ICANN Public Meetings, Domain Names, and the Domain Name System (DNS)

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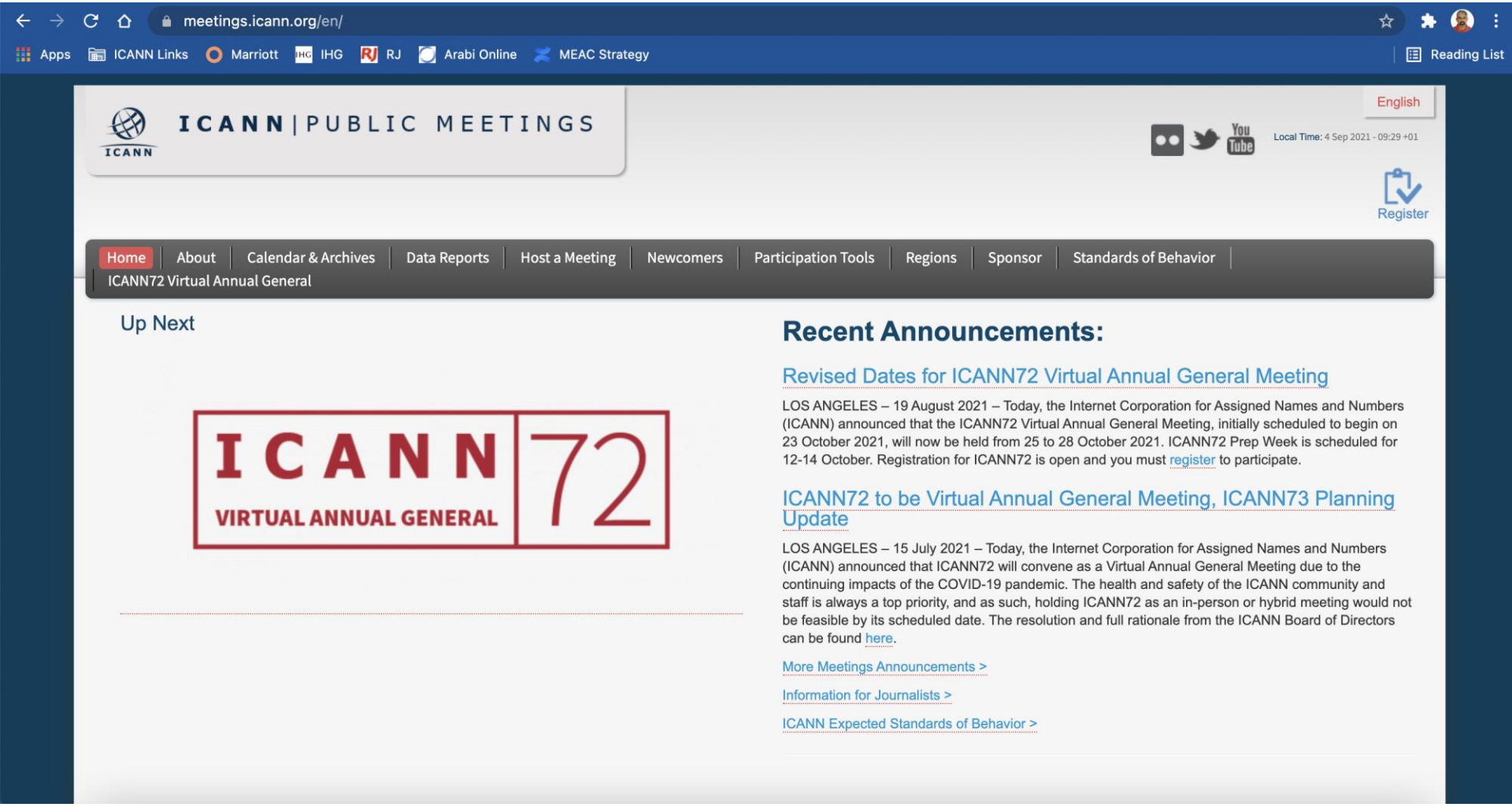
Agenda

ICANN Public Meetings

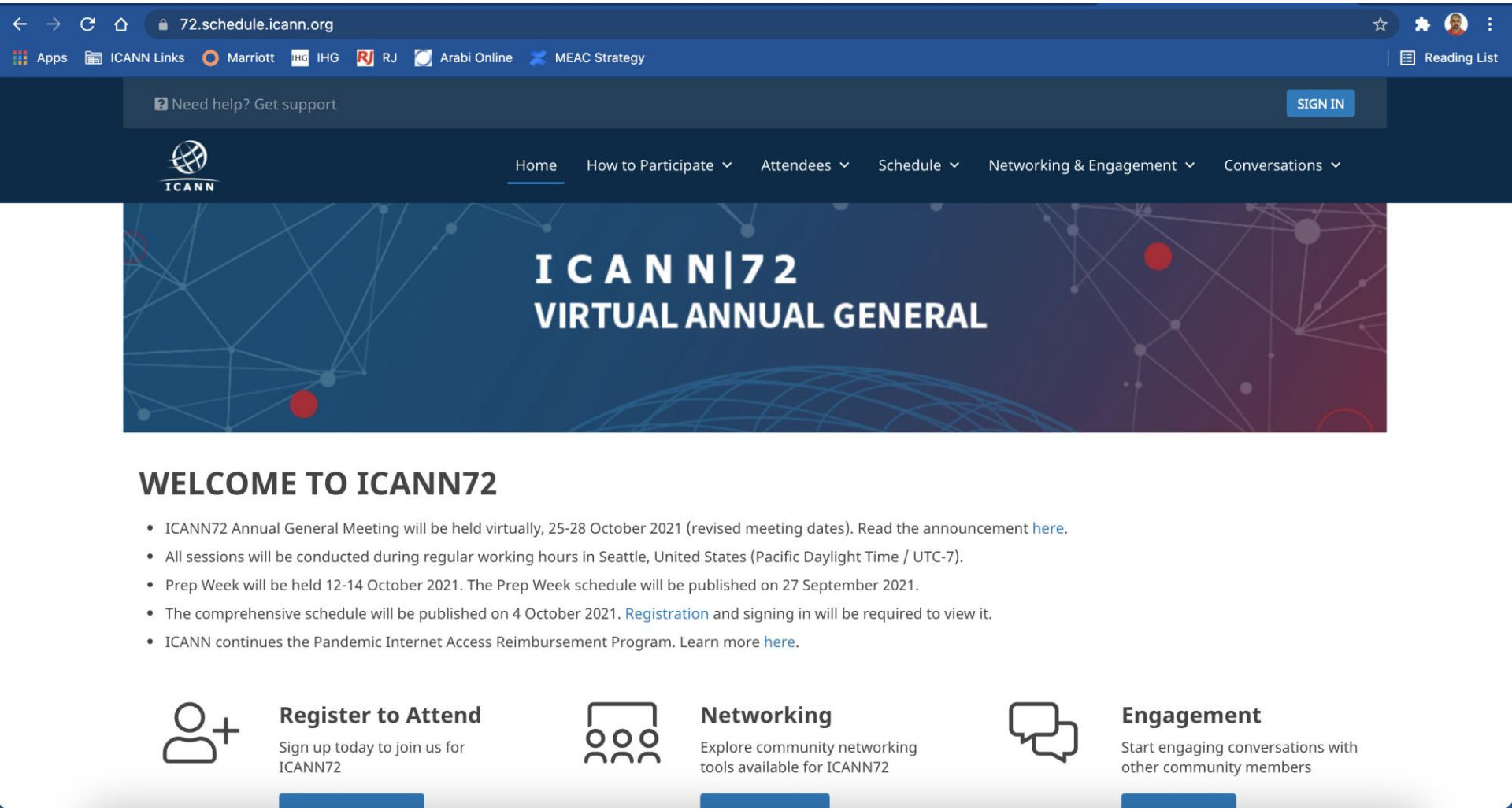
Domain Names and the DNS

ICANN Meetings

ICANN Meetings



ICANN Meetings Schedule



Tools at ICANN Meetings

- In-person and remote options
- Interpretation for many sessions in 6 UN languages + Portuguese
- Live transcripts and Scribes
- User-friendly schedule platform
- Mobile Application
- Much innovation when ICANN meetings were entirely online (due to COVID-19)

Domain Names and the DNS

Why Domain Names?

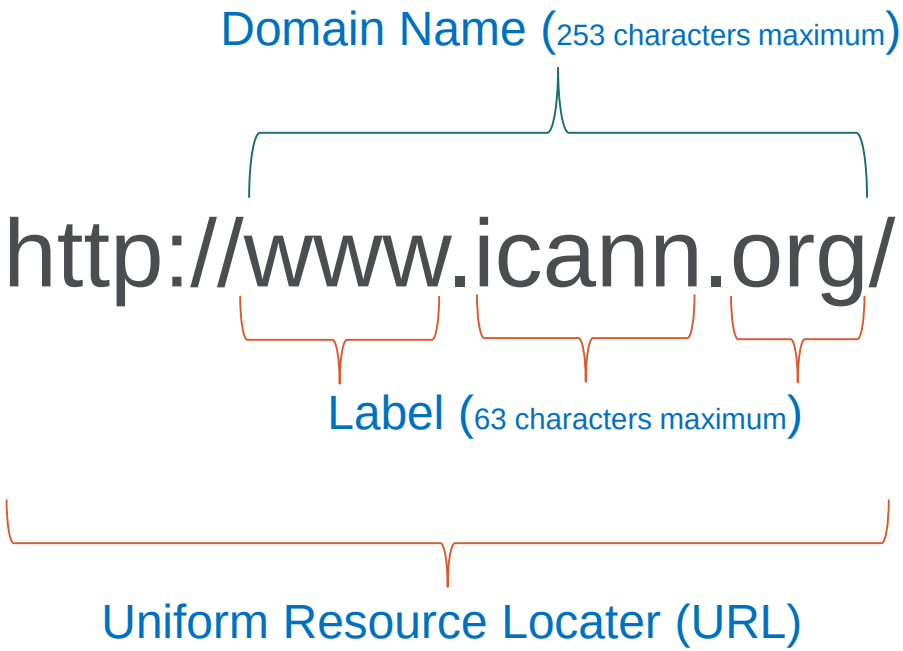
- Which is easier to memorize?

www.icann.org

or

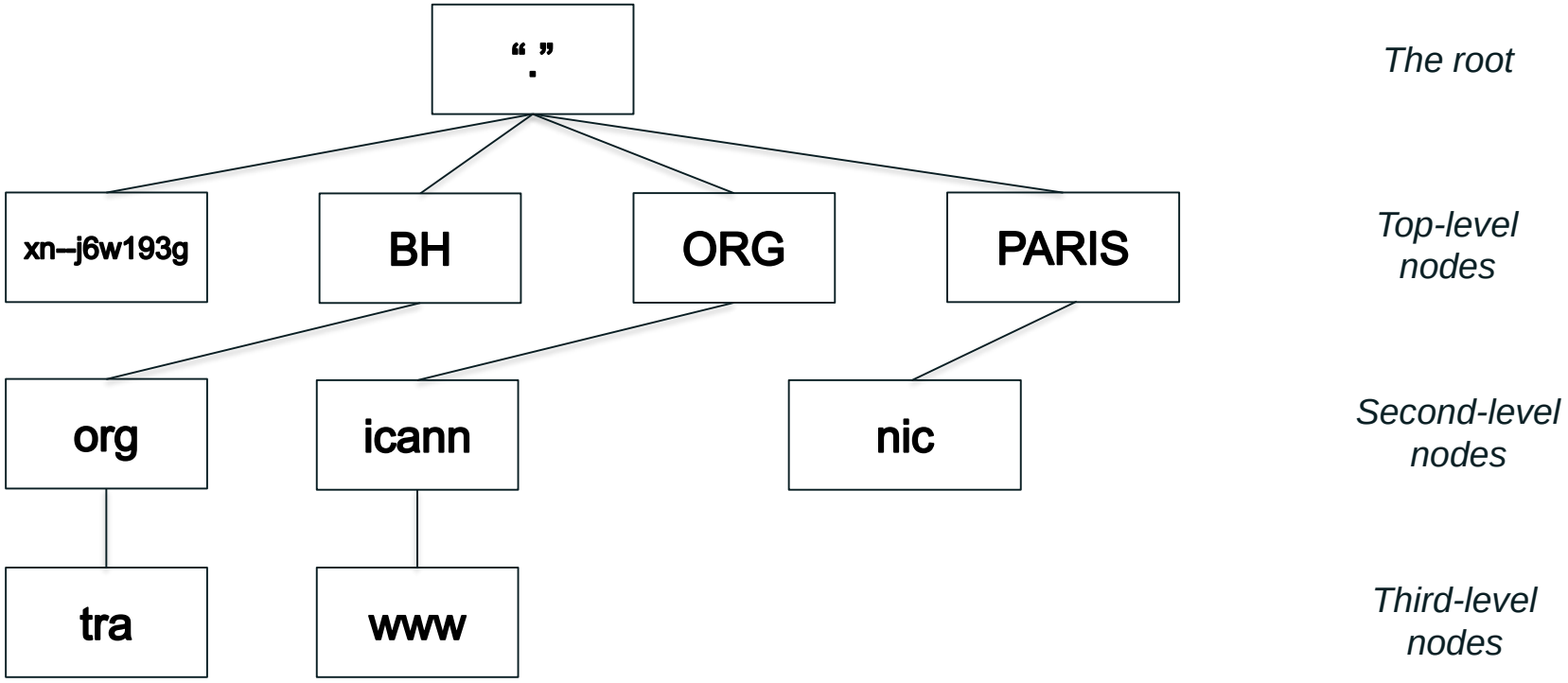
192.0.32.7

Names Terminology



The Name Space

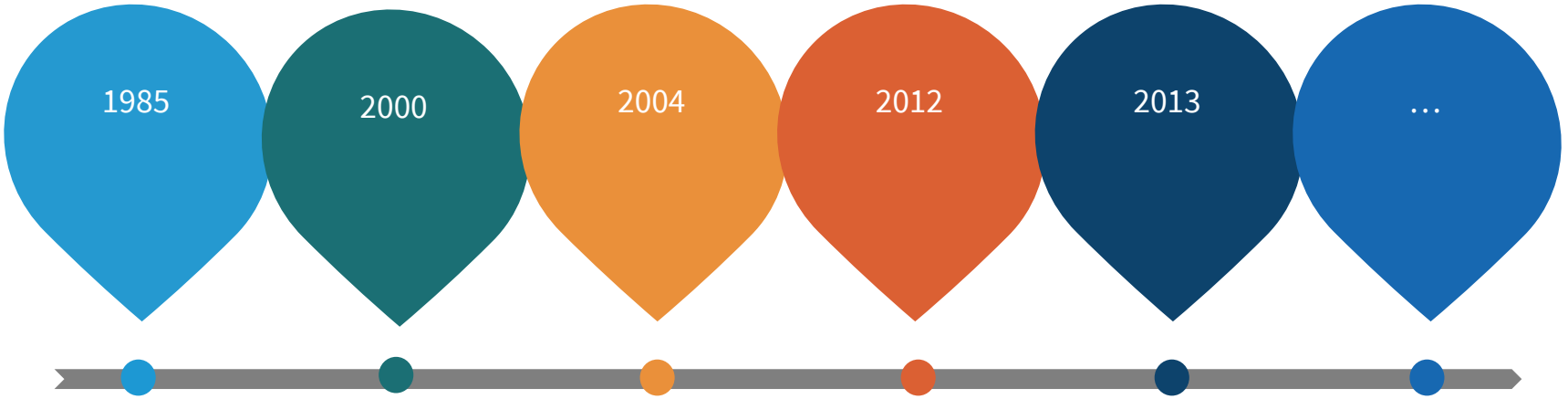
- DNS database structure is an inverted tree called the ***name space***
- Each node has a label
- The root node (and only the root node) has a null label



Top Level Domains (TLDs)

- Exists at the highest level of the DNS hierarchy
- It is the entry installed into the root-zone
- Consists of various groups:
  - ccTLDs (.pk, .tn, .jo, .eg, .lb, .uk)
  - gTLDs
    - Legacy (.com, .net, … etc)
    - New (.xyz, .apps, .موقع … etc)
  - IDN TLDs (.فلسطين, .بازار, .عرب)

Generic TLDs (GTLDs)



We started with 7 gTLDs (.com, .net, .org, .gov, .edu, .mil, and .int)

7 more gTLDs were added (.aero, .biz, .coop, .info, .museum, .name, and .pro)

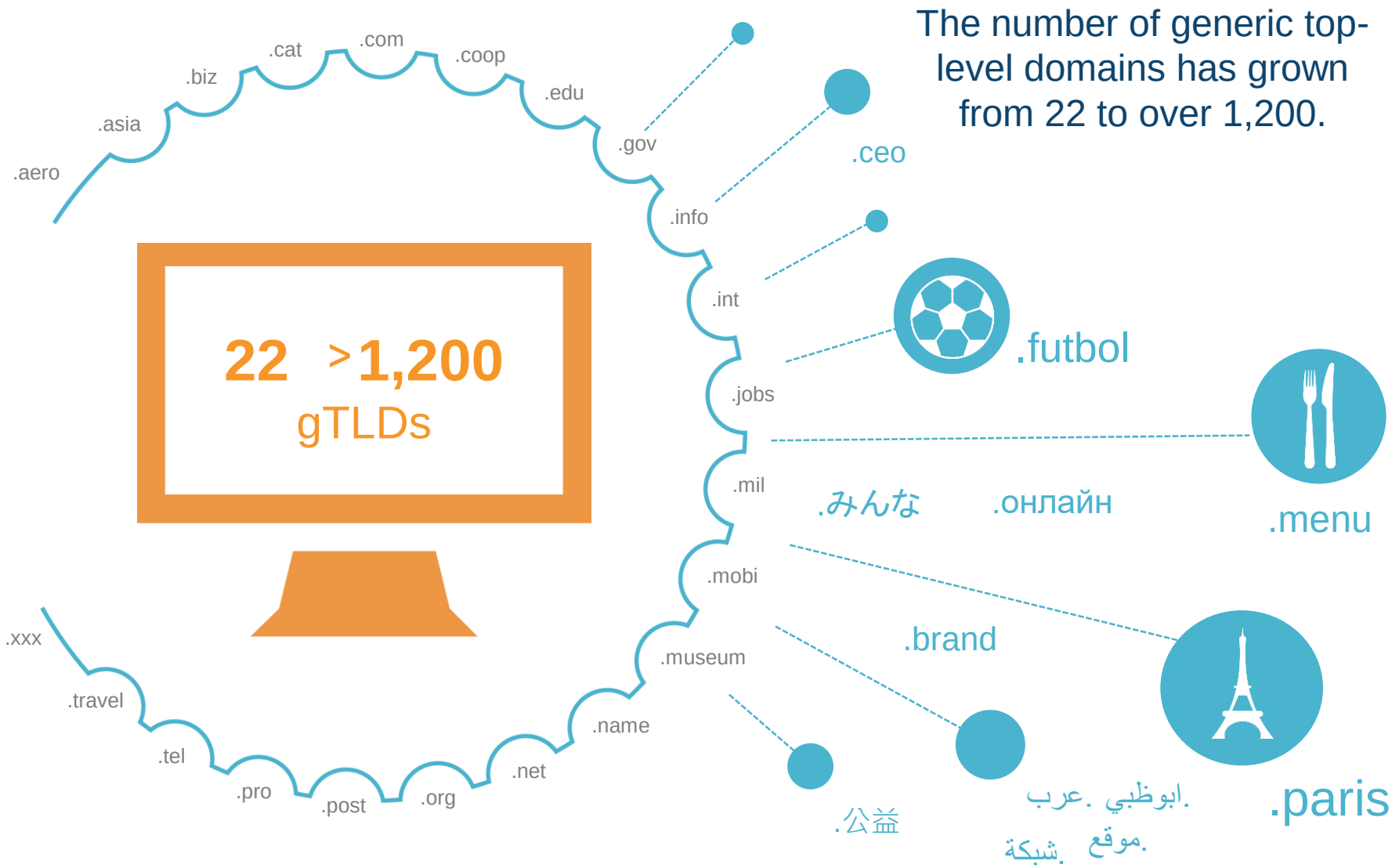
6 more gTLDs were added (.asia, .cat, .jobs, .mobi, .tel, and .travel)

.post was added

The biggest expansion to the TLD space with 100s of names applied for and delegated

A future round is currently being discussed

Expansion of gTLDs



New gTLDs

The goal of the New gTLD Program is to foster competition, innovation and choice in the domain name industry.

- This is an Internet community-driven initiative that is enabling the largest expansion of the domain name system, ever.
- The New gTLD Program is managed by ICANN, which means it has taken shape through the multistakeholder model.
- Over **1,200** new generic top-level domains have been introduced into the Internet over the past few years.

Internationalized Domain Names (IDNs)

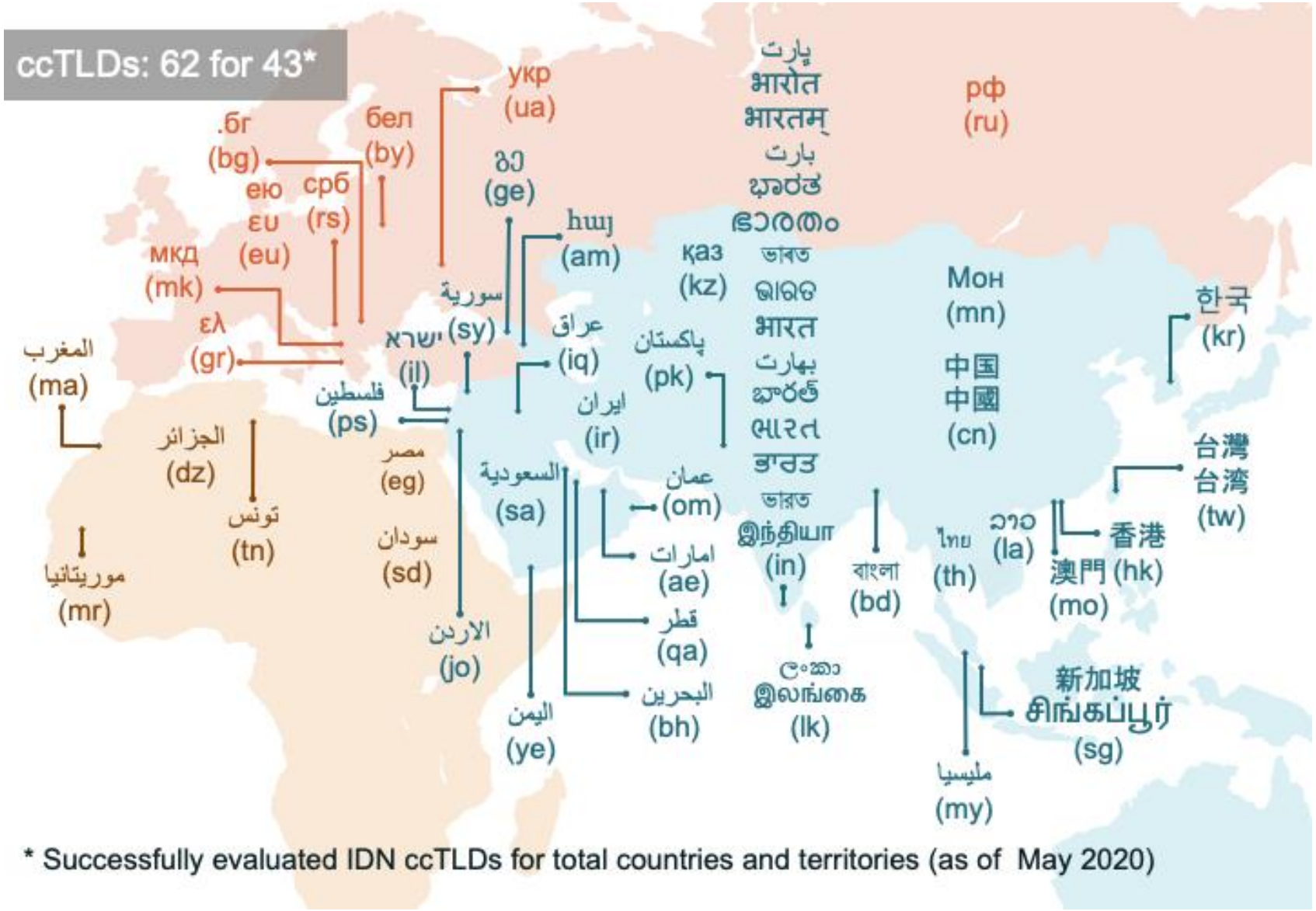
IDNs are domain names with non-Latin characters or Latin characters beyond letters (a to z) digits (0 to 9) and hyphens (-), as allowed by relevant protocols.

Until late 2009, top-level domains were restricted to only the Latin letters a to z without accents or symbols. After 2009, IDN TLDs were introduced in other scripts, including Arabic, Chinese, and Cyrillic scripts.

IDN TLDs can be either ccTLDs or gTLDs.

IDNs use a particular encoding and format to allow a wider range of scripts to represent domain names.

IDN ccTLD Fast Track Program



Humans vs. Computers

This is what we see and understand (Unicode)

http://الوكالة-الوطنية-لتقنين-المواصلات.المغرب/

This is what machines deal with (ASCII)

http://xn------nzeabcaancne6mxa3pircddecvqfa4bhn4cg.xn--mgbc0a9azcg/

Root Servers

- Publish the root zone file to other DNS servers and clients on the Internet
- The root zone file describes where the authoritative servers for the DNS TLDs are located
- The root name server operators publish the root zone file as received from the IANA

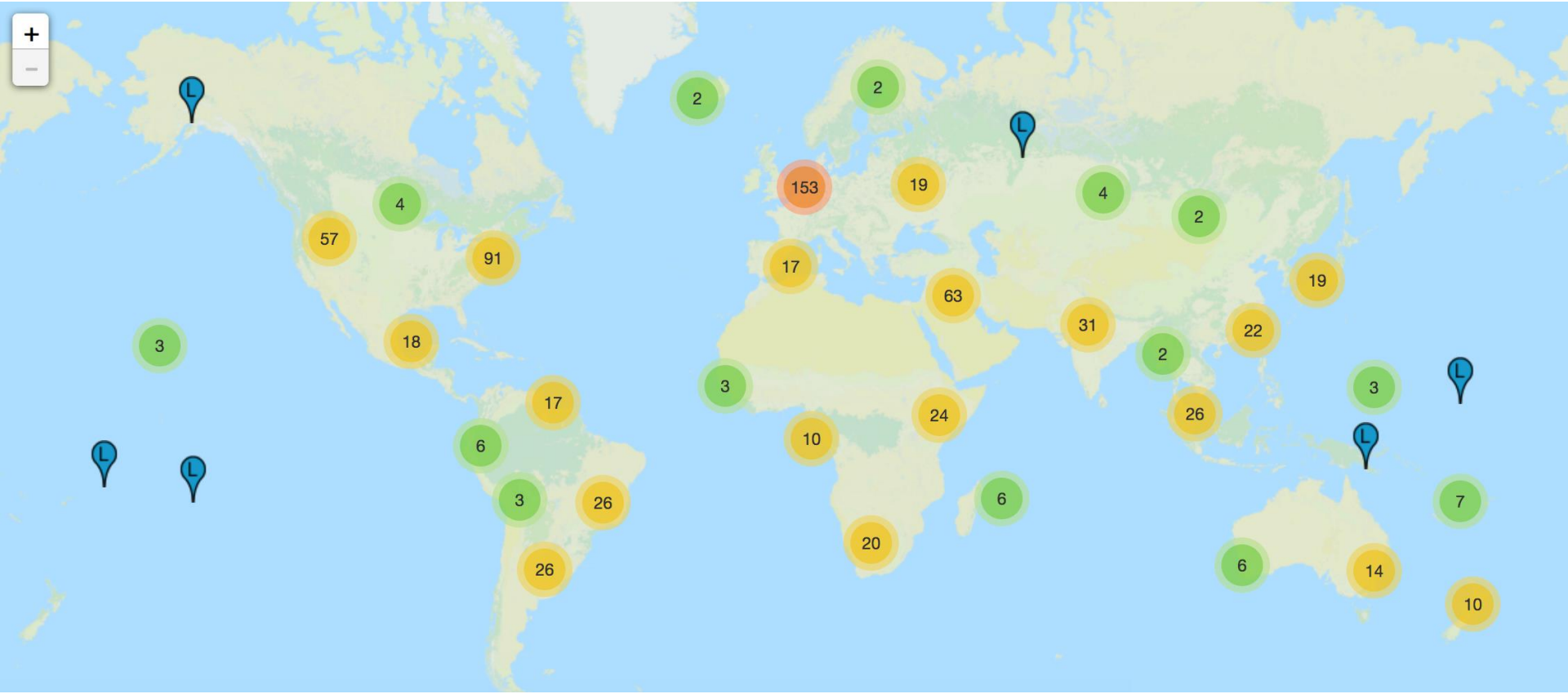
Root Zone Administration

- Administration of the root zone is complicated
- Two organizations cooperate to administer the zone's contents
  - ICANN (IANA Functions Operator)
  - Verisign (Root Zone Maintainer)
- Twelve organizations operate authoritative name servers for the root zone

Root Server Operators

1. A - VeriSign Global Registry Services
2. B - University of Southern California - Information Sciences Institute
3. C - Cogent Communications
4. D - University of Maryland
5. E - NASA Ames Research Center
6. F - Internet Systems Consortium, Inc.
7. G - U.S. DOD Network Information Center
8. H - U.S. Army Research Lab
9. I - Autonomica/NORDUnet
10. J - VeriSign Global Registry Services
11. K - RIPE NCC
12. L – ICANN
13. M - WIDE Project

Root Servers Around the World (1394)



Source at http://root-servers.org/

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