Universal Acceptance:
Importance to Internet Users

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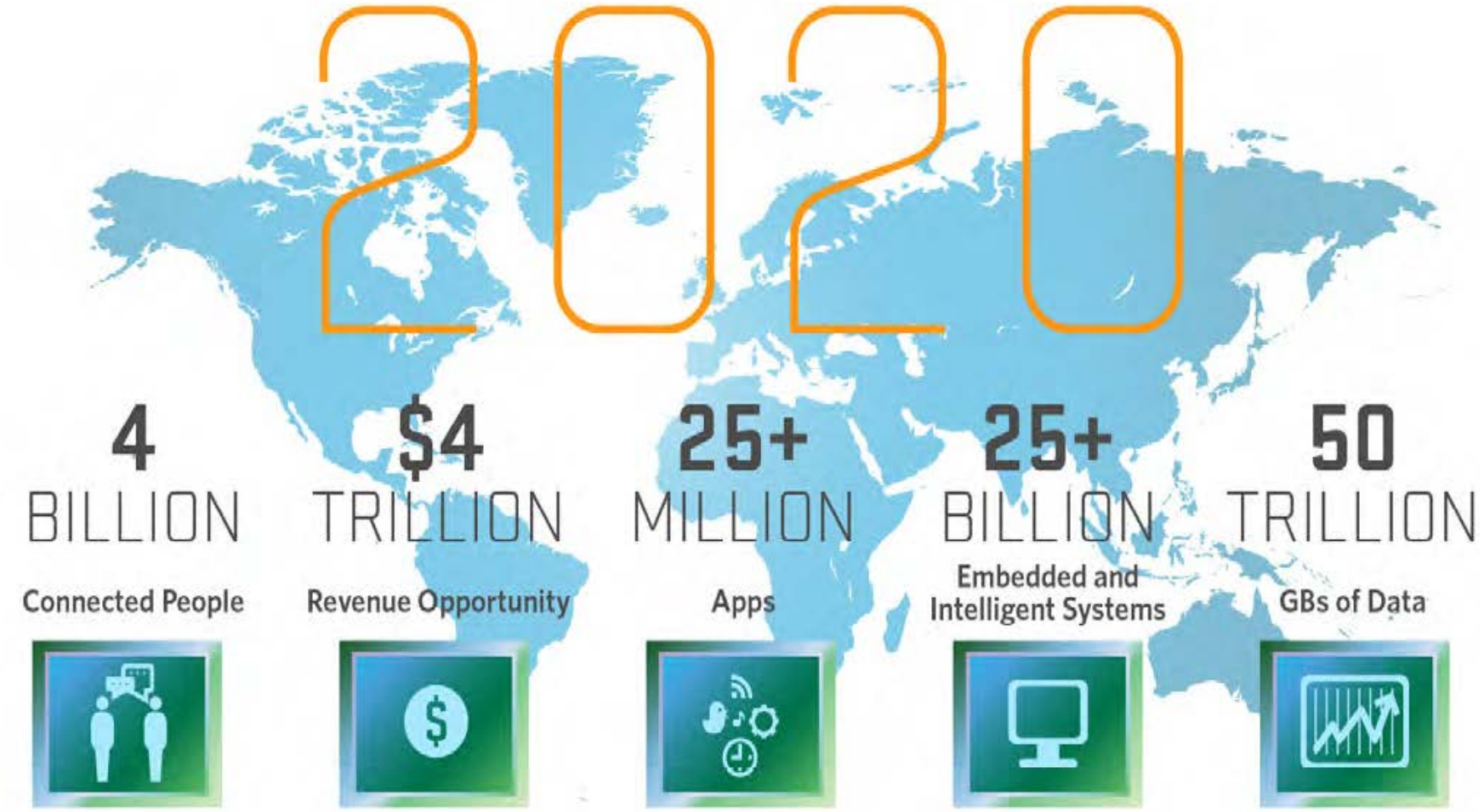
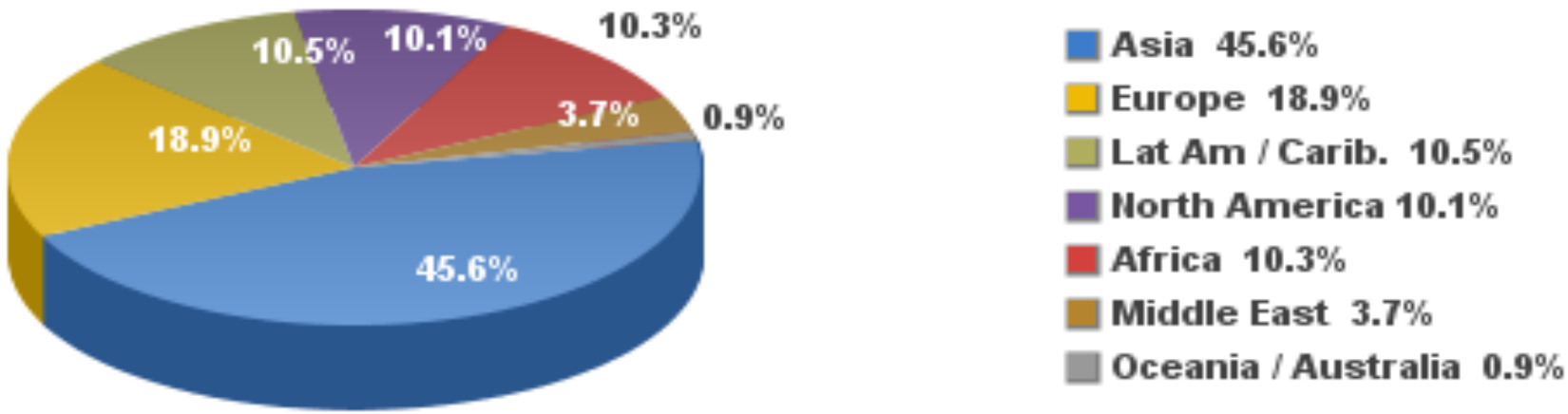
A Projection on Internet Growth



Source: Mario Morales, IDC

The Digital Divide

3 billion Internet users (about 7 billion world pop.)



Source: www.internetworldstats.com; Euromonitor

The Other Divide

- Users not able to register or use a domain name
- Users not able to use domain names in their native scripts or language script of their preference
- Users ultimately not able to access and use the Internet, its services and applications.
- Problem of non-Universal Acceptance of TLDs

Why Domain Names Matter to Users

- Internet resources are numerically addressed.
  - 192.0.43.7 (IPv4)
  - 2001:500:88:200::7 (IPv6)
  - icann.org

- Domain names make it easier for people to access Internet resources without having to memorize numbers.

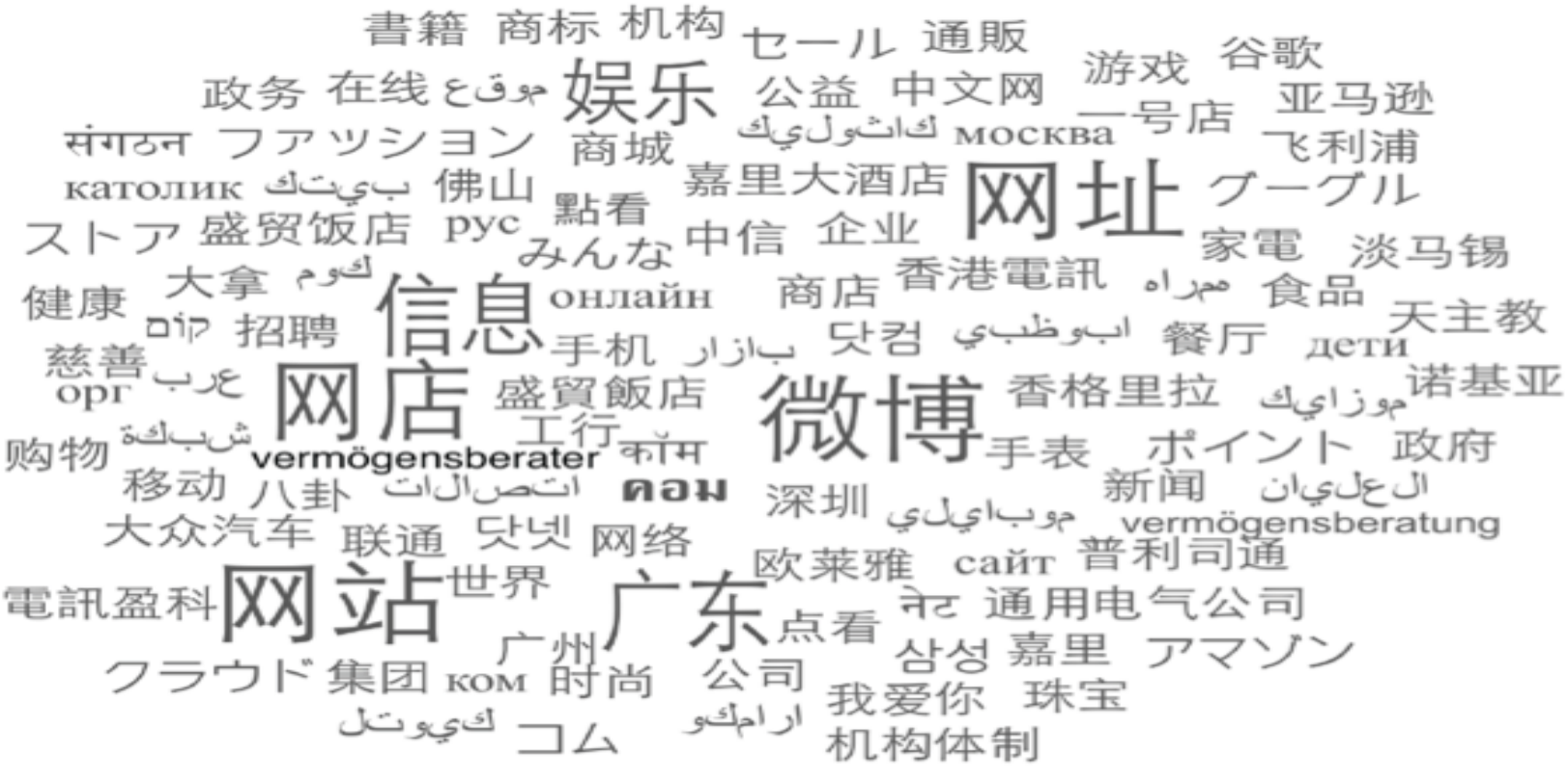
Why Domain Names Matter to Users

- Used in accessing and using email
- Used in accessing/using mobile apps
  - signing up for services
  - for authentication
  - used by application providers to serve users
- Used in accessing content via web browsers

Universal Acceptance

- An end state
- Where TLDs are useable in Internet applications regardless of script, length or newness.
- That supports all Internet users around the world

Evolution of TLDs



Multilingual World=Multilingual Internet?

- > 7000 living languages (about 50% spoken in Asia Pacific region)

- Numerous writing systems/scripts
- Root Zone up to 2010: only ASCII Top Level Domains (sub-set of Latin)

Evolution of TLDs: Longer Labels and Beyond ASCII

- Longer TLD labels (more than 2 or 3 letters)
- More script diversity

From ccTLD to IDN ccTLD

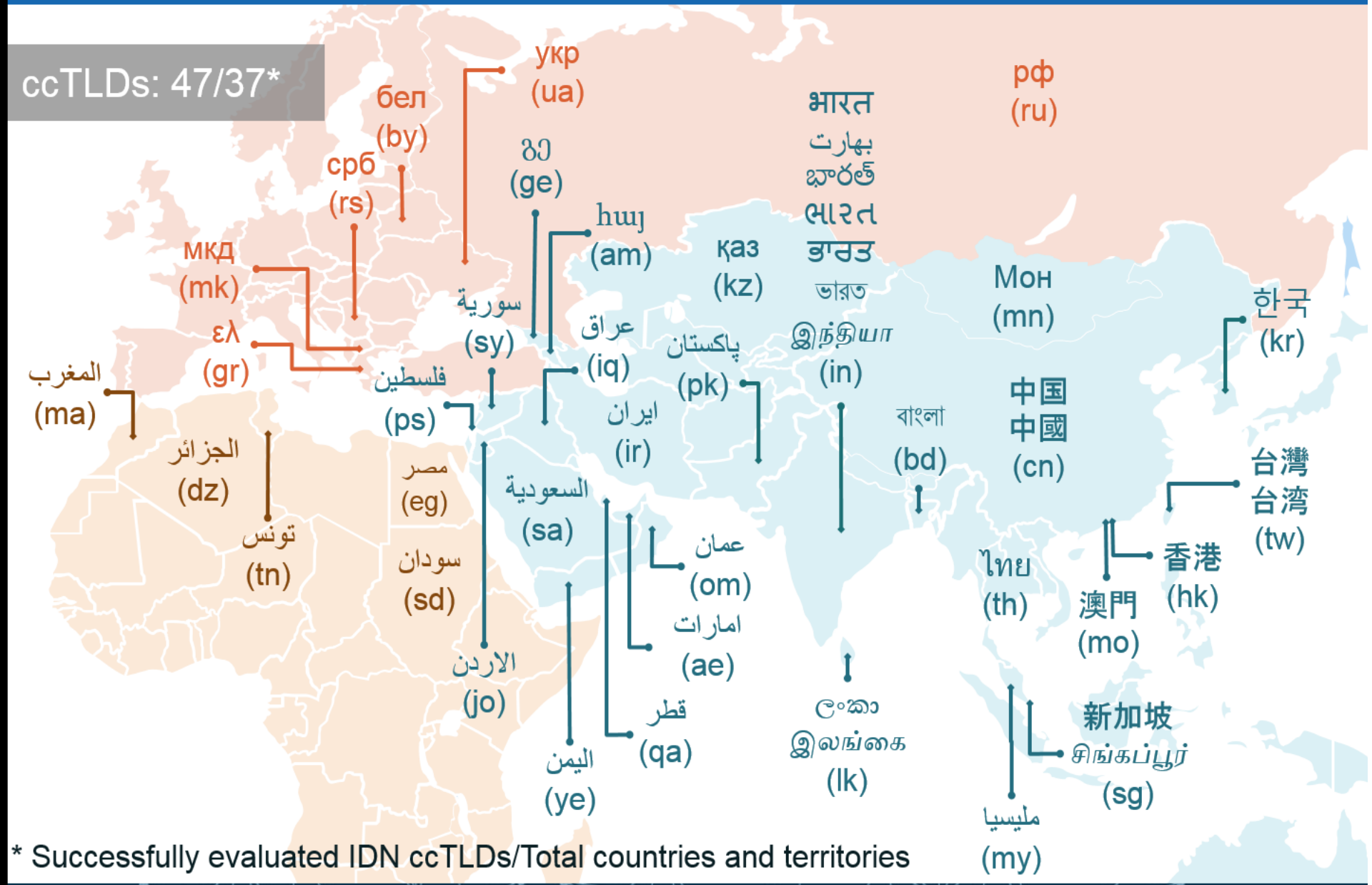
- ccTLD | .de (Germany) | .et (Ethiopia) | .my (Malaysia)
- IDN ccTLD | مصر (Egypt) | 中国 (China) | ไทย (Thailand)

gTLD & IDN gTLD

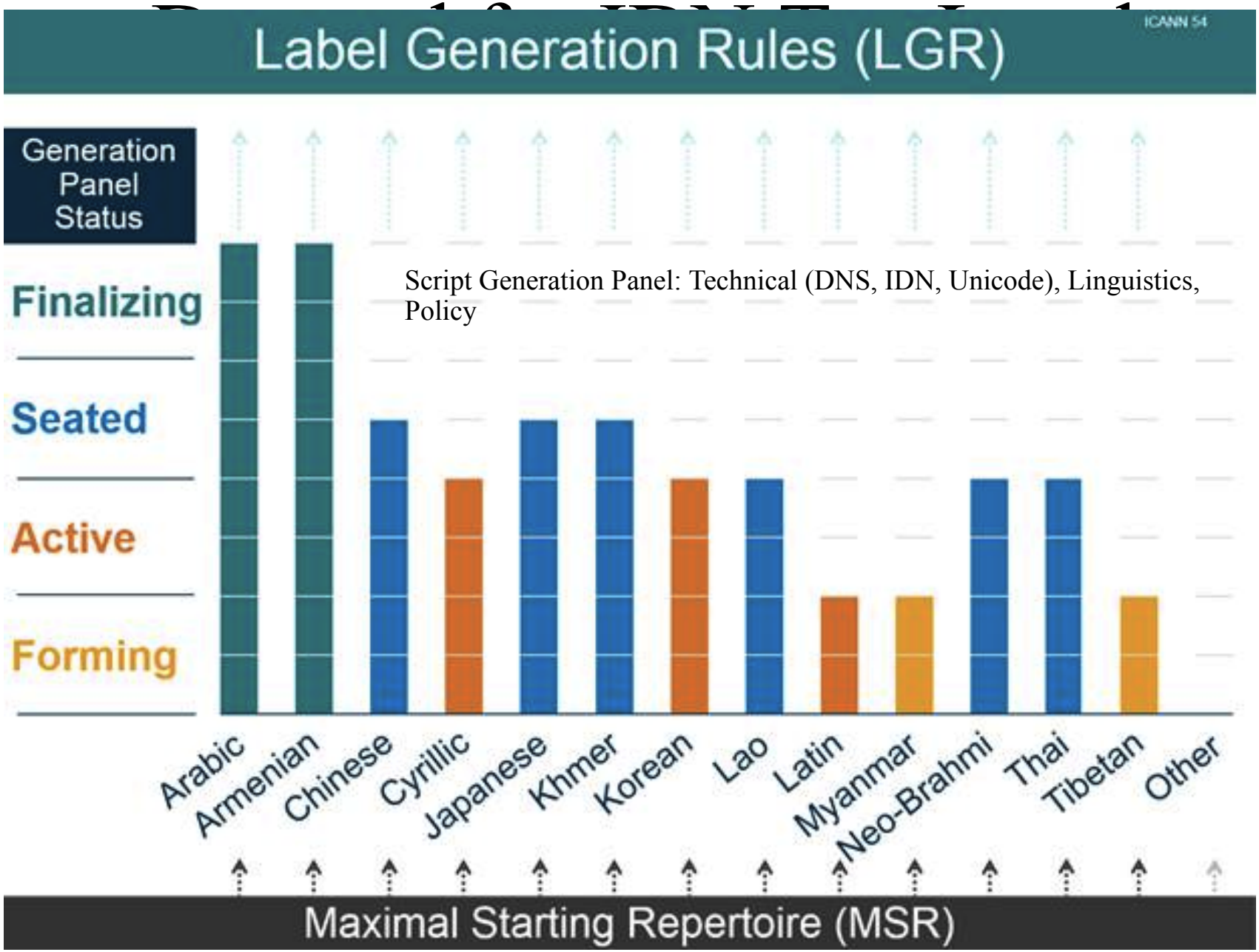
Script Demand for IDN TLDs

Script Requested	IDN ccTLD	IDN gTLD
Arabic	18	15
Cyrillic	7	8
Han (Chinese)	7	70
Tamil	3	
Bangla/Bengali	2	
Armenian	1	
Devanagari	1	3
Georgian	1	
Greek	1	
Gujarati	1	
Gurmukhi	1	
Hangul	1	3
Hebrew		1
Japanese		13
Sinhala	1	
Telugu	1	
Thai	1	1
Latin		2
Total	**47**	**116**

IDN Country Code Top-Level Domains



* Successfully evaluated IDN ccTLDs/Total countries and territories


Label Generation Rules (LGR)
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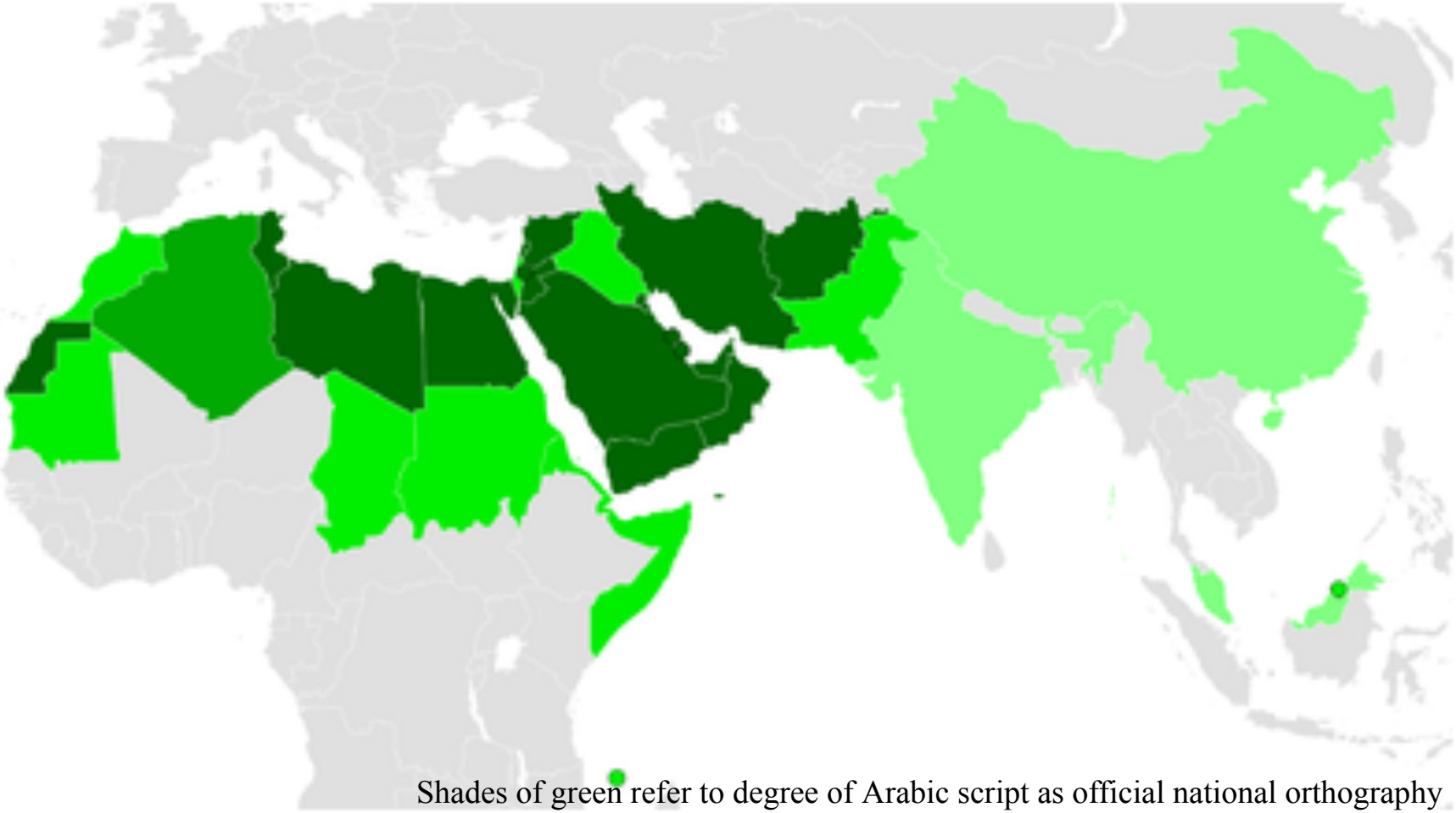
Generation Panel Status
Finalizing
Seated
Active
Forming
Script Generation Panel: Technical (DNS, IDN, Unicode), Linguistics, Policy
Arabic
Armenian
Chinese
Cyrillic
Japanese
Khmer
Korean
Lao
Latin
Myanmar
Neo-Brahmi
Thai
Tibetan
Other
Maximal Starting Repertoire (MSR)

Arabic Script: Used by 50+ languages



Shades of green refer to degree of Arabic script as official national orthography

Source: Task Force on Arabic Script Internationalized Domain Names (TF-AIDN) – "Proposal for Generation Panel for Arabic Script Label Generation Ruleset for the Root Zone (2014)"

Recap

- Internet users are reliant on Domain Names to access Internet services and applications.
- Some Internet services and software applications have not kept up with evolution of TLDs, rendering them unusable / blocking user access.
- Software and service providers have been unaware of the problem, had little access to architectural guidelines, and little market or regulatory incentive to invest in solutions to solve the problem.

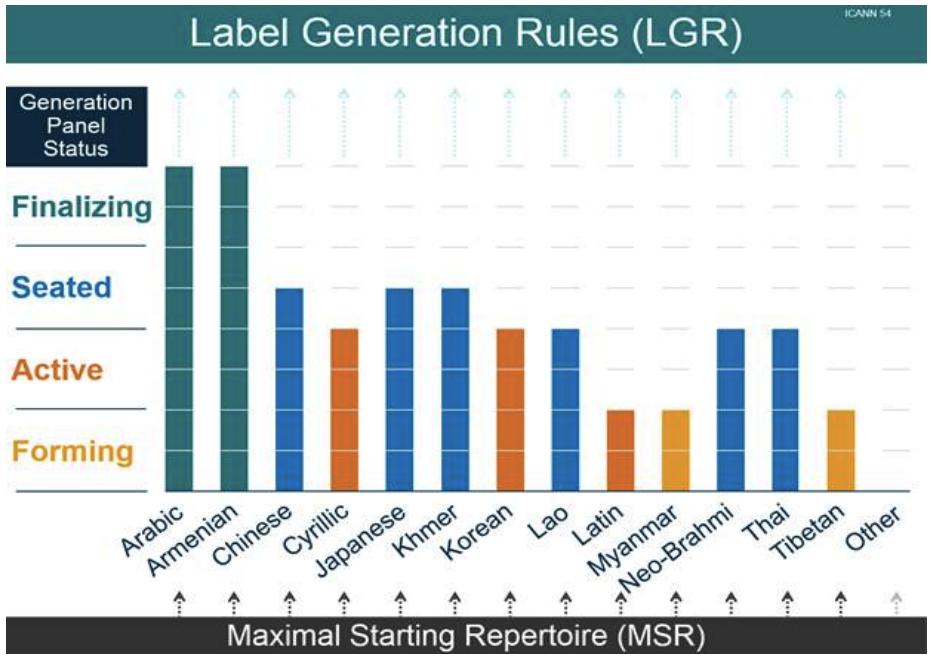
Recap

- To support Internet users worldwide, TLDs need to be made useable in applications regardless of their script, length or newness
  - Acceptance of TLDs written in all scripts
  - Acceptance of TLD names longer than 3 characters
  - Support IDNs or non-ASCII names in email

What Does Success Look Like?

When any person can register and use a domain name, in any language script, in any length, in…

- widely distributed web browsers
- email clients
- mobile apps
- setting up online accounts for the Internet and other services

How to Achieve Success?

- User Community
  - Identify and prioritize issues as clearly as possible
- Technical Community
  - Address the issues through technology