

JAIPA Welcomes ICANN Community Leaders

The Evolution of the Global Internet



13 March 2019

Welcome: Introductions and Housekeeping Messages

Wolf-Ulrich Knoben, ISPCP
Yoshihiro Aita, JAIPA

ICANN | ISPCP

Internet Service Providers & Connectivity Providers



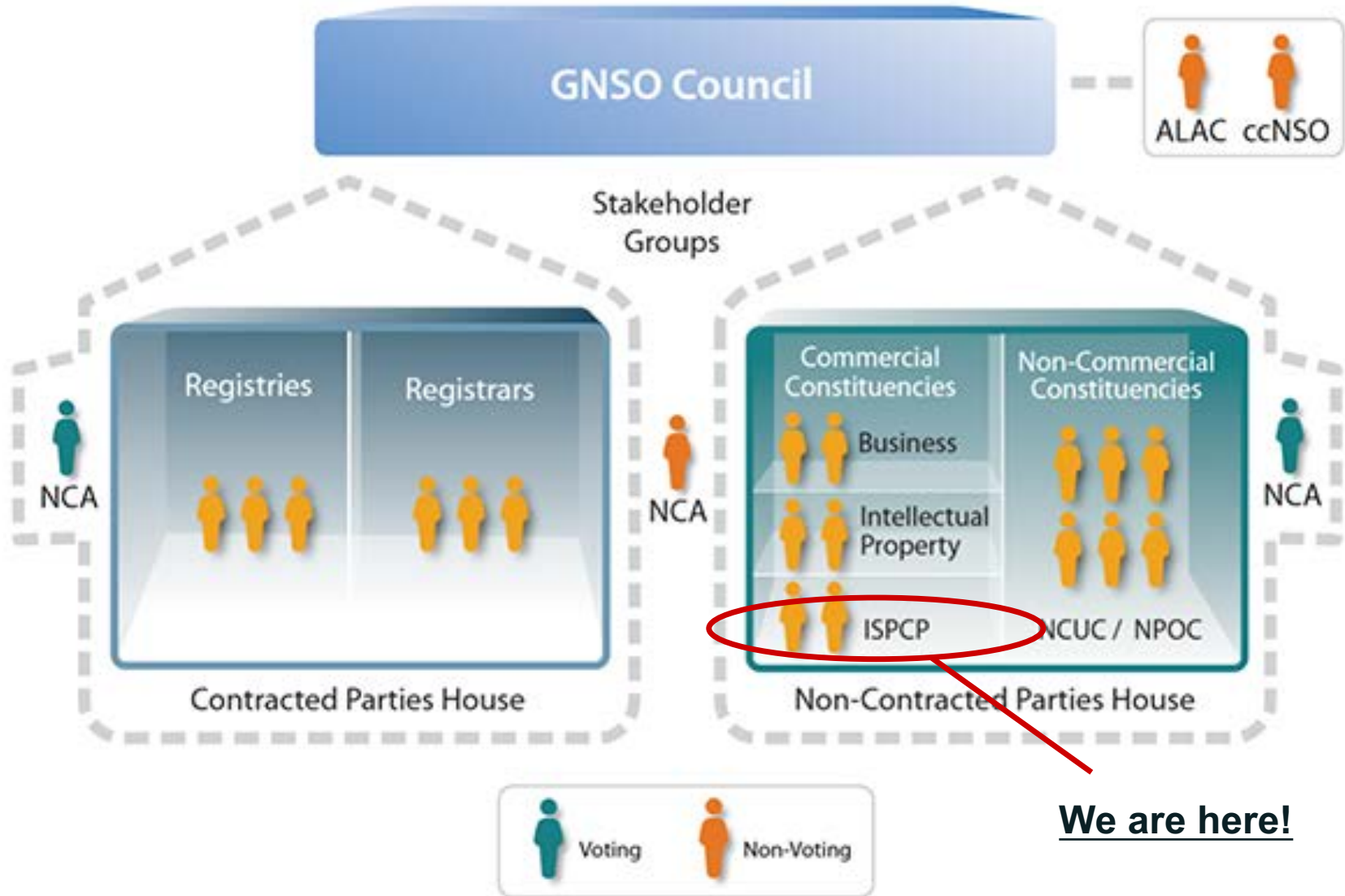
An Invitation to Join

JAIPA – March 2019

The Internet Service Providers Connectivity Providers Constituency
(ISPCP) is a part of ICANN's
Generic Names Supporting Organization (GNSO)

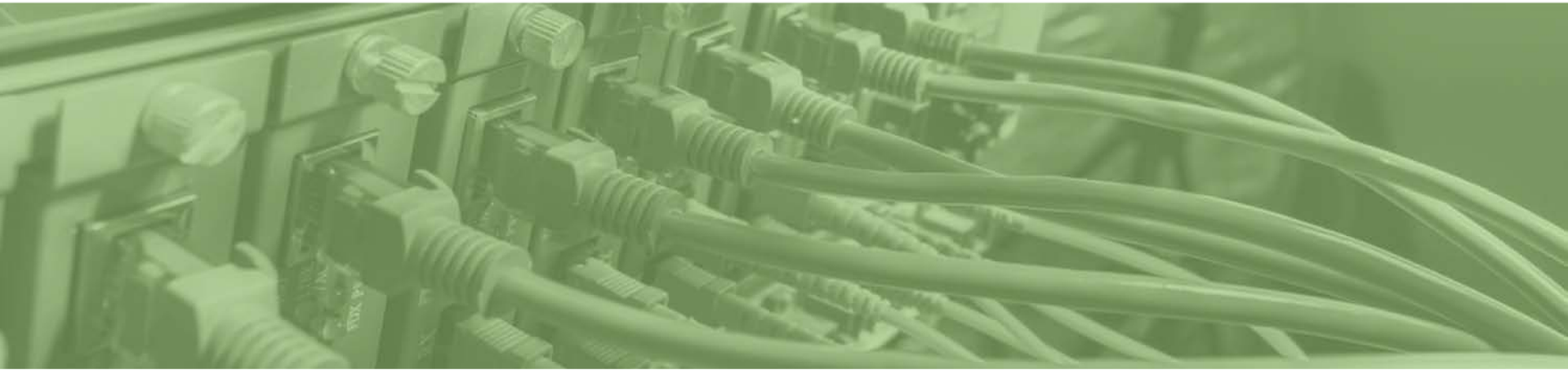
Generic Names Supporting Organization (GNSO)

- Is responsible for developing substantive *policies relating to gTLDs* (generic Top-Level Domains) and recommending them to the ICANN Board
- Multi-stakeholder approach
 - Contracted (Registry & Registrar) & Non-Contracted Parties (Commercial & Non Commercial)
 - Stakeholder Groups and Constituencies to represent various stakes



We are here!

What is the ISPCP?



Internet Service Providers and Connectivity Providers (ISPCP)
operate Internet backbone networks and/or provide access to Internet and
related services to End Users.

The ISPCP Constituency...

- Is a group of ISPs, carriers, and associations of those representing their interests within ICANN
- Contributes to substantive *policy development relating to gTLDs* (generic top-level domains) and recommending them to the ICANN Board
- Covers issues like
 - Universal Acceptance of new gTLDs
 - New gTLDs and their impact on the network
 - IANA transition, a milestone in the history of the Internet
 - Whois policies
 - IP addressing
 - Technical and operational security aspects
- **Important: It's YOU!!**
- By joining the ISPCP, you can get involved to gTLD policy making process and understand updates to policy as they happen

Thank You

Thank you!

- Web: <http://ispcp.info/>
- E-mail to secretariat@ispcp.info

Ensuring a Trusted Internet with Universal Acceptance and IDNs

Ajay Data, Datainfosys

Maarten Botterman, ICANN Board

Akinori Maemura, ICANN Board

Trusted Future of Internet with IDN and UA



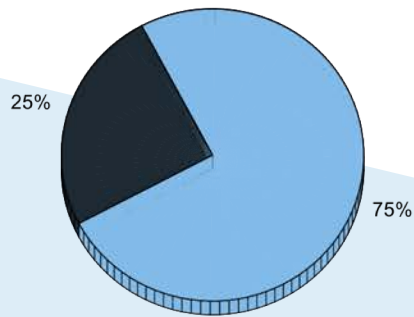
ISPCP

Kobe
ICANN64

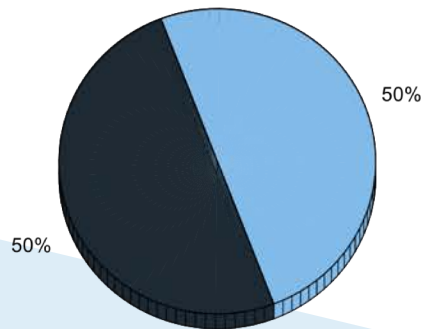
Ajay Data
Akinori Maemura
Maarten Botterman

Warm-up Exercise

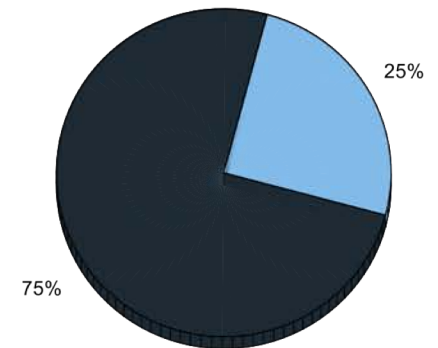
According to w3techs, which of the following pie charts most closely represents the fraction of websites on the Internet that are primarily English language based content?



25% English
75% All other



50% English
50% All other

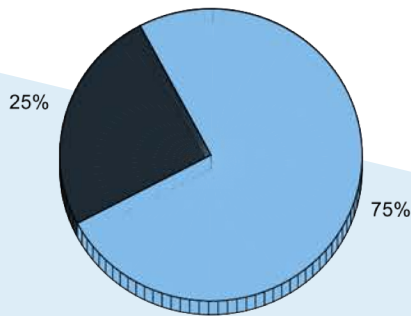


75% English
25% All other

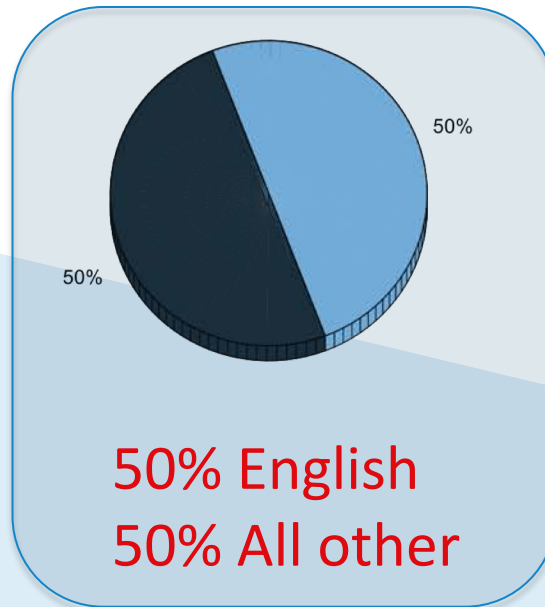
Actual data can be found at https://w3techs.com/technologies/history_overview/content_language/ms/y. Data shown is approximate.

Warm-up Exercise: Solution

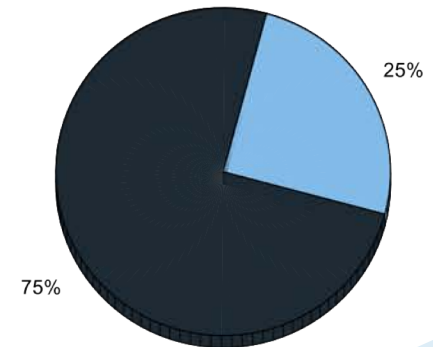
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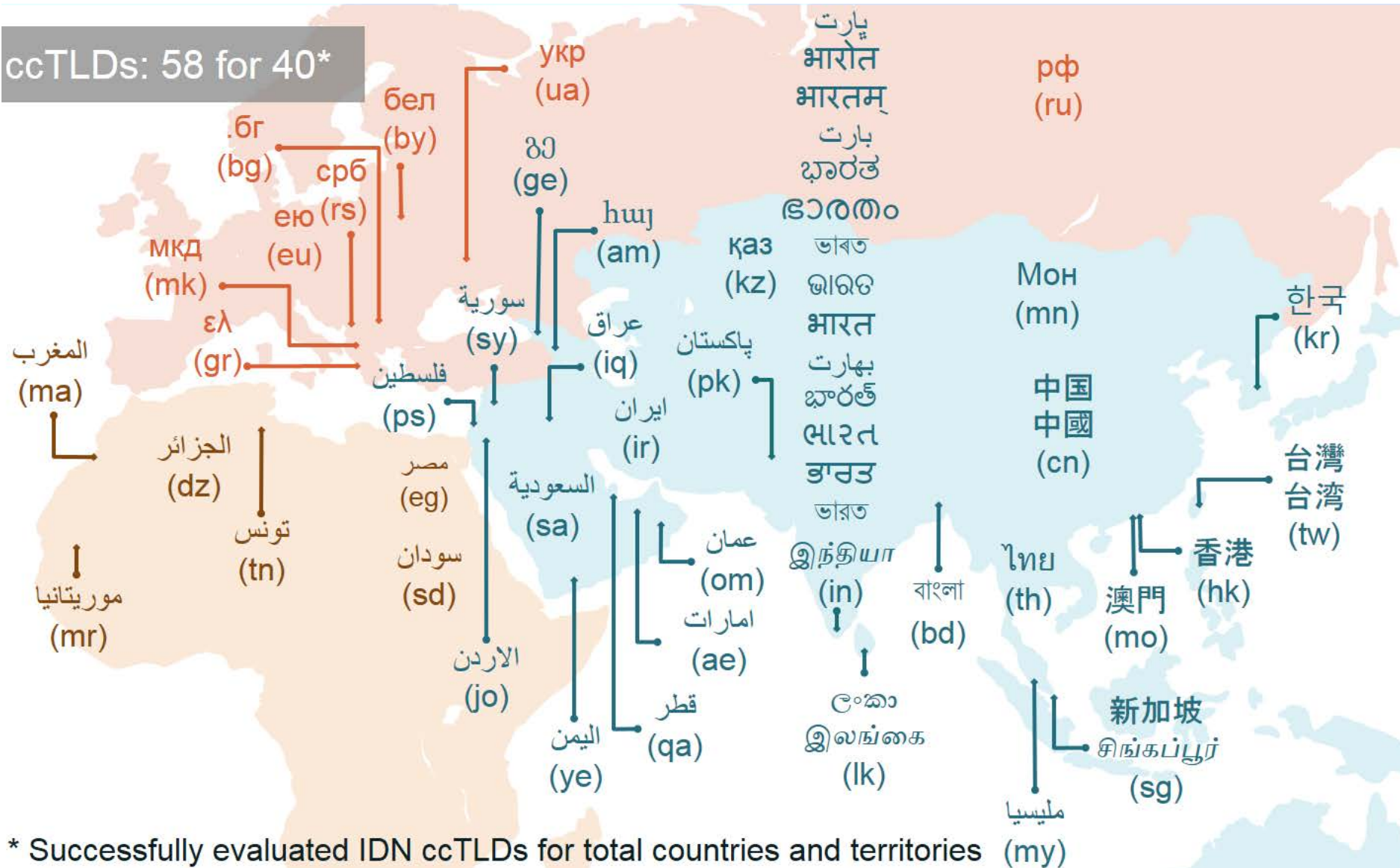
75% English
25% All other

Actual data can be found at https://w3techs.com/technologies/history_overview/content_language/ms/y. Data shown is approximate.

Internet Stats <https://www.internetworldstats.com/stats7.htm>

IDN Country Code Top-Level Domains

ccTLDs: 58 for 40*



* Successfully evaluated IDN ccTLDs for total countries and territories

Security Issue

 **paypal**
(0070 0061 0079 0070 0430 006C)

 **paypal**
(0070 0061 0079 0070 0061 006C)

ED@tierajasthan.org

सम@ठग.भारत

CHIRAG@ORACLE.IN

समझो@ठग.भारत

Lets see some examples of email addresses

ED@Tierajasthan.com

U+430

सम@ठाग.भारत

U+920, U+917

CHIRAG@0RACLE.IN

U+30

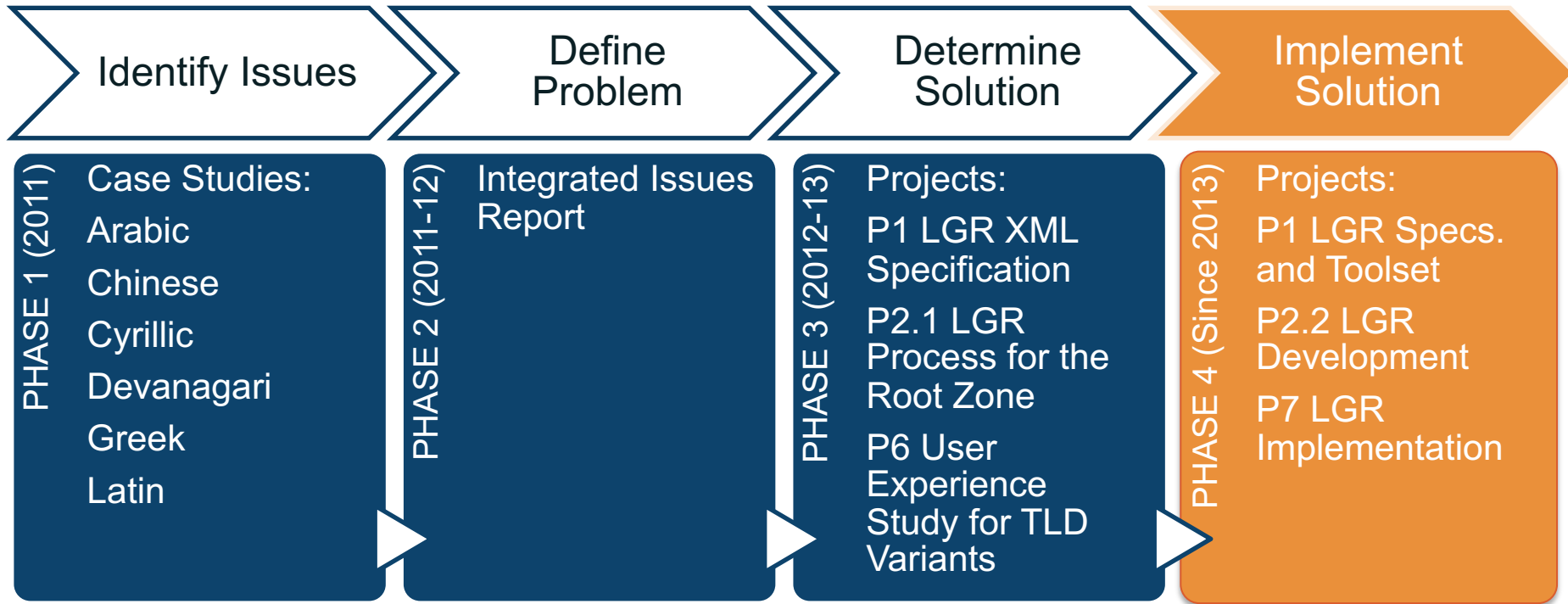
समझो@ठाग.भारत

U+a20, U+a17

You can check yourself at
<https://eai.xgenplus.com>

Lets analyse them closely

IDN TLD Program



Community agreed to define a Label Generation Rules (LGR)

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

LGR for the Root Zone

Unicode

IDNA2008 – by IETF

LGR for the Root Zone

Unicode

IDNA2008 – by IETF

Maximal Starting Repertoire
– by Integration Panel of ICANN

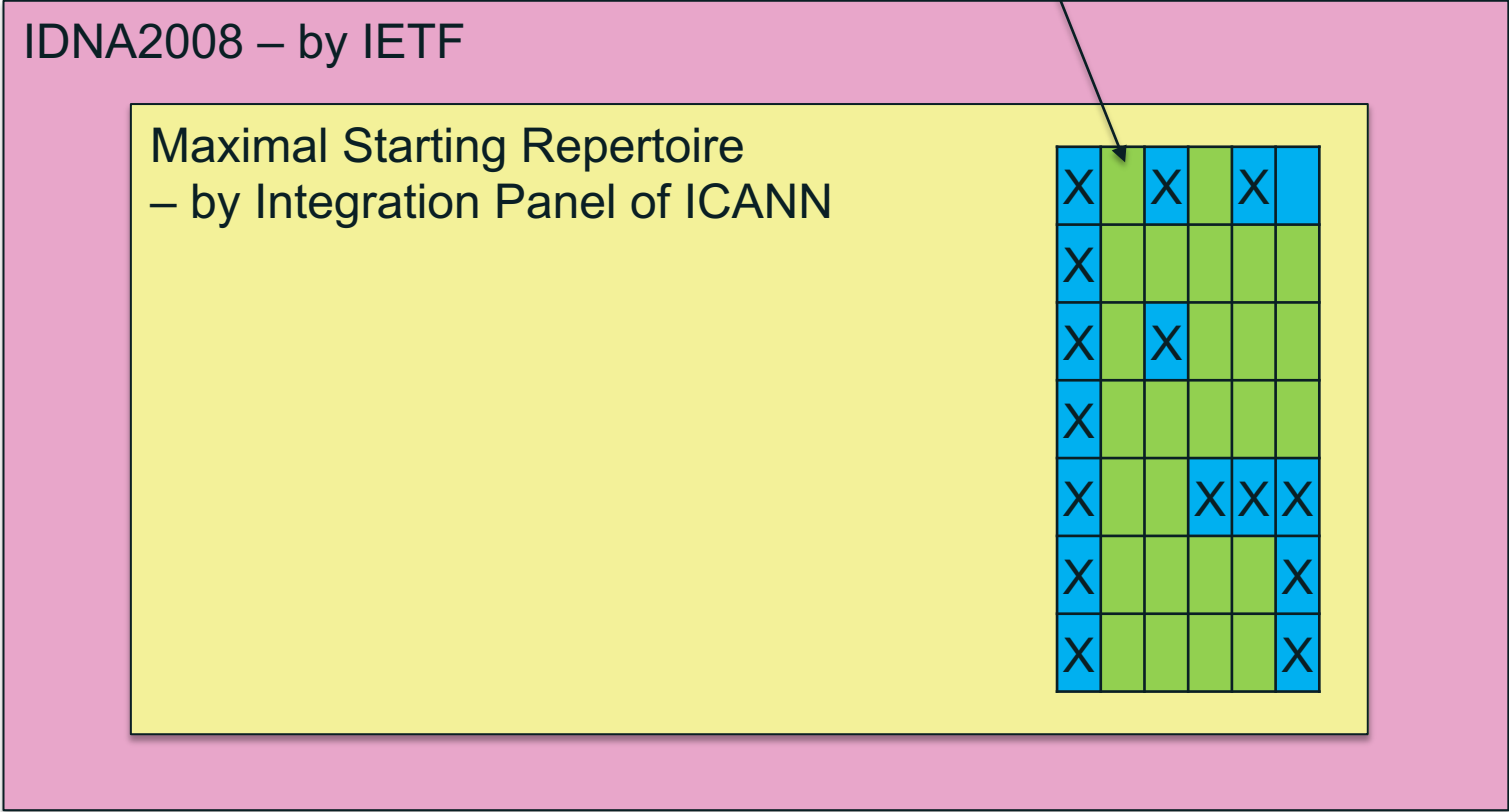
LGR for the Root Zone

LGR Proposal – by **Generation Panel** of Script Community

Unicode

IDNA2008 – by IETF

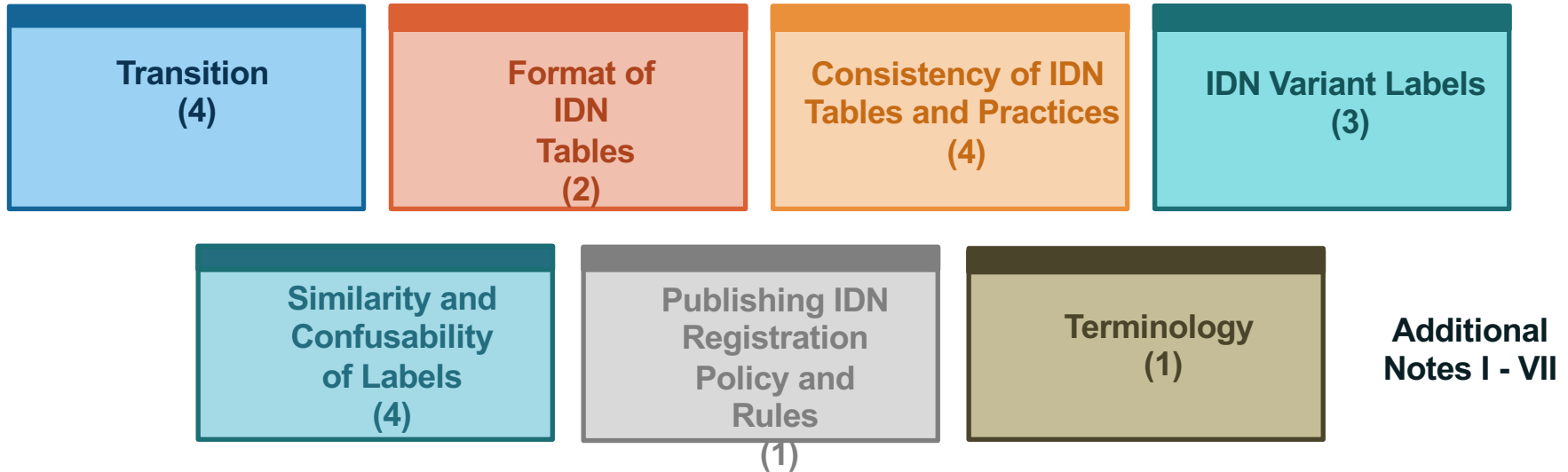
Maximal Starting Repertoire
– by Integration Panel of ICANN



X		X		X
X				
X		X		
X				
X			X	X
X				X
X				X

Updated IDN Guidelines 4.0

- ◉ Total of seven topics and 19 guidelines with additional notes



- ◉ [Final Proposed Draft ver. 4.0 of the IDN Guidelines](#) were [published](#) on 10 May 2018 – Applicable on Second level.

Transition

No label containing hyphens in both the third and the fourth positions may be registered unless it is a valid A-label, with reservation for transitional action. Labels with hyphens in both the third and the fourth positions are explicitly reserved to indicate encoding schemes, of which IDNA is only one instantiation. These guidelines are not intended to assist with any other instantiations.



中国 =

xn--fiqs8S



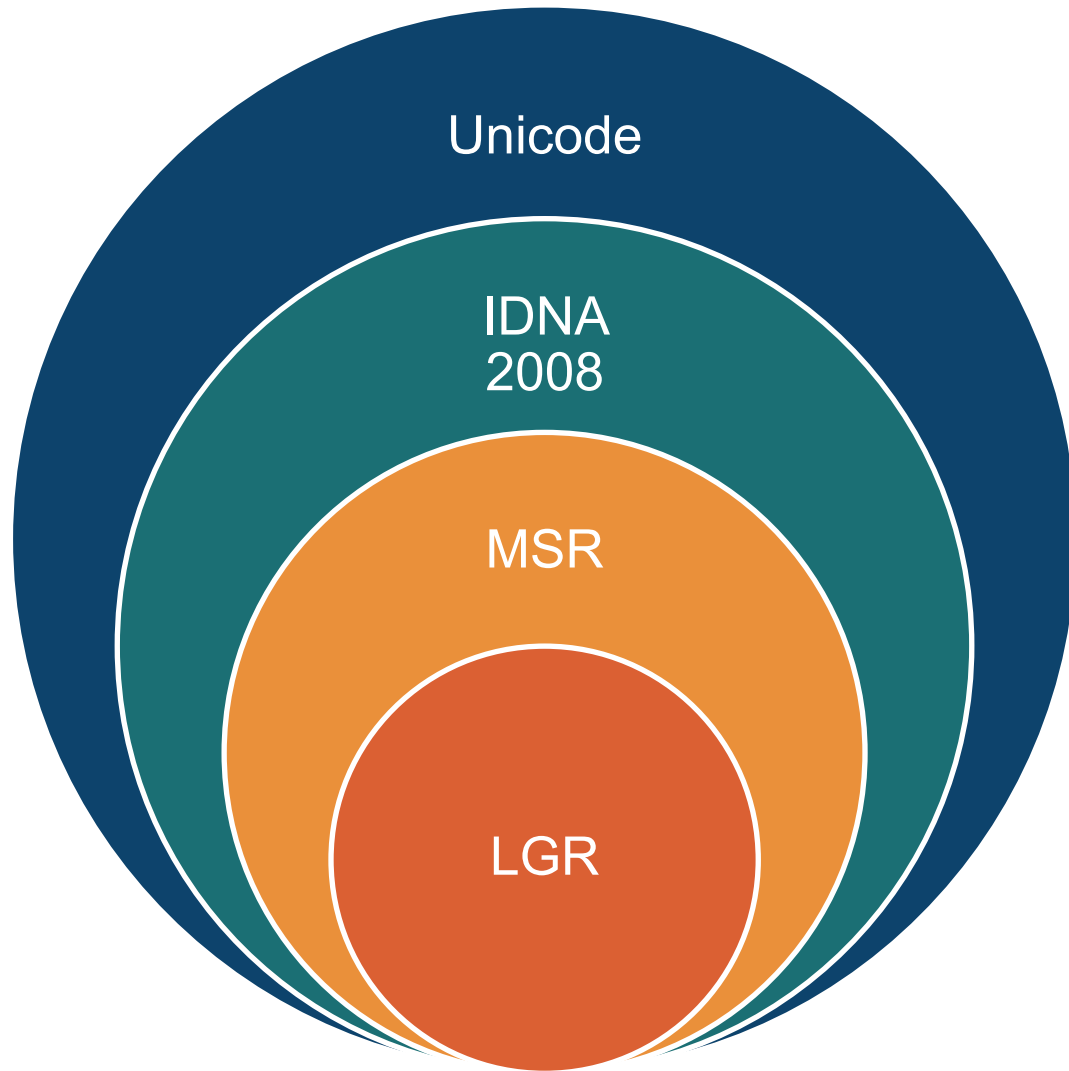
இந்தியா =

xn--xkc2dl3a5ee0h



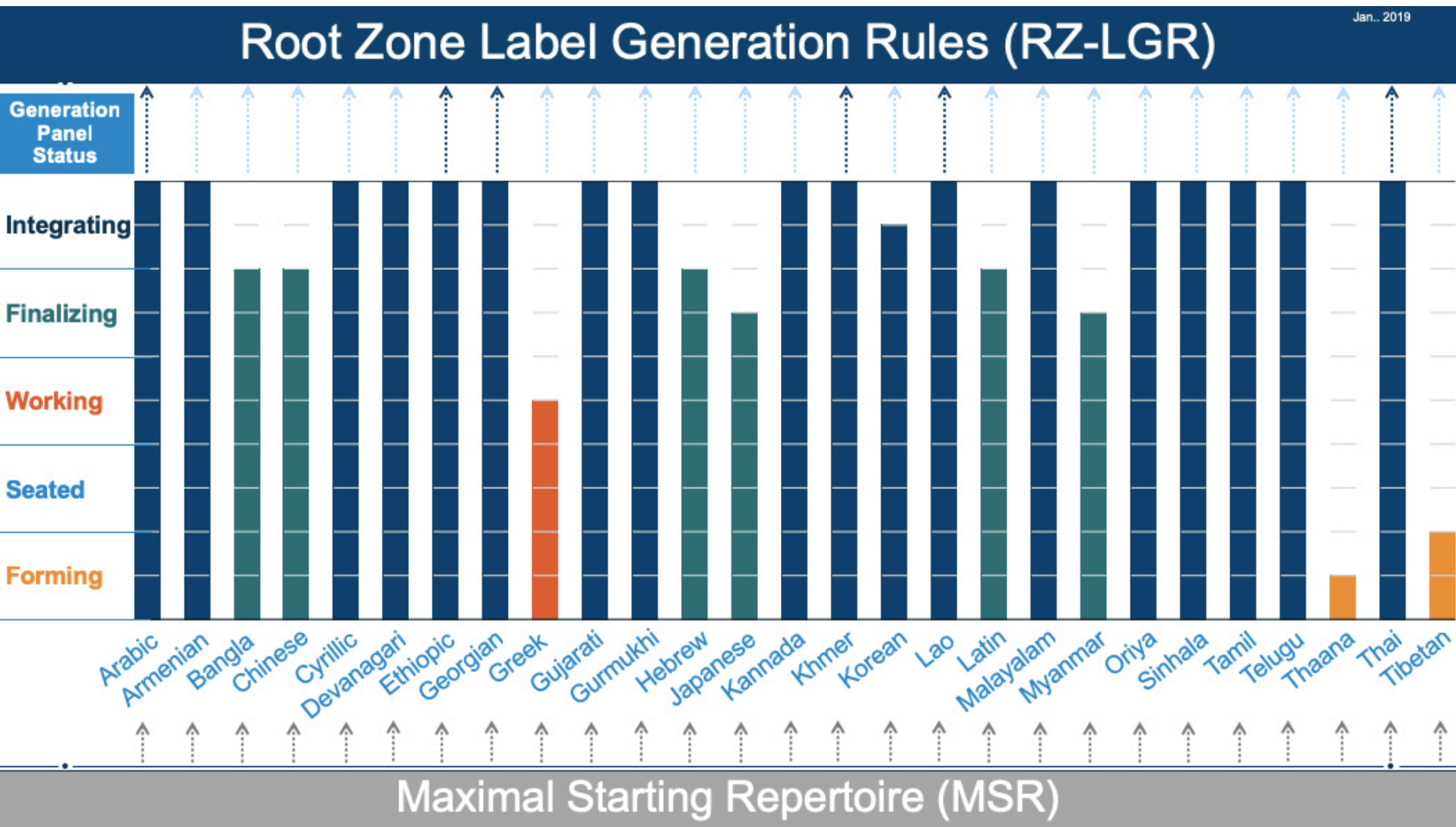
hi--world

Root Zone LGR in Relation to Other Repertoires



Repertoire	Code Points
Unicode 11	137,000
IDN 2008	97,946
MSR 3	33,496
LGR	TBD

Generation Panels Status



www.cafe123.com



Syntax of ASCII TLD
Use only Letters [a-z]

हिन्दी.भारत



Syntax of IDN TLD
U-Label, constrained by
the “letter” principle

-
- Since last 17 years – work on IDNs is going on .
 - First IDN TLDs were made available in 2010
 - India adopted IDNs in 2014
 - **भारत**

Government of India – Visionary Steps taken

१) भारत, २) कंपनी.भारत, ३) विद्या.भारत, ४) सरकार.भारत

Internationalized Domain Name (IDN)	Language
.भारत	.Bharat in Devanagari
.ভারত	.Bharat in Bengali
.భారత్	.Bharat in Telugu
.ભારત	.Bharat in Gujarati
.بھارت	.Bharat in Urdu
.இந்தியா	.Bharat in Tamil
.ਭਾਰਤ	.Bharat in Gurumukhi (Punjabi)

(15 TLD delegated, but only 7 are live, rest in process)

Why Internationalize Domain Names?



More and more people around the world, once unconnected, are online.

Number of Internet Users Worldwide***



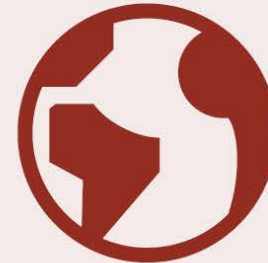
2000

413M



2014

2.9B



2020

5B expected

more language communities join

EAI - Email Address in your language

- ✓ [अजय@डाटा.भारत](#) (Hindi)
- ✓ [ਨਿਤਿਨ@ਚਾਤਾ.ਭਾਰਤ](#) (Punjabi)
- ✓ [વૈશાલી@દાતા.ભારત](#) (Gujrati)
- ✓ [மணிஷ்@ட்ட.பாரத](#) (Tamil)
- ✓ [ప్రియాంక@డేటా.భారత్](#) (Telugu)
- ✓ [@ڈیٹا.بھارت](#) (Urdu)
- ✓ [संपर्क@डेटामेल.भारत](#) (Marathi)
- ✓ [র্যম@ডাটামেল.ভারত](#) (Bengali)



And SO On.....

Understanding Universal Acceptance

\$ 10 Billion opportunity

The concept that all domain names should be
treated equally

Five Criteria of UA



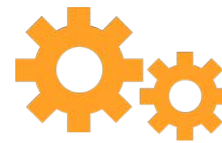
Accept



Validate



Store



Process



Display

Universal Acceptance is the state where

- * all valid domain names and email addresses are **accepted, validated, stored, processed** and **displayed** correctly and consistently
- * by all Internet-enabled applications, devices and systems.

Prepare to do business and communicate with a global user base

Continued expansion of the Internet is allowing access to an increasingly diverse user group

- * There is a growing number of languages and scripts present on the Internet, including non-Latin based, language-specific domain names in Arabic, Chinese and many other scripts.
- * It is required that your Internet-enabled applications, devices and systems accept, validate, store, process and display all domain names and email address appropriately.

Interval / Thank you

Dr. Ajay Data

NomCom appointed ccNSO Council Member
UASG EAI Coordinator
ISPCP Member
NBGP Co-Chair

Akinori Maemura

ICANN Board Member

Maarten Boterman

ICANN Board Member

The Internet of Things and Network Operations

Philippe Fouquart, Orange

5G mobile networks & naming *A perspective*

ICANN 64, Kobe 2019 – ISPCP outreach
Philippe Fouquart - Orange Labs Networks

- This is a **discussion** about the role that domain names may/would/will have to play in 5G mobile networks
 - In *networks* (not the OTT, “mobile application” part)
 - A number of questions remain open – and implementation dependent
- Overview
 - What 5G is in broad terms
 - Where “5G comes from”
 - What that might entails regarding the use of domain names/DNS
- Intended to generate discussions
 - “views expressed here are only my own etc...”

-
- **Radio access network:** major changes - mostly agnostic to domain names
 - **Core network level:**
 - Slicing , **Virtualised Network Functions**
 - Service based architecture – restful architecture (inspired by the IT) – both internally and to the outside world.
 - Transport protocols http2 tcp/tls + quick based / API become predominant
 - Exposition of the north bound interfaces / API –
 - Service level: **IoT/Machine Type Communications**, V2X (Vehicle-to-“everything” communications)...
 - *Today’s so called “**5G deployments**” are mostly/only about access*

- In the mobile industry's world, in general **5 = 4 + 1(!)**...
 - A number of 5G networks will be building up on 4G (including Operations/Business Support System) – aka **non standalone 5G** where
 - use of **DNS/domain names** in these mobile core networks is **marginal**
 - Exception for “VoLTE” where ever that applies
 - use of DNS/domain names for interdomain is limited (IPX/GRX...) – and mostly derived from **legacy IDs**
 - use of DNS/domain names for mobile Internet access is (mostly) non specific
 - Browsers/suffix lists may vary / cache servers may be specific
 - Others wont (“standalone 5G” networks) but will have to interoperate...
 - ...SO
 - Need to consider **legacy schemes** in terms of user identification / network identification - “Legacy” means adherence/inertia to some extent

- The core network is now intended to be “**IP native**”
 - **Virtualised hardware-independent environments** become the norm
 - And it’s hard to operate/manage networks solely w/ IP(v6) addresses...
- **Inter-domain** will also be “IP native”...
 - including Voice interconnect should gradually move to IP
 - **Inter-domain Virtualised Network Function** is largely uncharted territory for mobile networks
- User identification + network identification
 - 5G is probably **not a game changer** because of legacy/backward compatibility
 - But 5G may see the emergence of new business models where legacy schemes may not be prevalent (and use “External Identifier”)
- **IoT from OTT/connectivity to the core network** eg Vehicle2Everything...
 - New drivers for the use of domain names?
 - Generally lack of understanding/knowledge within the "IoT device community"

- Essentially **transparent for users**
 - Core network/interconnect/IoT: mostly for technical purposes
- Largely **implementation specific**
 - Not a source of Second Level Domain name registration
 - But explicit/implicit use of domain names is prevalent in 3GPP 23.5** specs – **not all of which will be resolved on DNS**
- Probably a mixture of extranet / Internet
 - Need to apply **common sense good naming Common Practices**
 - Use duly registered domain names and not “fictitious top level domains” etc
 - Disseminate such “BCPs”
 - Likely to lead to common naming schemes between 5G operators
 - Associated risks: **collisions** ...

Thank you!

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Website/DNS Blocking & Filtering

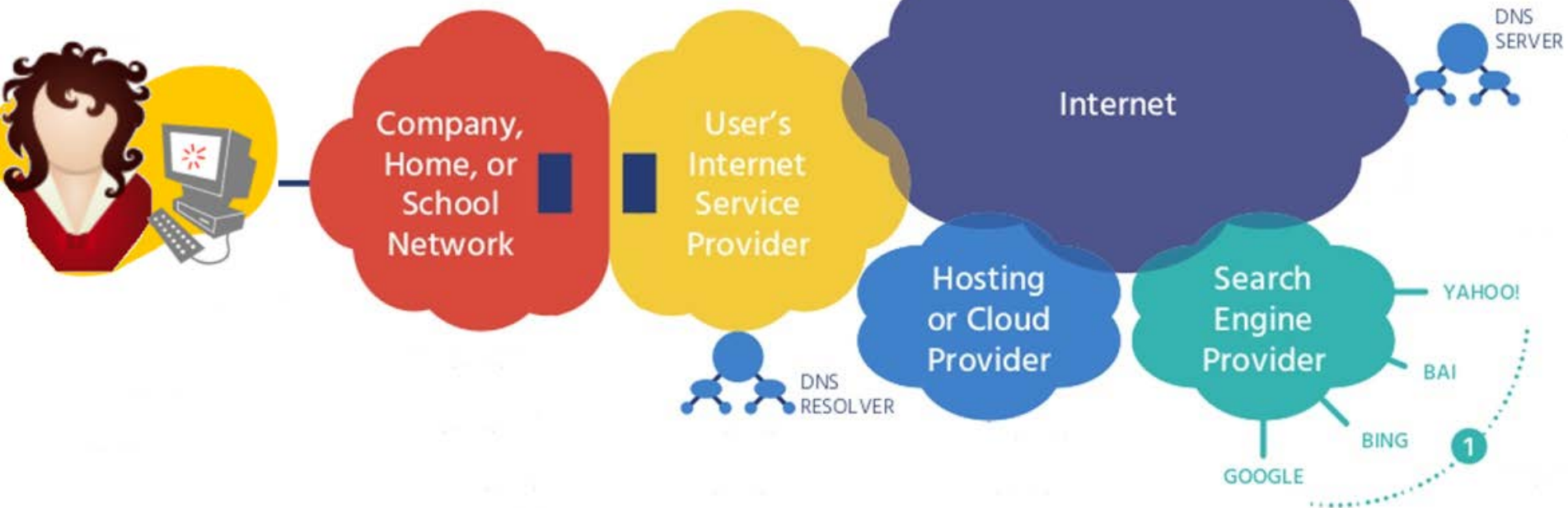
Narelle Clark, Pavonis Consulting

Afifa Abbas, Bangalink

Toshiaki Tateishi, JAIPA

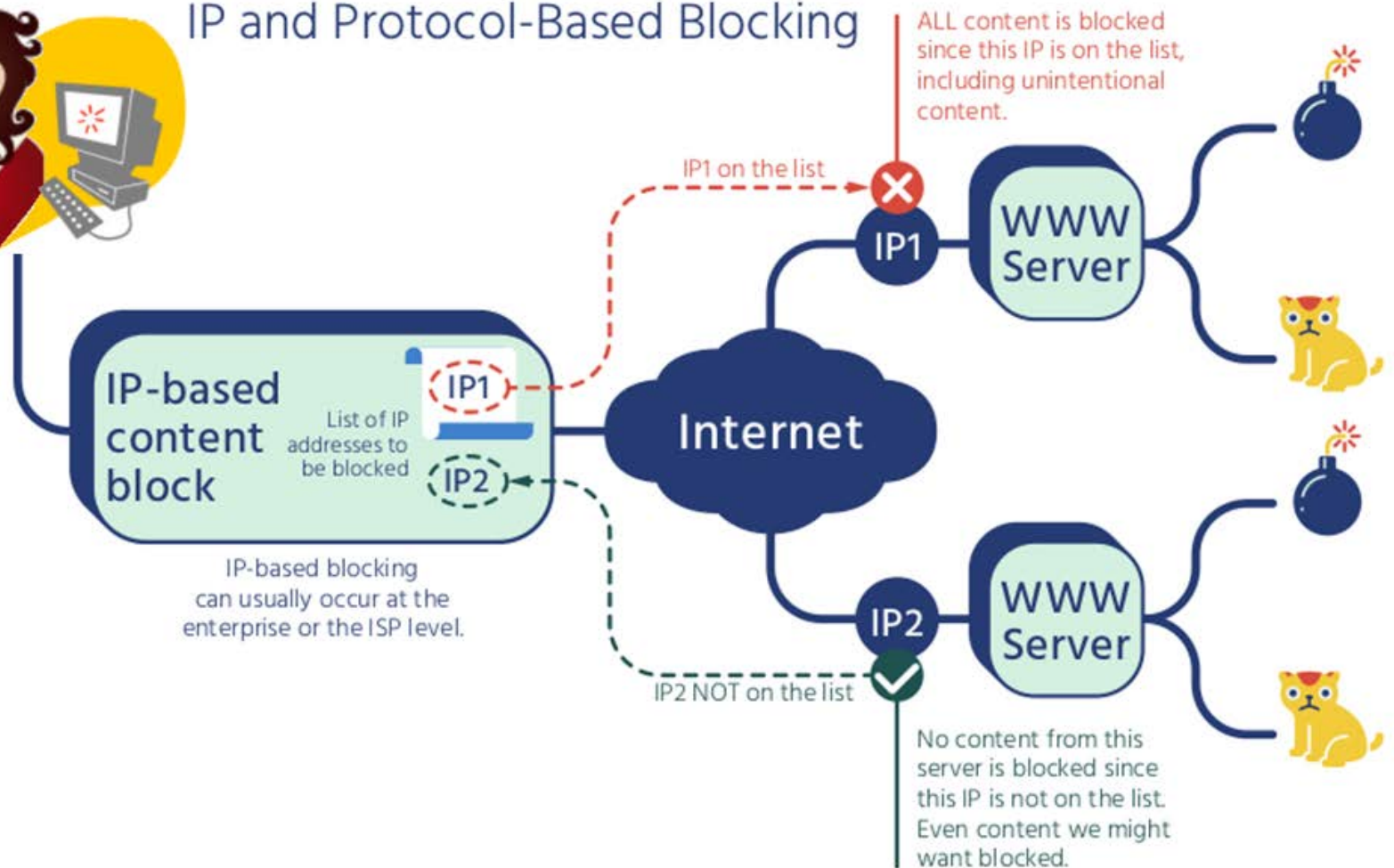
John Crain, ICANN Office of the CTO (moderator)

Internet Content blocking can occur at many points





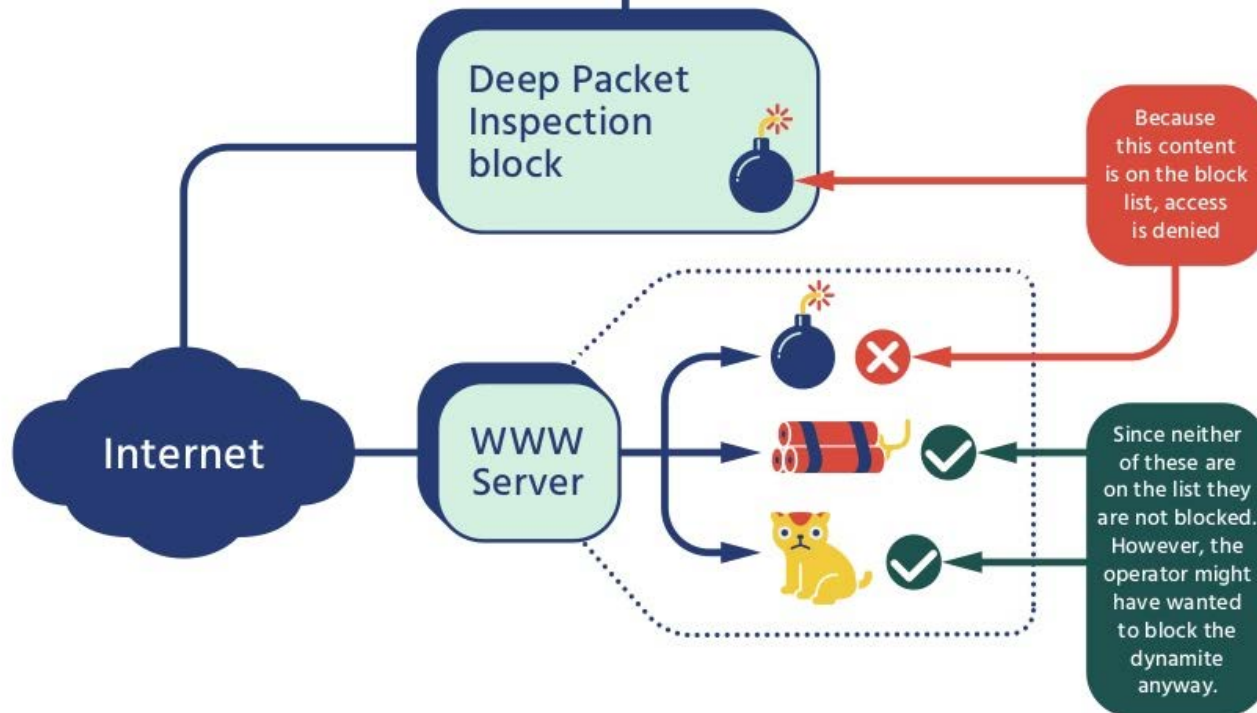
IP and Protocol-Based Blocking





Deep Packet Inspection-Based Blocking

Deep Packet Inspection can usually occur at the enterprise or the ISP level.



Highlights of the Australian Journey

When	Instrument	Used for
1997	S313 Telecommunications Act	Rules established for police to order the disconnection of phone lines for illegal betting agents “give... such help as is reasonably necessary... to [enforce] criminal laws”
2012	S313 Notices issued	ISPs compelled to block “worst of” Interpol list
2014	ASIC s313 notice	Corporate regulator accidentally blocks 250,000 web sites on one IP address
2015	Enhancing Online Safety Act	e-Safety Commissioner established with ability to issue “take down notices” to protect children (later women)
2015	Copyright Amendment (Online Infringement) Act S115A	Notices issued by courts in 2016 (and 2018) to compel blocking for copyright reasons
2018	Assistance and Access Act	Highly controversial legislation compelling all parties in the supply chain to “assist” and create “capabilities”

Source Material

- The brilliant paper on Internet Blocking by ISOC is acknowledged here

See:

<https://www.internetsociety.org/resources/doc/2017/internet-content-blocking/>

Which also draws extensively from RFC 7754

Business Depends on Security, Stability, and Resiliency – A Shared Responsibility

Scott McCormick, HackerOne and BC Councilor to the GNSO, member of ICANN's SSR2 team

Mark Svancarek, Microsoft

Claudia Selli, AT&T (Introductions)

ICANN Business Constituency Security, Stability, & Resiliency

ICANN 64 - Kobe

Scott McCormick
Head of Security Compliance

Business Constituency is committed to addressing relevant mandates of ICANN's Bylaws as they relate to Security, Stability, and Resilience

Current Topics

- Security, Stability, and Resiliency
- WHOIS accuracy
- RDAP - WHOIS replacement
- EPDP - Access to WHOIS/RDS

Involvement

- Security and Stability Advisory Committee (SSAC¹) reports & reviews
- Security, Stability, and Resiliency Reviews (SSR2-RT²)
- EPDP policy development
- RDAP policy development
- ICANN external engagements

¹ <https://www.icann.org/groups/ssac>

² <https://www.icann.org/resources/reviews/specific-reviews/ssr>

Challenges to the secure, stable, and resilient operation of the unique identifiers system

- Root server system protection: assess the threatscape of top threats
- Access to data, info, research on important abuse/attack vectors
- Alternate naming systems (interactions, conflicts, etc.)
- New crypto systems in DNSSEC & key role issues
- Privacy and intellectual property protections
- New users for DNS, IPv4, IPv6 (IoT, etc.)
- Software interoperability

Thank You

Scott McCormick

Website

hackerone.com

Follow us



[@HACKER0X01](https://twitter.com/HACKER0X01)

Microsoft Commitment to Internet Security, Privacy, and Universal Acceptance

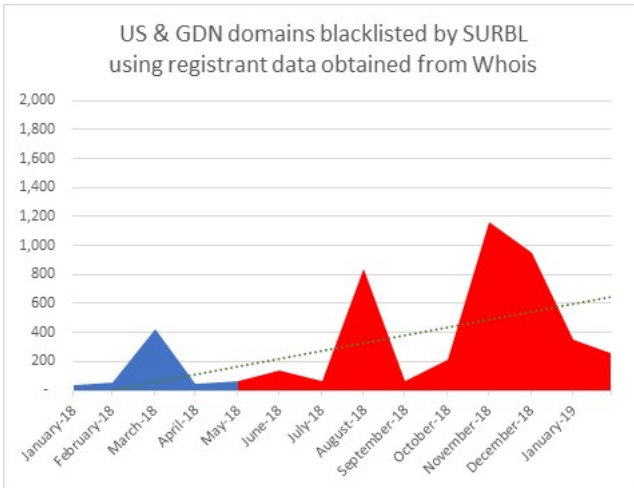
Mark Svancarek

Principal Program Manager

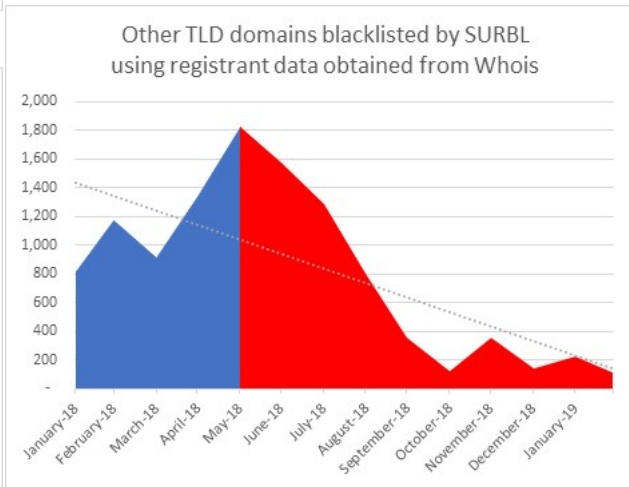
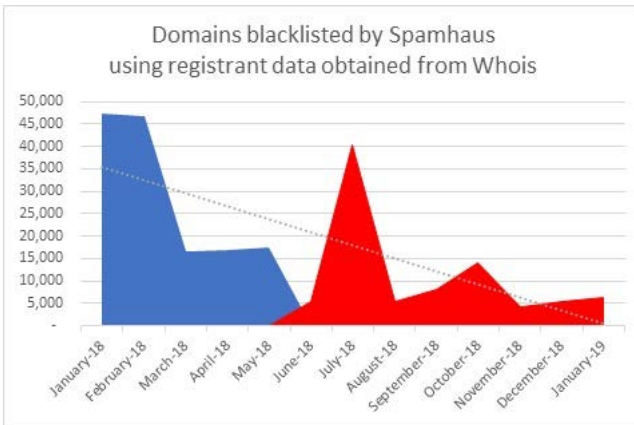
Privacy and Regulatory Affairs – Tech Policy and Internet Governance

ICANN 64 – Kobe

March 2019



- In regions where registration data is still available, the rate of domains blacklisted continues to rise
- In regions where registration data has been redacted under GDPR, the rate of blacklisting is significantly reduced



Microsoft is participating in ICANN EPDP to define a standardized access model for registration data disclosures to accredited 3rd parties

<https://www.securityskeptic.com/2019/03/facts-figures-whois-policy-changes-impair-blacklisting-defenses.html>

- Microsoft is “all in” on GDPR
- Privacy and Security can co-exist
- A successful conclusion to EPDP will deliver policies and implementations which are GDPR-compliant, auditable and which enable prompt and proportionate data disclosures

Microsoft begins new EU GDPR parental consent verifications for children's accounts

Apr 11, 2018 | [Julie Brill - Corporate Vice President and Deputy General Counsel, Microsoft](#)



Microsoft's commitment to GDPR, privacy and putting customers in control of their own data

May 21, 2018 | [Julie Brill - Corporate Vice President and Deputy General Counsel, Microsoft](#)



Millions use Microsoft's GDPR privacy tools to control their data — including 2 million Americans

Sep 17, 2018 | [Julie Brill - Corporate Vice President and Deputy General Counsel, Microsoft](#)



Since the European Union's (EU) General Data Protection Regulation (GDPR) went into effect on May 25, more than 5 million people from 200 countries have used Microsoft's new privacy tools to manage their data. And on both an absolute and per capita basis, the largest number of people come from the U.S., a country not formally covered by GDPR, demonstrating a desire by American consumers for greater control over their personal data.

Until recently, our understanding of privacy in the United States hadn't changed much since the great American legal expert and Supreme Court Justice Louis Brandeis defined it in 1890 as the "right to be let alone." For more than a century, preserving that right centered on legal protections designed to ensure that ideas and information that we don't want to share can't be accessed by others.

But as people depend more and more on technology to express their ideas, connect with friends and family, run their businesses, and manage their health and finances — and as more and more of our interactions are captured and stored in digital form — how we think about privacy has shifted. Instead of focusing simply on the right to be let alone, people want to engage freely and safely using digital technology without losing control over how their data is collected and used.

Increasingly, this desire to maintain control of personal information is being reflected in modern privacy laws as an essential aspect of the right to privacy. We've seen this start to be reflected in decisions from the U.S. Supreme Court, and over the past few months, in landmark legislation passed by the state of California. This is why the GDPR is so important — because it sets a strong standard for privacy and data protection by empowering people to decide what happens to their data.

Commitment to an Internationalized Internet

- Microsoft joined Universal Acceptance Steering Group in 2015



- Microsoft email solutions support EAI since 2018

みんな@コントソ.コム

- Microsoft is committed to complete support for Japan Calendar Era transition in April 2019

平成 →

Thank you!

Closing Remarks

Chris Mondini, ICANN
Toshiaki Tateishi, JAIPA