

Understanding Domain Names



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Agenda

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Domain Names

2

The Domain Name
Industry

3

The Regional
Landscape

Domain Names

Parts of a Domain Name?

Sub Domain Name

Top Level Domain

<http://whois.icann.org/>

Protocol

Domain Name

Top Level Domains (TLDs)

- Exists at the highest level of the DNS hierarchy
- Is the entry installed into the root-zone
- Consists of various groups:
 - ccTLDs (.tr, .tn, .jo, .eg, .pk, .uk)
 - gTLDs
 - Sponsored (.asia, .cat)
 - Unsponsored (.com, .net, .org)
 - New (.apps, .shop, شبكة, موقع)
 - IDN TLDs (ابوظبيي, بازار, تونس)

Where do ccTLDs get Their Code From?

- The ISO-3166 provides 2-letter codes and 3-letter codes of countries or a grouping of countries
- 249 assigned 2-letter codes
 - According to the UN, the world has 196 countries
- More at <https://www.iso.org/obp/ui/#search>

Generic TLDs (gTLDs)

- Initially started with 7 (.com, .net, .org, .gov, .edu, .mil, and .int)
- In 2000, 7 more were added (.aero, .biz, .coop, .info, .museum, .name, and .pro)
- In 2004, 6 more were added (.asia, .cat, .jobs, .mobi, .tel, and .travel)
- In 2012, .post was added
- In 2013, .xxx was added
- Starting 2013, 10s of new names are being added

Internationalized Domain Names (IDNs)

- Domain Names in non-ASCII characters
- Were introduced in hopes to bring more users to the online world

http://مثال.إختبار /

IDN ccTLD Fast Track Process

- Years of policy development before being announced on October 31, 2009
- Restricted to countries willing to register their ccTLD in their local language
 - Restricted to non-Latin languages
- Goes through two phases; String Evaluation and then Delegation
- Needs consensus from local communities on who should operate it
- More than 26 delegations so far with 13 in Arabic, 1 in Farsi, and 2 in Urdu
- First 4 delegations were مصر ., الإمارات., السعودية ., and .Pφ
- More at <https://www.icann.org/resources/pages/string-evaluation-completion-2014-02-19-en>

Problems with IDNs

- Variants across the same script
 - Can you spot the difference between ‘ك’ and ‘ک’?
- Browser support
- Email support
- SEO support
- Smartphone applications
- Integration with other applications and software

The 2012 New gTLDs Program

- Considered the 3rd round of New TLDs
- More than 5 years of community collaboration to come out with the “TLD Applicant Guidebook”
- A one-time application fee of USD 185,000, and an annual fee of USD 25,000
- Allowed the application of non-Latin names
- 1,930 applications received for 1,420 unique strings
 - 116 non-Latin strings

... cont. (The 2012 New gTLDs Program)

- A rigorous application and evaluation process
 - To ensure that TLDs remain operational and that registrants do not lose their domain names due to the instability of a TLD
- The New gTLD microsite at <http://newgtlds.icann.org/>
- More statistics on the program can be found at <http://newgtlds.icann.org/en/program-status/statistics>

New gTLDs Application Breakdown by Region

1930 total number of applications received

911
North America

675
Europe

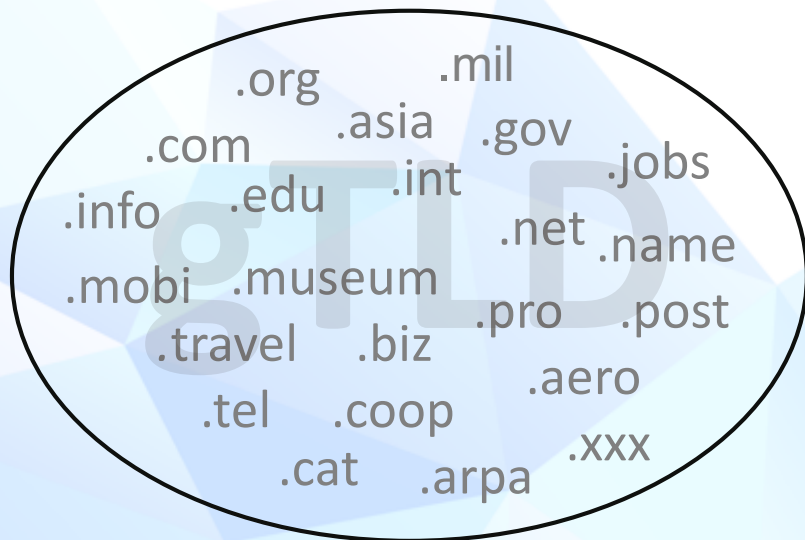
24
South America

17
Africa

303
Asia Pacific

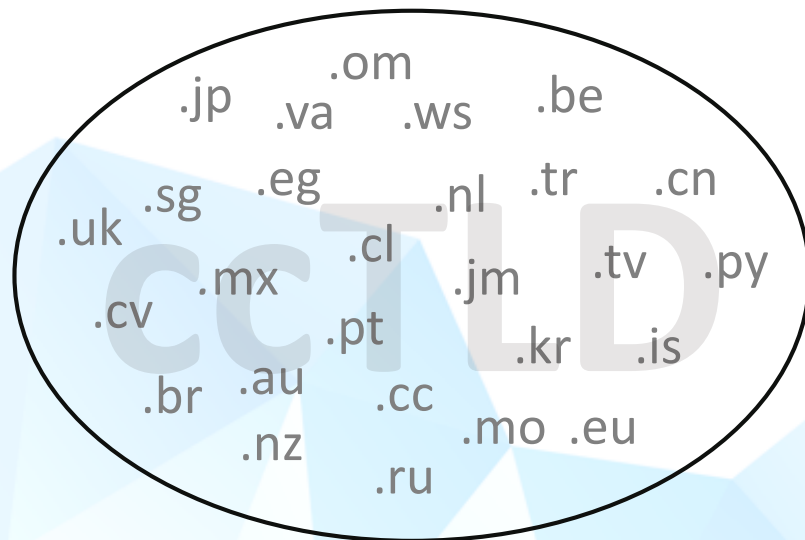
How does the Name Space Look Nowadays?

ROOT



New gTLD Program

New gTLDs



Fast Track Program

IDN ccTLDs



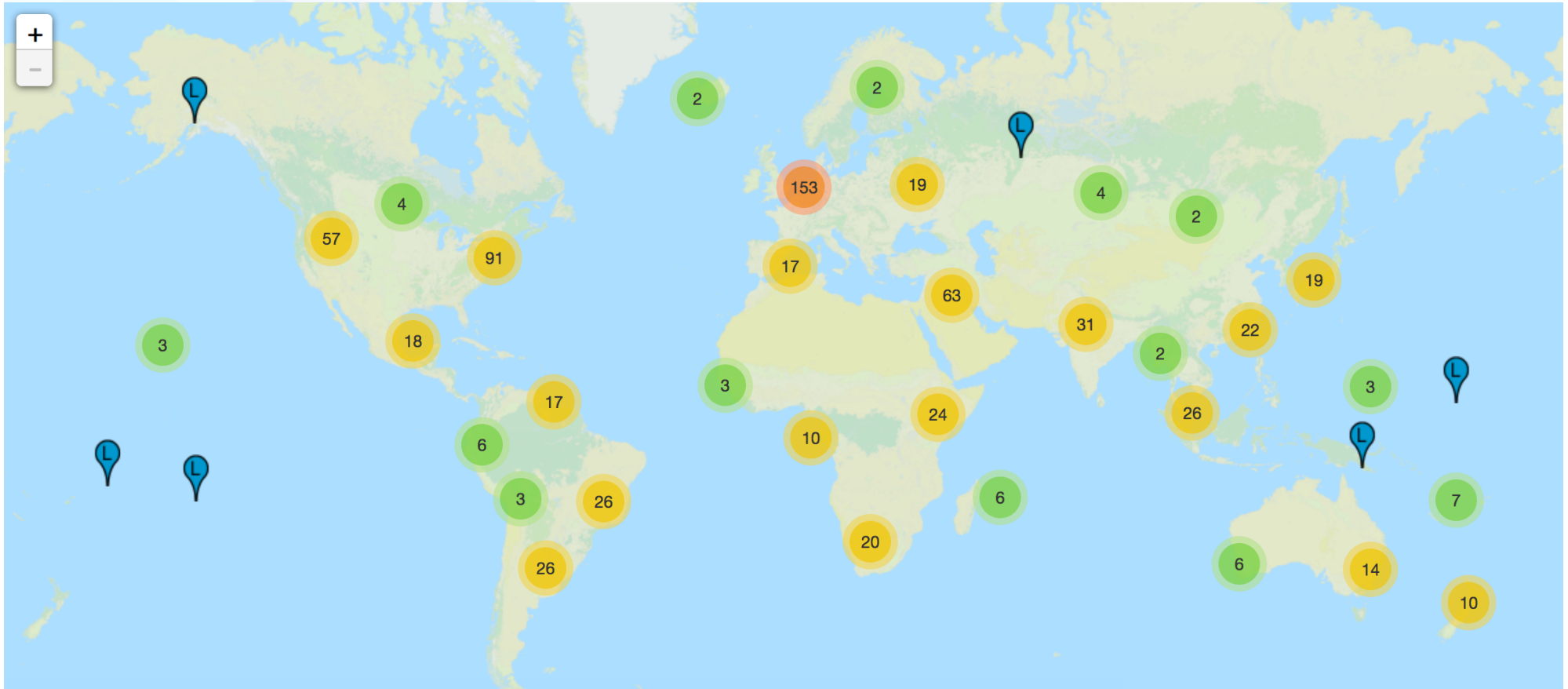
Root Servers

- 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 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 (782)



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

Registry/Registrar/Registrant

- **Registry** – The entity that operates a TLD
- **Registrar** – A middle-agent that sells domain names to registrants on behalf of a TLD Registry
 - ICANN Accredited Registrar vs. Resellers
 - ccTLDs vs. gTLDs
- **Registrant** – Entity registering a domain name

Dispute Resolution

- Cases could arise where a registrant registers a domain name that could infringe the naming rights of others. This is also called “Cybersquatting”
- When ICANN was formed in 1998, one of the first things it worked on was the “Uniform Domain Name Dispute Resolution Process (UDRP)”
 - 5 accredited providers for gTLDs to date
 - ccTLDs can customize this to fit their needs and local laws
 - An expensive and sometimes long process

New gTLDs and Dispute Resolution

- With the introduction of 100s of New gTLDs, cybersquatting is on the high
- Several protection and DRP mechanisms devised
 - Trademark Clearinghouse (TMCH)
 - Uniform Rapid Suspension (URS)
 - Post Delegation Dispute Resolution Procedure (PDDRP)
- UDRP would not be the best path for clear cut cases that need urgent attention
 - TMCH is good for initial protection, while URS comes in for a faster and cheaper path for resolving disputes

Trademark Clearinghouse (TMCH)



<http://www.youtube.com/watch?v=ZXP2dieeZe>

S

WhoIS

- A database that shows the registrant of a domain name
- Information displayed on WhoIS shows the Registrant Data, Admin Data, Technical Data, Billing Data, and Name Servers
- Some prefer to hide their WhoIS data
 - Some do this for IP protection, while others do this for malicious conduct
 - A playground for violating privacy and rights online
- Next Generation Registry Services is a new model for WhoIS, and hopes to overcome such violations
- To learn more about WhoIS, please refer to <http://whois.icann.org/en>

The Domain Name Industry

The Global Industry

- A multi-billion dollar industry
- Domain Names are online assets for many companies
- .com is the largest gTLD with 128.4 million registrations
- .cn is the largest ccTLD with 21.4 million domain names
- .xyz is the largest New gTLD with a little less than 5.6 million registrations
 - More at <https://ntldstats.com/>
- The most expensive domain name is **insurance.com**. It was sold back in 2010 for USD 35.6 million
 - More at https://en.wikipedia.org/wiki/List_of_most_expensive_domain_names

The Regional Landscape

The Middle East and Adjoining Countries (MEAC)

- 26 countries consisting of the 22 Arab states, Turkey, Iran, Afghanistan, and Pakistan
- 26 ccTLDs and 15 IDN.IDN ccTLDs

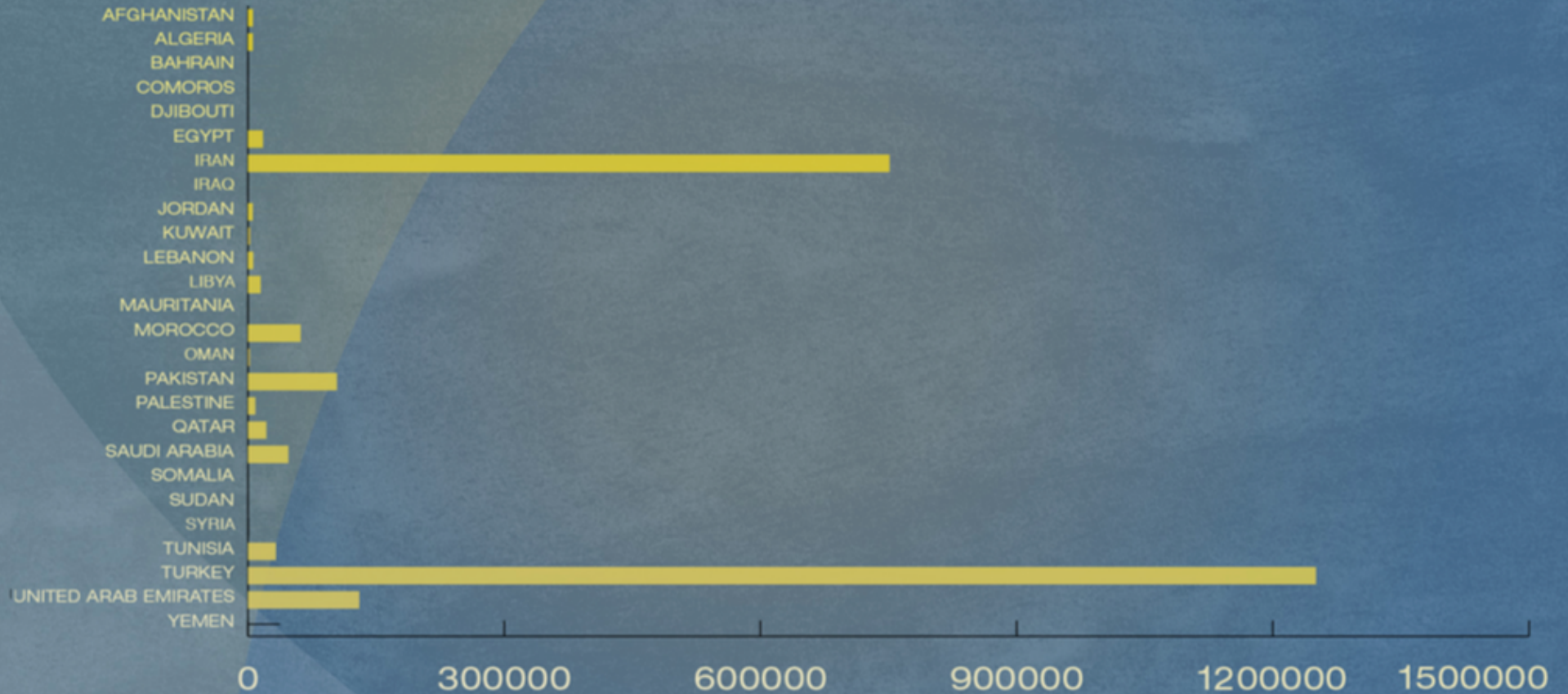
Statistics

Item	Worldwide	Region
Population	~ 7 billion	~ 750 million
Internet Population	~ 3 billion	~ 220 million
Internet Penetration Rate	42.86%	29.33%
Total ccTLD Registration	~ 120 million	~ 1.5 million
Largest ccTLD	.cn (China) 21.4 million	.ir (Iran) 900,000
Largest IDN ccTLD	.Pф (Russia) 898,959	.tr (Turkey) 10,339
ICANN Accredited Registrars	~ 2,500	17
New gTLD Applications	1,930 (1,420 unique)	~ 30 Applications
Largest ICANN Accredited Registrar	GoDaddy (USA) ~ 53 million DUMs	Isimtescil (Turkey) Less than 500,000 DUMs

MEAC STUDY



DOMAIN NAME REGISTRATIONS BY COUNTRY, 2015



<http://bit.ly/1Qa9liz>

Engage with ICANN – Thank You and Questions



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