaning, human ability)



/ လူ / လူ /

/ စွမ်း / စွမ်း /

/ U+101C / U+1030 /

/ U+1005 / U+103D / U+1019 / U+103A / U+1038 /

Repertoire

	100	101	102	103	104	105	106	107	108	109
0	က 1000	တ 1010	င 1020	၀ 1030	၀ 1040	၀ 1050	၀ 1060	ယ 1070	ဆ 1080	၀ 1090
1	ခ 1001	ထ 1011	အ 1021	၀ 1031	၁ 1041	၁ 1051	၅ 1061	ိ 1071	၂ 1081	၂ 1091
2	ဂ 1002	ဒ 1012	ဒ 1022	ဲ 1032	၂ 1042	၁ 1052	၀ 1062	ိ 1072	ဲ 1082	၇ 1092
3	ယ 1003	ခ 1013	ဒ 1023	ိ 1033	၂ 1043	၁ 1053	၀ 1063	ိ 1073	ဲ 1083	၇ 1093
4	င 1004	န 1014	ဒြ 1024	ဲ 1034	၂ 1044	၁ 1054	၀ 1064	ိ 1074	ဲ 1084	၇ 1094
5	စ 1005	ပ 1015	ဇ 1025	ိ 1035	၅ 1045	၁ 1055	၁ 1065	ဂ 1075	ိ 1085	၁ 1095
6	ဆ 1006	ဖ 1016	ဇ 1026	ိ 1036	၆ 1046	၁ 1056	၅ 1066	ခ 1076	ိ 1086	၅ 1096
7	ဇ 1007	ဇ 1017	ဇ 1027	ိ 1037	၇ 1047	၁ 1057	၅ 1067	ဂ 1077	ိ 1087	၇ 1097
8	ဈ 1008	ဘ 1018	ဇ 1028	ိ 1038	၈ 1048	၁ 1058	၅ 1068	ဂ 1078	ိ 1088	၇ 1098
9	ည 1009	မ 1019	ဇ 1029	ိ 1039	၉ 1049	၁ 1059	၅ 1069	ဂ 1079	ိ 1089	၇ 1099
A	ည 100A	ယ 101A	ဇ 102A	ိ 103A	၀ 104A	၅ 105A	၅ 106A	၅ 107A	ိ 108A	၀ 109A
B	န 100B	ရ 101B	ိ 102B	ိ 103B	၀ 104B	၅ 105B	၅ 106B	၅ 107B	ိ 108B	၀ 109B

	AA6	AA7
0	က AA60	= AA70
1	က AA61	က AA71
2	က AA62	က AA72
3	က AA63	က AA73
4	က AA64	က AA74
5	က AA65	က AA75
6	က AA66	က AA76
7	က AA67	က AA77
8	က AA68	က AA78
9	က AA69	က AA79
A	က AA6A	က AA7A
B	က AA6B	က AA7B

Color convention[1]:

Yellow background - All characters that are included in the [MSR]

Pinkish background - Characters that are excluded from the [MSR]

White - Characters that are disallowed by IDNA2008

Range:

1000 ~ 109F, AA60 ~ AA7F

Variant Code Points

Glyph	Code Point	Character Name
◌	U+101D	MYANMAR LETTER WA
◌	U+006F	LATIN SMALL LETTER O
◌	U+03BF	GREEK SMALL LETTER OMICRON
◌	U+043E	CYRILLIC SMALLER LETTER O
◌	U+0585	ARMENIAN SMALL LETTER OH

Variant Code Points

Glyph	Code Point	Character Name
◌	U+1002	MYANMAR LETTER GA
◌	U+0D31	MALAYALAM LETTER RRA
◌	U+10D8	GEORGIAN LETTER IN

Whole Label Evaluation Rules

Classification

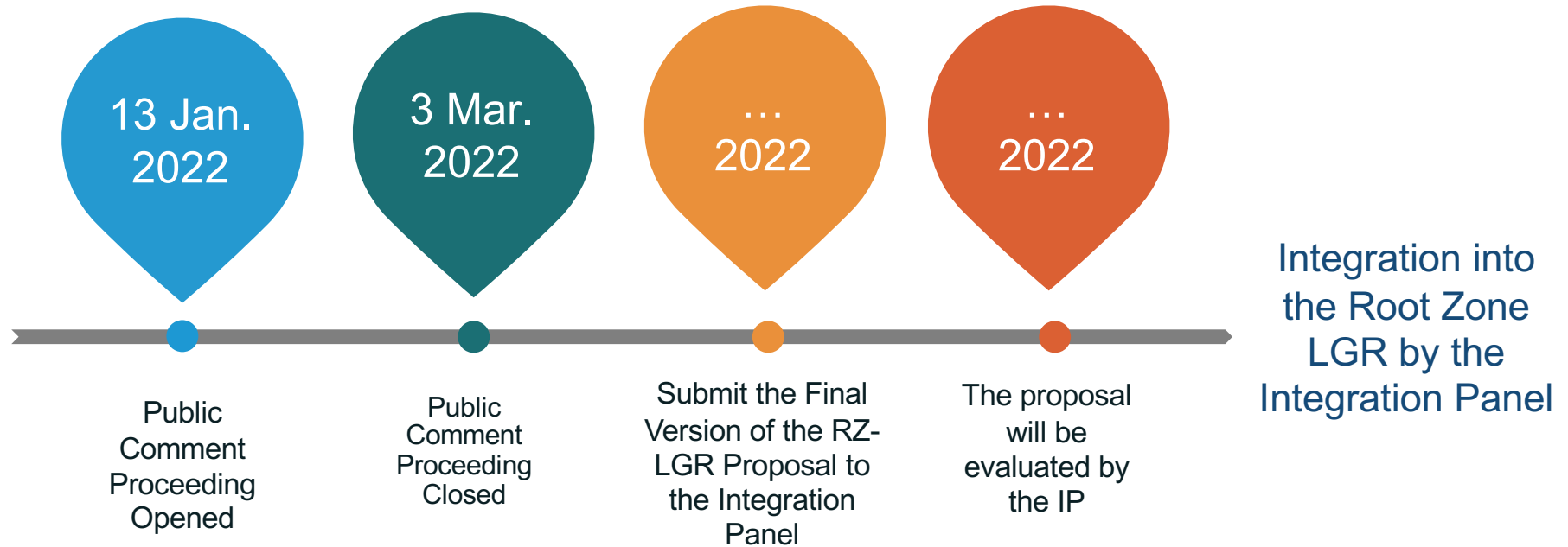
C	→ Consonant (U+1000 ... U+)
IV	→ Independent Vowel 1023 ... 102A
DV	→ Dependent Vowel Sign 102B ... 1038, 1062, 1083, 1084, 1086
K	→ Killer or Asat: 103A \$̣
VIRAMA	→ 1039 “̣” (It is always in between two consonants and invisible, “̣”)
M	→ Dependent Consonant Sign (Medial)
...	

Whole Label Evaluation Rules

1. DV must follow C or M (example label - ရွာစု, i.e. villages)
2. ANUSVARA must follow C or M (example label - အလံ, i.e. flag)
3. Rules of Medials combining with Consonants (example label - ရွှေပြည်, i.e. golden land)
 - Rules for Single Medial
 - Rules for Combined Medial
4. The Myanmar Great Saa (C1 or U+103F) must follow C or M or DV or 1023 or 1025 (example label - ဒဿန, i.e. philosophy)
5. (C+K) or (C2 + S16) or (C3+S17) must follow (example label - ရန်ကုန်, i.e. Yangon)
 - C or M or DV or OV
6. S11 must follow C or M or DV and another C must follow S11 (example label - မင်္ဂလာ)
7. VIRAMA must be in between two C (C+VIRAMA+C) (example label - ဥက္ကလာ)
 - C cannot be in between VIRAMAs to prevent virama-c-virama-c
 - The sequence containing a VIRAMA (U+1039) must not follow or precede a VIRAMA

...

Current Step: Ongoing Public Comment Proceeding



- Link to the Public Comment Proceeding: <https://www.icann.org/en/public-comment/proceeding/proposal-for-myanmar-script-root-zone-label-generation-rules-13-01-2022>
- Everyone is encouraged to review the proposal and provide comments and suggestions.
 - Both minor and major comments are welcome.
 - All input will be considered by the Myanmar GP.

Engage with ICANN and IDN Program



Thank You and Questions

Visit us at icann.org/idn

Email: IDNProgram@icann.org



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Open Community Discussion

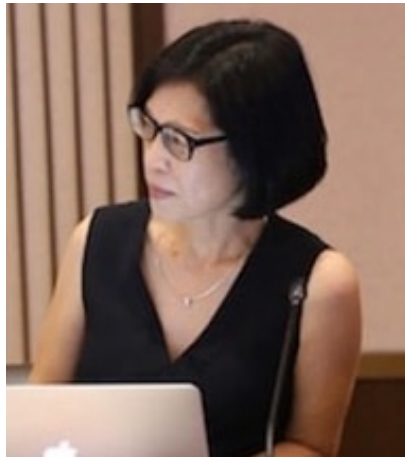


Satish Babu
APAC Space Community Facilitator

AOB



NomCom Openings for Leadership Positions



Pam Little
NomCom Delegate

What is NomCom?

GETTING TO KNOW THE NOMINATING COMMITTEE

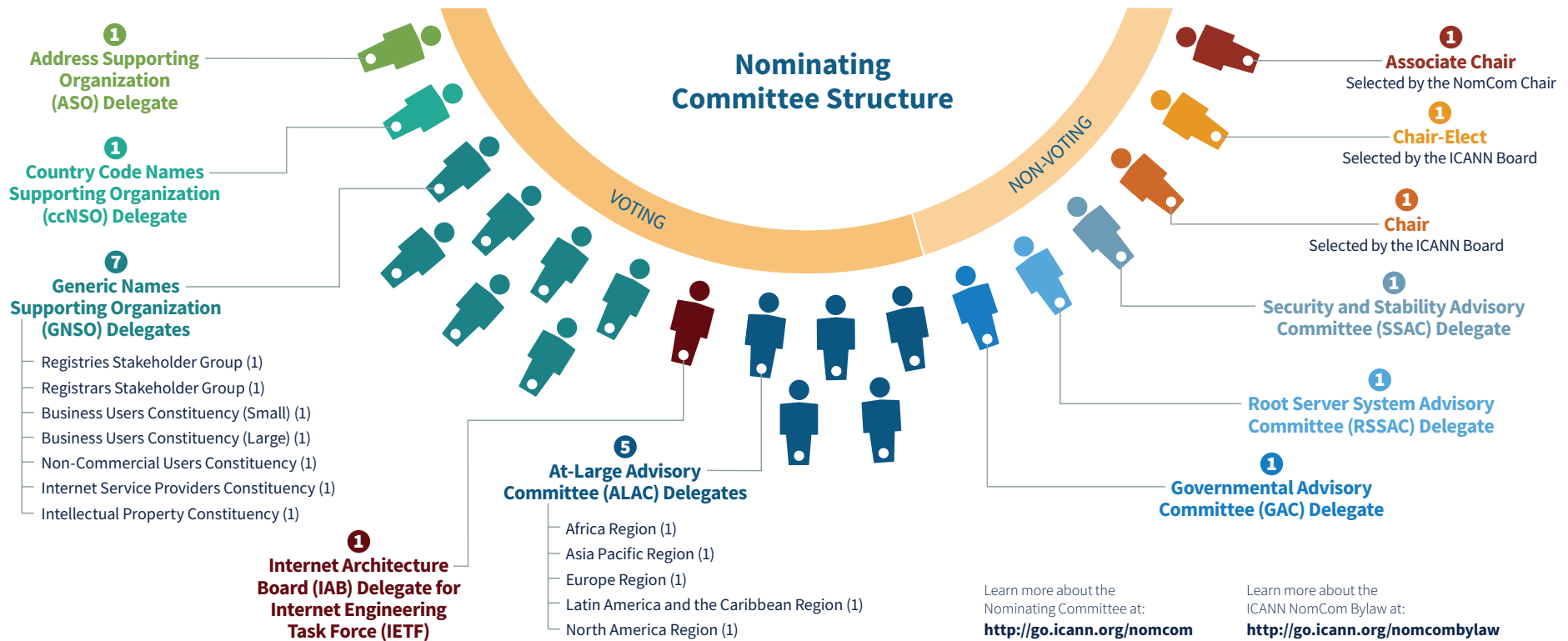


What does the Nominating Committee do?

The Nominating Committee (NomCom) is responsible for appointing a number of seats to the ICANN Board of Directors, the Public Technical Identifiers (PTI) Board, the At-Large Advisory Committee (ALAC), and the Councils of the Country Code Names Supporting Organization (ccNSO) and the Generic Names Supporting Organization (GNSO). NomCom delegates act only on behalf of the interests of the global Internet community and within the scope of the ICANN mission and responsibilities assigned to the NomCom by the ICANN Bylaws; they do not act in furtherance of the group that appointed them to the NomCom.

How does the Nominating Committee operate?

The NomCom consists of 15 voting delegates along with a number of non-voting leaders, advisors, and delegates. Voting delegates serve one-year terms and can serve no more than two successive terms, after which two years must elapse before they are eligible to serve again.





**We're Looking for
Leaders...**



3

Members for the ICANN Board of Directors

1

Member for the Public Technical Identifiers (PTI) Board of Directors

2

Regional Representatives to the At-Large Advisory Committee (ALAC)

1

Member of the Generic Names Supporting Organization (GNSO) Council


1

Member of the Country Code Names Supporting Organization (ccNSO) Council

We're Looking for Leaders

The ICANN Nominating Committee (NomCom) is looking for leaders who represent a variety of cultural, geographical, and professional backgrounds, while also striving for diversity balance.

Do you have what we're looking for?

- 
- Critical Thinking
 - Cultural Awareness
 - Knowledge of the Internet Ecosystem
 - Board or Executive Experience
 - Relevant experience in Legal, Finance, Government, Technology, Business, or Nonprofit sector

Why should you apply?

- Influence global Internet policy
- Impact the evolution of the Internet
- Enhance professional skills
- Collaborate with a diverse group of industry leaders
- Engage with a global community

For more information on how to apply, visit: <https://www.icann.org/nomcom2022>



**Deadline to apply:
11 March 2022 at 23:59
Universal Coordinated Time
(UTC)**



Learn more about the positions at
<https://www.icann.org/nomcom2022>

Who can I contact to ask more questions?

[Email: nomcom2022@icann.org](mailto:nomcom2022@icann.org)

Engage with ICANN



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