

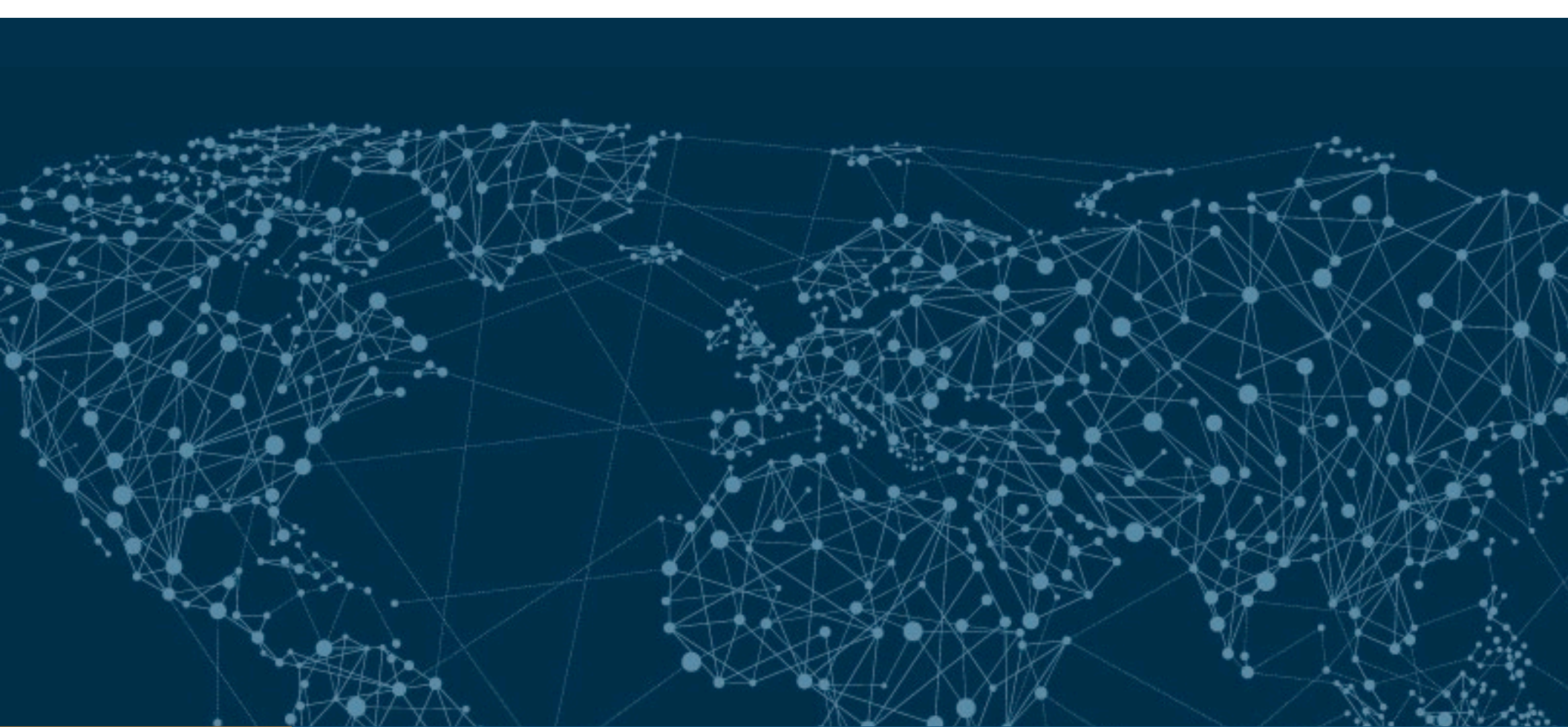


# ICANN | 52

# *Singapore*

8-12 FEBRUARY 2015





# IDN Program Update

Sarmad Hussain | IDN Prgm. Sr. Manager | 11 January 2015

# Agenda

- ⦿ **IDN Program - Overview and Progress** – Sarmad Hussain
- ⦿ **Integration Panel Update** - Wil Tan
- ⦿ **Community Updates:**
  - Update on Arabic Generation Panel - Nabil Benamar
  - Update on Japanese Generation Panel - Hiro Hotta and Yoshiro Yoneya
  - Update on Korean Generation Panel - Kyongsok Kim
  - Update on Chinese Generation Panel - Kenny Huang
- ⦿ **Q&A**



# **IDN Program – Overview and Progress**

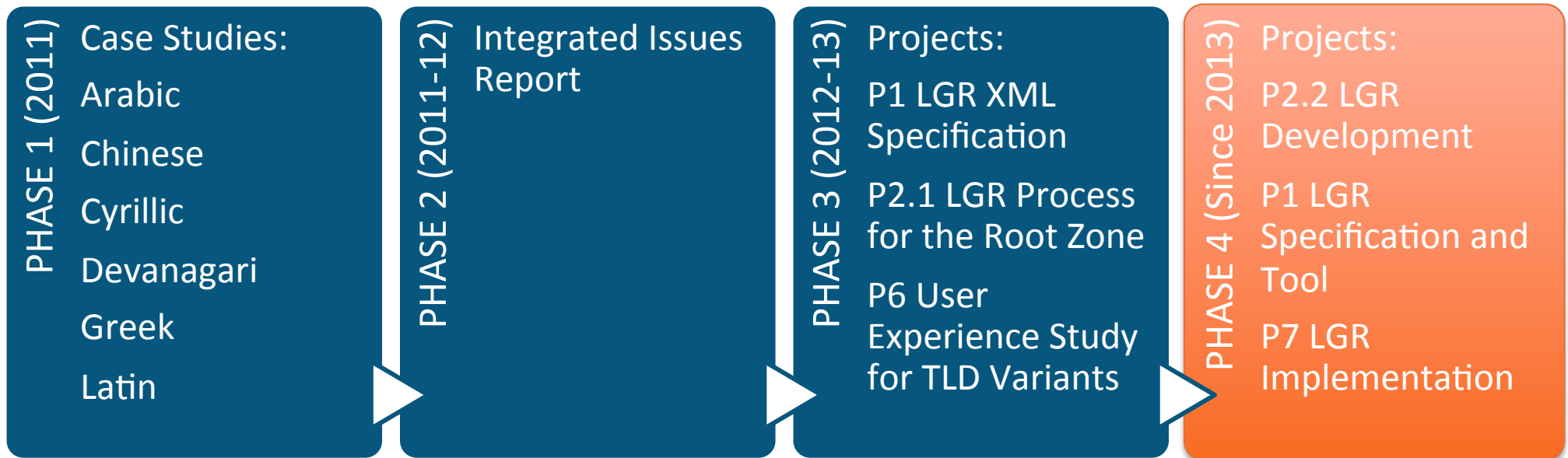
Sarmad Hussain  
IDN Program Senior Manager

# Overview of IDN Program

- ⦿ IDN TLD Program
  - ⦿ Label Generation Ruleset (LGR)
  - ⦿ LGR Toolset
  - ⦿ IDN Variant Implementation
- ⦿ IDN Fast Track Process Implementation
- ⦿ IDN Tables
- ⦿ IDN Implementation Guidelines
- ⦿ Community Outreach



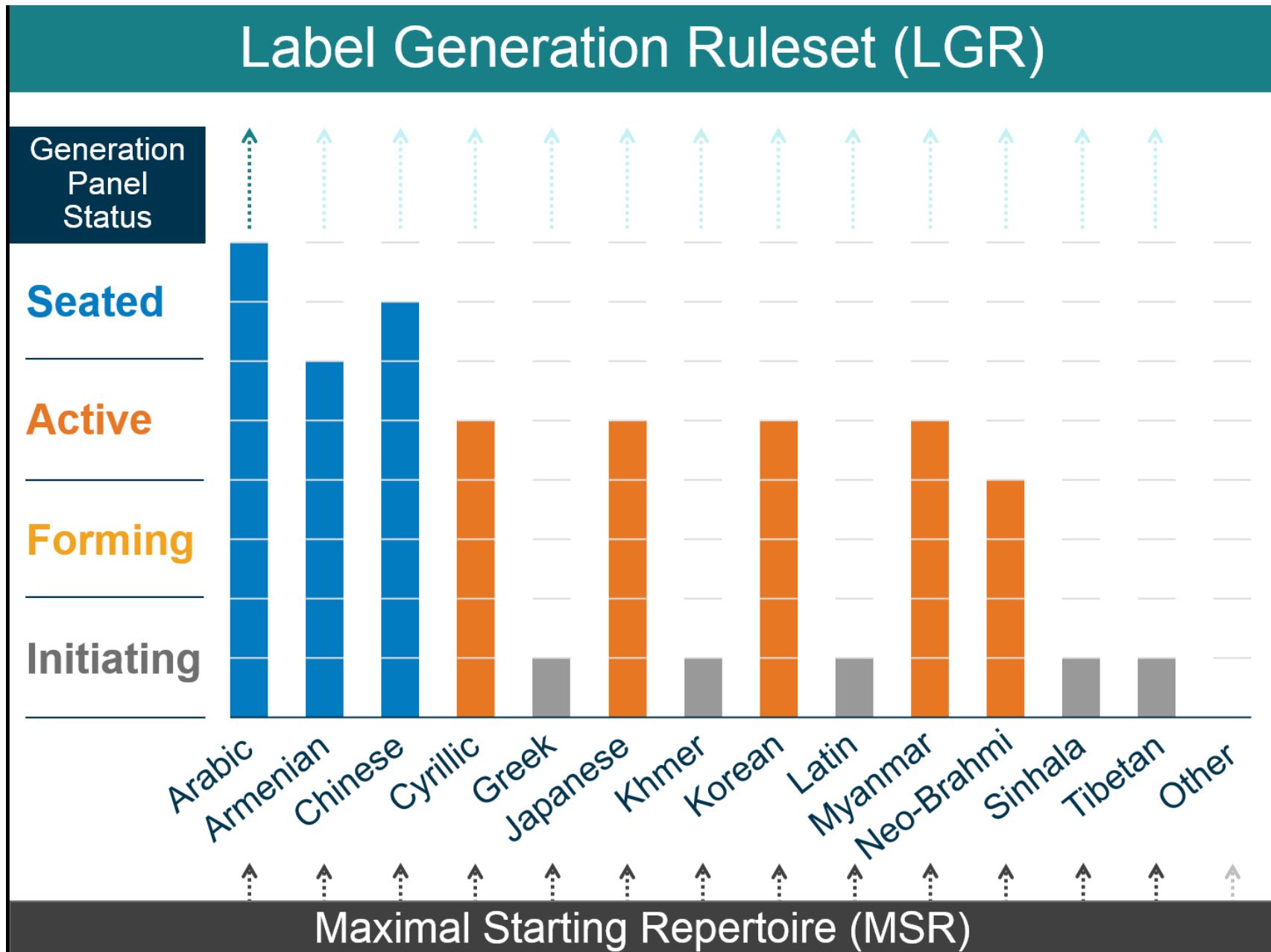
# IDN TLD Program



Community agreed to define a Label Generation Ruleset (LGR)

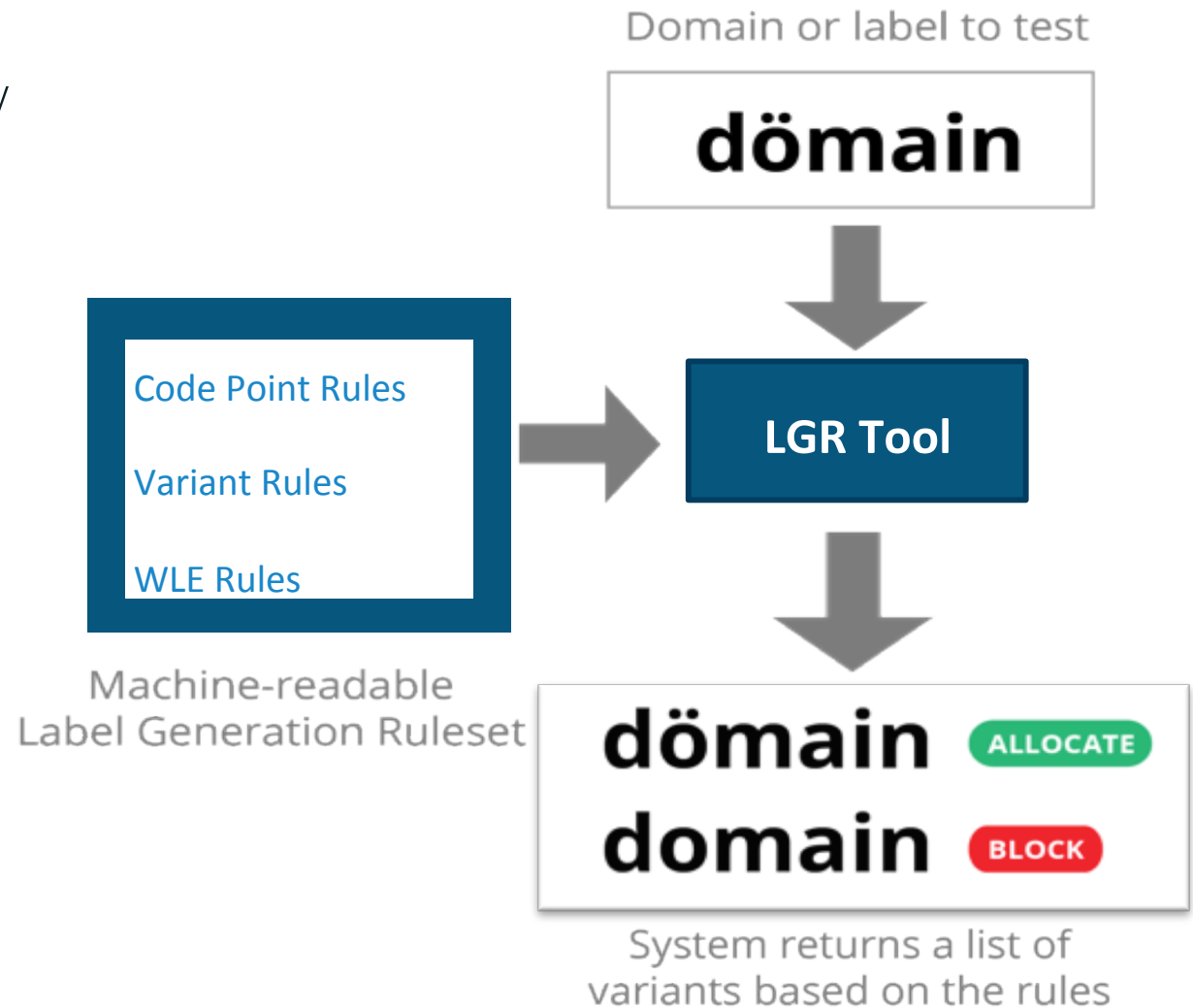
Reports and documentation of all completed projects available at:  
<https://www.icann.org/resources/pages/reports-2013-04-03-en>

# Status of Generation Panels



# LGR Specification and Toolset

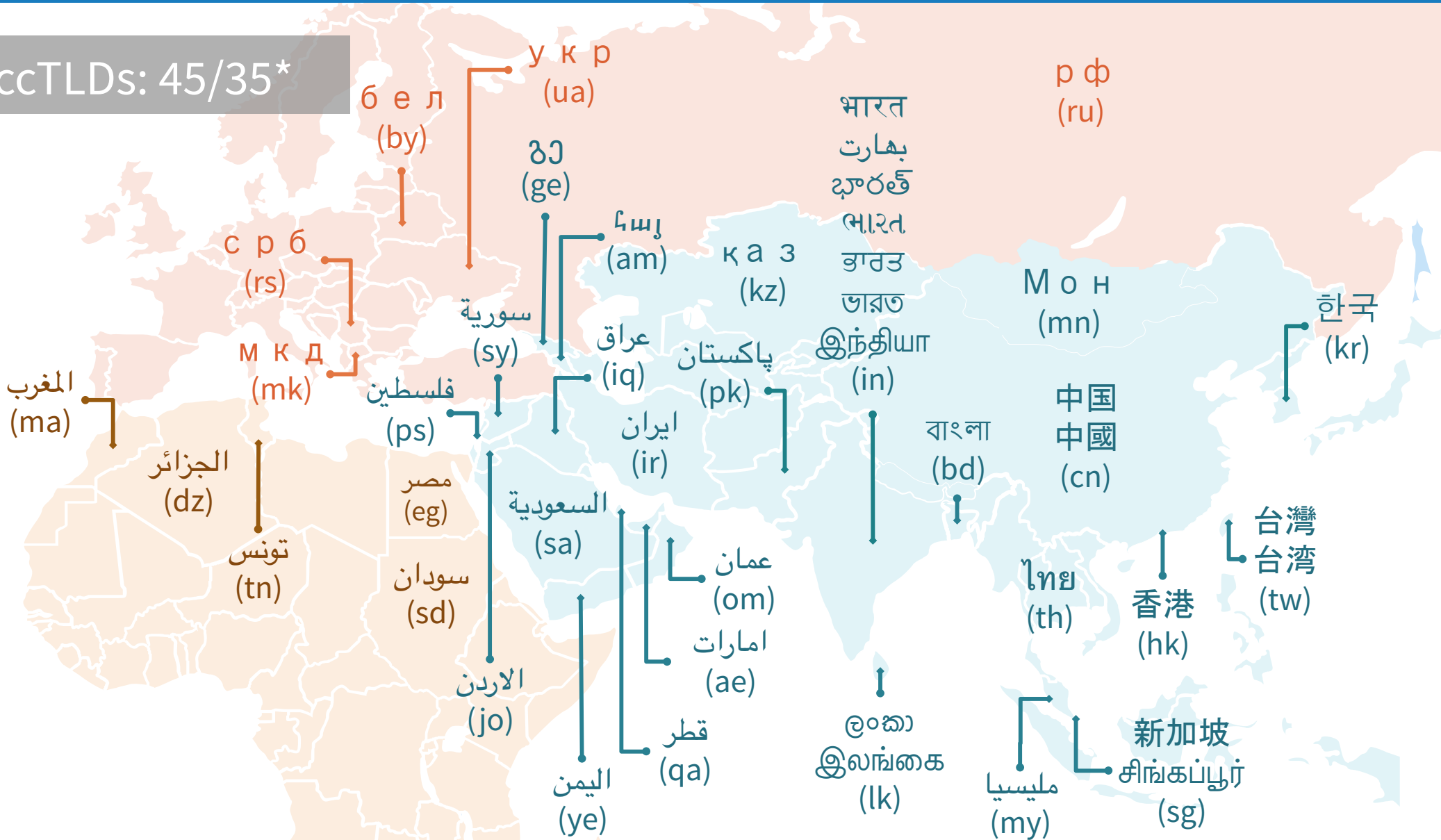
- ⦿ LGR machine-readable specifications at <https://datatracker.ietf.org/doc/draft-davies-idntables>
- ⦿ Toolset functional priority
  - ⦿ Create LGR
  - ⦿ Use LGR
  - ⦿ Manage LGRs
- ⦿ Open source





# Status of IDN Country Code TLDs

ccTLDs: 45/35\*



\* Successfully evaluated IDN ccTLDs/Total countries/territories

# IDN ccTLD Fast Track Process

- ⦿ Completed five years of operation
- ⦿ Requests in 17 scripts for 26 languages
- ⦿ 38 IDN ccTLDs delegated in the Root Zone representing 28 countries/territories
- ⦿ Following ccNSO recommendation, a two-panel string similarity review process was implemented in December 2013
  - ⦿ The Extended Process Similarity Review Panel (EPSRP) published results of the first set of evaluations in Oct. 2014:  
<https://www.icann.org/resources/pages/epsrp-reports-2014-10-14-en>
- ⦿ Currently under annual review through public comment:  
<https://www.icann.org/public-comments/idn-cctld-fast-track-2015-01-15-en>

# IDN Tables

- ⦿ Submitted by new gTLDs intending to offer IDNs
  - ⦿ Varied in the character repertoire and contextual rules
- ⦿ Develop reference Label Generation Rulesets (LGRs) for facilitation and consistency in Pre-Delegation Testing (PDT) and the Registry Service Evaluation Process (RSEP)
- ⦿ Promote reuse for better end-user experience
- ⦿ Process:
  1. Develop detailed guidelines
  2. Document authoritative sources and create reference machine-readable LGRs
  3. Conduct expert review of LGRs for content, security and stability
  4. Publish LGRs, authoritative sources and expert reports for each language/script for community feedback
  5. Publish updated reference IDN Tables

# Communication and Outreach Efforts

- ◉ IDN Program sessions at ICANN meetings
- ◉ IDN Program updates to SOs/ACs at ICANN meetings
- ◉ Presentations at meetings
  - ◉ APTLD, APrIGF, ArabIGF, IGFs, TLDCON, AFRINIC, RIPE NCC
- ◉ Email communication to SOs/ACs – call to action
- ◉ Blog for general community:  
<http://blog.apnic.net/2014/09/30/speak-up-for-your-language/>
- ◉ IDN pages at ICANN Community Wiki and ICANN Website
- ◉ IDN mailing lists
  - ◉ {vip, lgr, ArabicGP, ArmenianGP, ChineseGP, ...}@icann.org



# Integration Panel Updates

Wil Tan  
Integration Panel Member

# Summary of IP Work Since ICANN 51

- ⦿ MSR-2
  - ✧ New scripts
  - ✧ Updated MSR Overview & Rationale document
- ⦿ Documents to assist GPs
- ⦿ Communications with GPs
- ⦿ Review of GP documents

- ⦿ MSR-2 was released for public comment on 15 December 2014
  - ✧ <https://www.icann.org/public-comments/msr-2014-12-15-en>
  - ✧ Comments on MSR-1 scripts are also welcome
- ⦿ Upwardly compatible replacement for MSR-1
- ⦿ Based on Unicode 7.0 but limited to Unicode 6.3 subset
- ⦿ Six new scripts
  - ✧ Armenian, Ethiopic, Khmer, Myanmar, Thaana, Tibetan
  - ✧ Existing scripts in MSR-1 unchanged

# MSR-2 Statistics

## MSR-2 Scripts

Script	PVALID	MSR-2
Armenian	39	38
Ethiopic	456	366
Khmer	95	78
Myanmar	177	90
Thaana	50	50
Tibetan	119	80
<b>TOTAL</b>	<b>936</b>	<b>702</b>

## MSR-1 vs. MSR-2

	MSR-1	MSR-2
Scripts	22	28
Code Points	32,790	33,492

## IDNA2008

	PVALID
Unicode 6.3	97,946



# Documents Map

- ⦿ Overview documents (in [public comment](#) period)
  - ✧ [Guidelines for Developing Script-Specific Label Generation Rules for Integration into the Root Zone LGR](#)
  - ✧ [Considerations for Designing a Label Generation Ruleset for the Root Zone](#)
  - ✧ [Requirements for LGR Proposals](#)
- ⦿ Background technical documents
  - ✧ [Variant Rules](#)
  - ✧ [Whole Label Evaluation \(WLE\) Rules](#)
  - ✧ [Representing Label Generation Rulesets using XML](#)
- ⦿ Foundation documents
  - ✧ [Procedure to Develop and Maintain the Label Generation Rules for the Root Zone in Respect of IDNA Labels](#)
  - ✧ [MSR-2](#)

- ⦿ Root Zone LGR Project Wiki

- ✦ <https://community.icann.org/display/croscomlgrprocedure/Root+Zone+LGR+Project>

- ⦿ Root Zone LGR Project Document Repository

- ✦ <https://community.icann.org/display/croscomlgrprocedure/Document+Repository>

# Afternoon IP Sessions

- ⦿ IDN Root Zone LGR Workshop session
  - ✧ 1:00 – 2:15pm in Moor room
- ⦿ More in-depth topics geared towards GPs
  - ✧ Guidelines for LGR Development
  - ✧ How to Design Variants and WLE Rules
- ⦿ Q&A



# Update on Arabic GP

Nabil Benamar

On behalf of the Task Force on Arabic Script IDNs / Arabic  
Generation Panel

# Community driven way forward: Task Force on Arabic Script IDNs

- Creation and oversight by community based Middle East Strategy Working Group (MESWG;

<https://community.icann.org/display/MES/MESWG+Members> )

- TF-AIDN Objectives: a holistic approach
  - ✓ Arabic Script Label Generation Ruleset (LGR) for the Root Zone
    - Second level LGRs for the Arabic script
    - Arabic script Internationalized Registration Data
    - Universal acceptability of Arabic script IDNs
    - Technical challenges around registration of Arabic script IDNs
    - Operational software for registry and registrar operations
    - DNS security matters specifically related to Arabic script IDNs
    - Technical training material around Arabic script IDNs

# Membership

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- Currently **33 members** – applications still being received
- From **18 countries** – Algeria, Australia, Bahrain, Egypt, Ethiopia, Germany, Iran, Jordan, Lebanon, Malaysia, Morocco, Pakistan, Palestine, Saudi Arabia, Sudan, U.A.E., U.K., U.S.A.
- Members of **nine language communities using Arabic script** – Arabic, Malay, Saraiki, Sindhi, Pashto, Persian, Punjabi, Torwali, Urdu, with further **expertise** in use of Arabic script from East Asia, South Asia, Middle East, Maghreb countries and Africa
- Coming from **diverse disciplines** – academia (linguistics and technical), registries, registrars, national and regional policy bodies, community based organizations, technical community

# How to reach out to the Task Force on Arabic Script IDNs?

- Membership open, community based
- Details and interests of members posted by MESWG
- Discussions publicly archived
- Details at <http://lists.meswg.org/mailman/listinfo/tf-aidn>
- Background and introduction to TF-AIDN
  - <https://community.icann.org/display/MES/Task+Force+on+Arabic+Script+IDNs>
- Workspace, news and document archive
  - <https://community.icann.org/display/MES/TF-AIDN+Work+Space>
- Email archive
  - <http://lists.meswg.org/pipermail/tf-aidn/>

# Arabic Script TLDs Assigned or Delegated

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1. الجزائر

2. عمان

3. ايران

4. امارات

5. بازار

6. باكستان

7. الاردن

8. بهارت

9. المغرب

10. السعودية

11. السودان

12. مليسيا

13. شبكة

14. سورية

15. تونس

16. مصر

17. قطر

18. فلسطين

19. عراق

20. موقع



# Progress - Outreach to the community




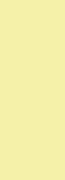
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- Launch at the Arab IGF Meeting in Algiers
- Presentation during the IGF in Bali
- Outreach during the ME DNS Forum
- Presentation to the community at ICANN Singapore
- Presentation to the community at the APTLD Meeting
- Presentation to the community at ICANN London
- Presentation to the community at IGF Istanbul
- Organization of a workshop at Arabic IGF Lebanon

# Progress - Work accomplished

- Setting up things
  - Formation of Arabic Script Generation Panel
  - Establishing principles for inclusion, exclusion, and deferral of Unicode code points
- Code point analysis
  - Analysis of Maximum Starting Repertoire (MSR) and feedback to Integration Panel (IP)
  - Analysis of code points for Label Generation Rules (LGR)
  - Establishing principles for inclusion, exclusion, and deferral of Unicode code points
- Code point variants
  - Establishing principles for code point variants
  - Analysis of code points for code points variants
  - Analysis of code point variant dispositions (allocatable vs. blocked)
- Whole label evaluation rules
  - Establishing principles for whole label evaluation (WLE) rules
  - Determining the whole label evaluation (WLE) rules
- Documenting the work
  - Text document summarizing Label Generation Rules for Arabic
  - Label Generation Rules for Arabic in XML format

	060	061	062	063	064	065	066	067	068	069	06A	06B	06C	06D	06E	06F	075	076	077	08A	08B	08C	08D	08E	08F
0	ب	پ	ي	ذ	-	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	٠	١	٢	ب					٠
1	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	١	٢	٣						١
2	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٢	٣	٤	٢					٢
3	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٣	٤	٥	٣					٣
4	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٤	٥	٦	٤				٤	٤
5	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٥	٦	٧	٥				٥	٥
6	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	٦	٧	٨	٦				٦	٦
7	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٧	٨	٩	٧				٧	٧
8	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٨	٩	٠	٨				٨	٨
9	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٩	٠	١	٩				٩	٩
A	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	A	١	٢	A				١	١
B	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	B	٢	٣	B				٢	٢
C	١	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	C	٣	٤	C				٣	٣
D	٢	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	D	٤	٥	D				٤	٤
E	٣	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	E	٥	٦	E				٥	٥
F	٤	٥	٦	٧	٨	٩	٠	١	٢	٣	٤	٥	٦	٧	٨	٩	F	٦	٧	F				٦	٦

 Excluded by IDNA 2008 or a Digit (52)  
 Excluded by MSR (50)  
 Excluded for LGR by Arabic GP (86)  
 Proposed for inclusion in LGR (135)

# Progress - Next steps

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- Finalize Arabic script LGR proposal for Root zone
  - Final internal review
  - Release for Public comments
  - Submission to ICANN
- Arabic script LGR for the second level
- Universal acceptance of Arabic IDNs

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تري ما كاسى

شكرا

شكرى

باس پاس

تشكر

Thank you



# Update on Japanese GP

Hiro Hotta <[hotta@jprs.co.jp](mailto:hotta@jprs.co.jp)>  
and Yoshiro Yoneya <[yoshiro.yoneya@jprs.co.jp](mailto:yoshiro.yoneya@jprs.co.jp)>

Japanese Generation Panel

# JGP meetings

- Meetings so far
  - 2014
    - August 29 preparatory meeting (1)
    - September 12 preparatory meeting (2)
    - September 24 formal meeting (1)
    - October 24 formal meeting (2)
    - November 26 formal meeting (3)
    - December 18 formal meeting (4)
  - 2015
    - January 16 formal meeting (5)
    - February 4 formal meeting (6)
    - February 6 submission of JGP establishment proposal
    - :

# JGP Members

- Members and relevant expertise (current)
  - Hiro Hotta chair
    - Registry/Registrar (esp. Policy/business aspects)
  - Akinori Maemura vice chair
    - Policy (esp. Internet governance and domain name in general)
  - Shigeki Goto
    - Community (esp. Internet technology in general)
  - Kazunori Konishi
    - Community (esp. Internet technology in general)
  - Tsugizo Kubo
    - Community (esp. Trademarks and DRP)
  - Yoshitaka Murakami (from February 4, 2015)
    - Registry/Registrar (Trademarks and gTLD market)
  - Shuichi Tashiro
    - Language expert (esp. Character codes)
  - Yoshiro Yoneya
    - Community (esp. technical aspects of IDN and LGR)



# Activities

- JGP establishment proposal
  - Done
  - Submission to ICANN (February 6, 2015)
- Task description of JGP
  - Almost done
  - Some more tasks or issues may come out during discussion
    - with ICANN/IP
    - with CGP and KGP (as well as IP)
    - inside JGP
- Development of Japanese LGR
  - Still in the basic study stage
    - What are intrinsic issues
    - What are the basic solutions to the issues

# Development status of Japanese LGR

- Scopes of the character codes
  - Kanji, Hiragana, Katakana, and ASCII(?)
  - For Kanji
    - JIS (Japanese Industrial Standard) level-1 and level-2 (within MSR-1)
- Variants & Disposition
  - For Kanji : still under discussion
    - All Han (Kanji) characters be independent or may have variants?
    - A language LGR passively adopts variant definitions (if any) of other language LGR's?
    - In addition, a language LGR defines all the characters in its scope to be “allocatable”
    - Japanese LGR actively define variants for its own?
- WLE (whole label evaluation)
  - Japanese LGR may have very limited number of tiny straightforward rules even if defined



# Update on Korean GP

Kyongsok Kim  
Rep. of Korea

# Issues:

1. Whether to include Hanja in KLGR?
2. Whether to include LDH in KLGR?
3. A list of Hanja characters for KLGR
4. A list of Hanja variants
5. Recommendation 7 in SAC060 and Han variants

## **1. Whether to include Hanja in KLGR?**

- A rough consensus: include Hanja (Han characters) in KLGR
- Probably will need to make a poll and/or public hearing to reach consensus among Korean Language community

## **2. Whether to include LDH in KLGR?**

- LDH: letters, digits, hyphen
- A rough consensus:

Unless LDH are prohibited in ICANN policy on TLD in general, it seems better to include LDH in KLGR

## 3. A list of Hanja characters for KLGR

### 3.1 K Hanja in IICORE

- 1) IICORE in ISO/IEC 10646: an international Core subset of 9,810 Han characters out of about 76,000 Han chars in ISO/IEC 10646
- 2) Out of 9,810 IICORE Han chars, 4,743 chars are marked in K (Rep. of Korea) column
  - A few sample lines of IICORE.txt file:

```
UCS  CN  TW  JP  HK  KR  MO  KP
04F58G0CT2C  H1C  M1D  B
04F59G0AT1AJ1AH1AKOAM1AP0AA
04F5AG0CT1A  KOAM1BP0AA
```

### 3) No. of chars in K column of IICORE from diff. sources

source: Kx (KS std. #)	# of chars
K0 (KS X 1001), etc.	4606 chars
K1 (KS X 1002)	79 chars
K2 (KS X 1027-1)	48 chars
K3 (KS X 1027-2), etc.	10 chars
total	4743 chars

### 3.2 Hanja chars in KS X 1001

- 4,888 Han chars in KS X 1001
- 4,888 - 268 (compatibility Han chars) = 4620 chars
- 15 chars in KS X 1001 are NOT included in IICORE.K

### 3.3 A rough consensus:

– The following sets seem to be a good starting list for KLGR:

- 1) 4,743 Hanja chars marked in K column of IICORE
- 2) Possibly 15 chars in KS X 1001 but NOT included in K column of IICORE?
- 3) 50 Hanja chars marked in KP column but not in K column of IICORE
- 4) Other Hanja chars? (probably NOT many, if any)

## 4. A list of Hanja variants

- No list of Hanja variants for KLGR yet
- Once KLGR finalizes the Han list itself, KLGP will start working on Hanja variants



## 5. Recommendation 7 in SAC060 and Han variants

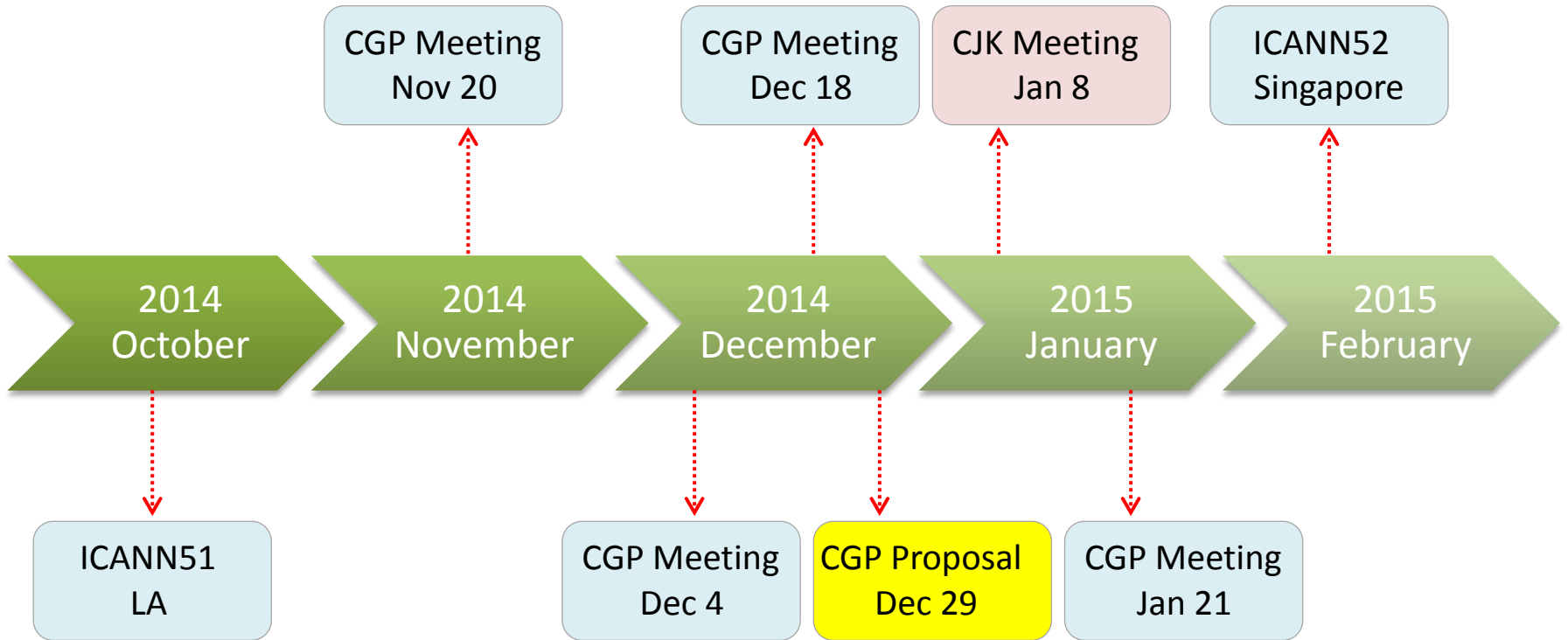
- Recom. 7 seems good in general, especially when there is a single variant mapping table
- However, in case of CJK, variant mappings are different among CJK
- Will it be easy and possible for CJK to agree on a single variant mapping table?
- ICANN/IP's request on a single CJK variant mapping table:
  - Probably not due to a technical problem, but based on a non-technical policy? (Right?)



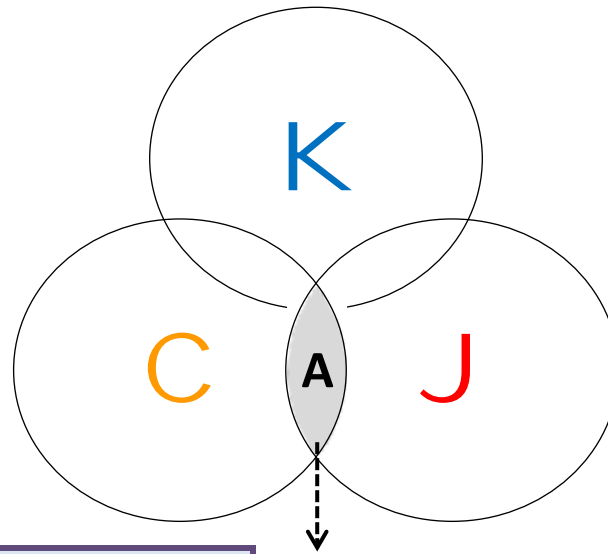
# Update on Chinese GP

Kenny Huang and Wang Wei  
Chinese Generation Panel  
Works Contributed by CDNC

# CGP Timeline



# Philosophy of CJK LGR Development



## Principles

The variant \*mappings\* must agree for all three panels  
The variant \*types\* may be different  
The repertoires may be different

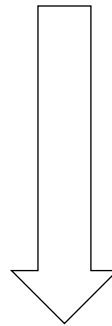
Zone A code points : 6181

- 1 Principles defined by Integration Panel
- 2 Concentrating on the overlapped code points
- 3 Case-based analysis, not theorizing abstraction
- 4 Prioritized evaluation according to data availability (zone A)

# C/J Integration Illustration

Chinese Code point	Lang Tag und-hani					
	Xc	C variant	CV[1]	CV[2]	CV[3]	CV[4]
type		allocate	block	block	block	block

Japanese Code point	Lang Tag und-jpan					
	Xj	J variant	null	null	null	null
type		null	null	null	null	null



```

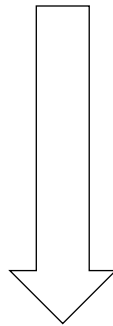
If (preg_match(Xj, Xc))
{
  JV=array();
  foreach (CV as $value)
  {
    JV[ ] = $value;
    JV[ ][type]="block";
  }
}
    
```

Japanese Code point	Lang Tag und-jpan					
	Xj	J variant	JV[1]=CV[1]	JV[2]=CV[2]	JV[3]=CV[3]	JV[4]=CV[4]
type		block	block	block	block	block

# Case Demo

Chinese Code point	Lang Tag und-hani	
愛 U+611B	C variant	愛 U+7231
	type	allocate

Japanese Code point	Lang Tag und-jpan	
愛 U+611B	J variant	null
	type	null



Japanese Code point	Lang Tag und-jpan	
愛 U+611B	J variant	愛 U+7231
	type	<b>block</b>

```
If (preg_match(Xj, Xc))
{
  JV=array();
  foreach (CV as $value)
  {
    JV[ ] = $value;
    JV[ ][type]="block";
  }
}
```

# CGP repertoire and variant type

- In 2004, according to RFC 3743 and RFC 4713, CDNC submitted to IANA a unified Chinese Character Set (19520 characters) for domain name registration, building up mapping relationships between any given simplified character, its traditional character(s) and its variant(s).
- In 2012, CDNC added 17 more Chinese characters as requested by Hongkong community, increasing the set number to 19537. But only 15 of those 17 characters are included in MSR-1.
- Thus CGP takes **the intersection of MSR-1 and the latest version of CDNC character set**, amounting to **19535** characters, excluding Latin Hyphen, digits and letters.
- Following CDNC registration rule and RFC 3743 & 4713, CGP take the second column (the preferred variants) as “allocatable”, while the rest variants as “blocked”.

```

<char cp="575D" tag="sc:Hani">
  <var cp="575D" type="simp" comment="identity" />
  <var cp="57BB" type="block" />
  <var cp="58E9" type="trad" />
</char>
<char cp="57BB" tag="sc:Hani">
  <var cp="575D" type="simp" />
  <var cp="57BB" type="block" comment="identity" />
  <var cp="58E9" type="trad" />
</char>
<char cp="58E9" tag="sc:Hani">
  <var cp="575D" type="simp" />
  <var cp="57BB" type="block" />
  <var cp="58E9" type="trad" comment="identity" />
</char>

```

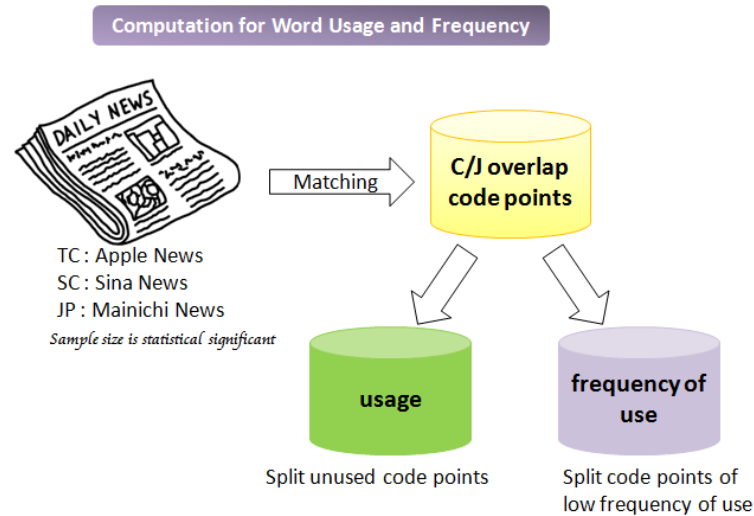
Code Point	Allocatable Variant	Blocked Variant	Tag
坝 (575D)	壩 (58E9)		und-hani
坝 (575D)		壩 (57BB)	und-hani
壩 (57BB)	坝 (575D)		und-hani
壩 (57BB)	壩 (58E9)		und-hani
壩 (58E9)	坝 (575D)		und-hani
壩 (58E9)		壩 (57BB)	und-hani

source : ICANN51 CGP

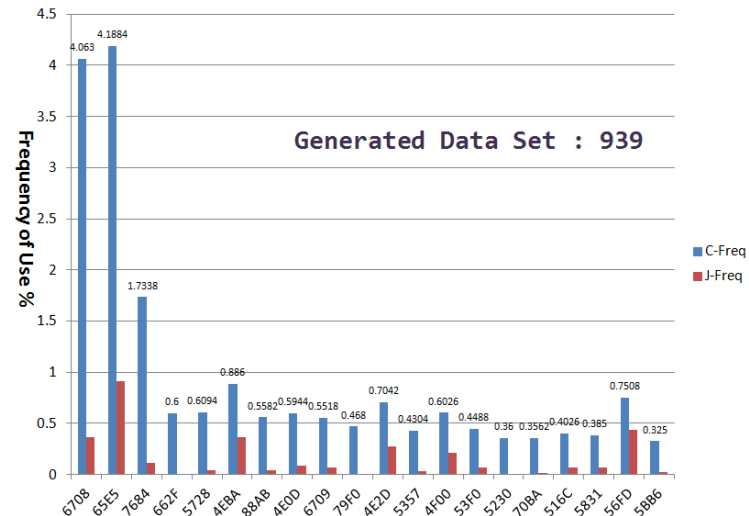
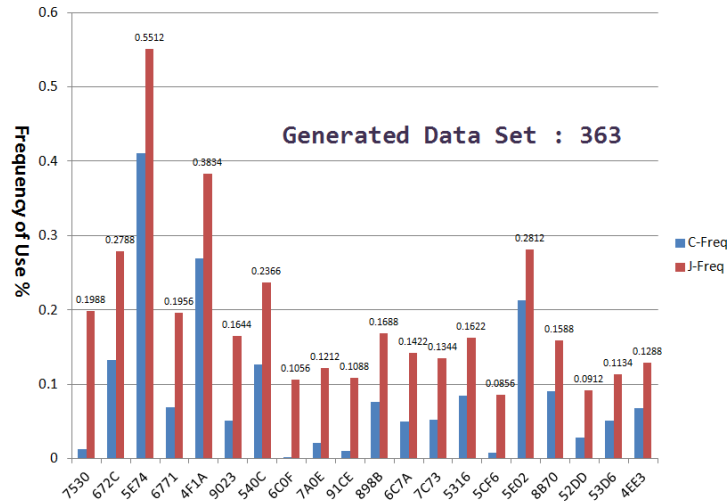
# To reduce the complexity of coordination

## Some factors should be considered:

- Common & Modern
- Usage Patterns



source: ICANN50 CGP





# To reduce the complexity of coordination

## Some factors should be considered:

- **Try to redefine Variants in One Language Context**

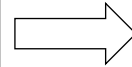
**Eg.** In one language context (CHS, CHT, KR, JP), the ideographs are defined as variants which meet the following conditions

- All of their major, modern pronunciations are the same
- All of their major, modern meanings and applications are the same

- **Try to define CJK Variants across CJK Language Context**

# Institutionalized CJK Working Model

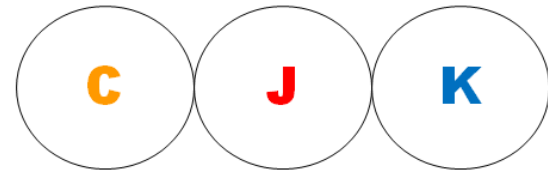
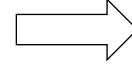
**1** Recognizing Principles



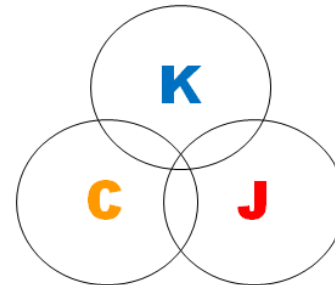
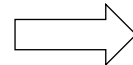
## Principles

The variant \*mappings\* must agree for all three panels  
The variant \*types\* may be different  
The repertoires may be different

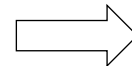
**2** Deliver repertoires, variant mappings, types



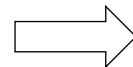
**3** Concentrating on overlapped code points



**4** Commitments: goals, schedule, deliveries



**5** Make it happen

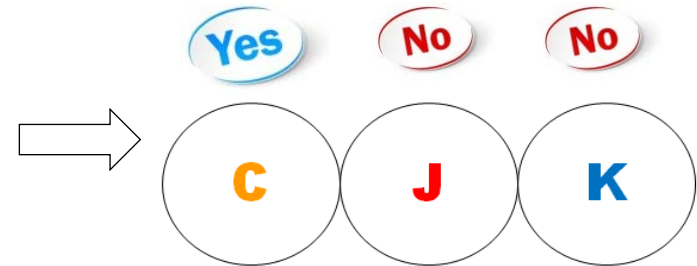


# Challenges

**1** Recognizing Principles



**2** Deliver repertoires, variant mappings, types



**3** Concentrating on overlapped code points

**4** Commitments: goals, schedule, deliverables

**5** Make it happen



**Suggestion:**  
Timetable and deadline for every step  
Should be scheduled by ICANN

Thank You  
Question?



# Questions & Answers

## USEFUL LINKS:

- LGR Procedure:  
<http://www.icann.org/en/resources/idn/variant-tlds/lgr-procedure-20mar13-en.pdf>
- MSR-1: <https://www.icann.org/news/announcement-2-2014-06-20-en>
- MSR-2 PC: <https://www.icann.org/news/announcement-3-2014-12-15-en>
- LGR Guidelines PC: <https://www.icann.org/news/announcement-2-2015-01-15-en>
- Call for Generation Panels:  
<http://www.icann.org/en/news/announcements/announcement-11jul13-en.htm>
- Community Wiki for LGR Project :  
<https://community.icann.org/display/croscomlgrprocedure/Root+Zone+LGR+Project>
- To submit expressions of interest, or if you have additional questions, please contact ICANN at: [idntlds@icann.org](mailto:idntlds@icann.org)
- IDN Variants: <https://www.icann.org/resources/pages/variant-tlds-2012-05-08-en>
- FT Process PC: <https://www.icann.org/news/announcement-2015-01-15-en>

# Engage with ICANN



## Thank You and Questions

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