Understanding Domain Names

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Agenda

1. Domain Names
2. The Domain Name Industry
3. The Regional Landscape
Domain Names
Parts of a Domain Name?

http://whois.icann.org/

Sub Domain Name  Top Level Domain

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)
    • Un-sponsored (.com, .net, .org)
    • New (.apps, .shop, .site)
  • IDN TLDs (.ا.ت.و.ب, .بازار, .تونس)
Country Code TLDs (ccTLD)

Source at http://dreamstime.com/
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.اختبار/
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", "امارات", "ا‌امارات`, "السعودية`, and .Рф
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

- **North America**: 911 applications
- **Europe**: 675 applications
- **South America**: 24 applications
- **Africa**: 17 applications
- **Asia Pacific**: 303 applications

Total number of applications received: 1930
How does the Name Space Look Nowadays?

NEW gTLD PROGRAM

New gTLDs

.com
.edu
.int
.net
.name
.mobi
.travel
.tel
.coop
.cat
.arpa

New gTLDs

.gTLD

.IDN ccTLDs

.jp
.va
.ws
.be
.uk
.sg
,eg
.nl
.tr
.cn
.mx
.cl
.jm
.tv
.py
.cv
.pt
.br
.au
.cc
.mo
.eu
.ru

Fast Track Program

.IDN ccTLDs

.arab
.рус
.السعودية
.طويل
.مختصر
.رقم
.اسم
.مناطق
.دائر
.مثبط
.تجاري
.ترفيه
.تعليم
.بيئة
.الрабат
.العربية
.التركية
.الصينية
.البرازيلية
.البرتغالية
.الألمانية
.السويسرية
.الإيطالية
.الكورية
.الدافينج
.الإسبانية
.الفلبينية

Fast Track Program

.IDN ccTLDs

.city
.acronym
.gIDNs
.brand
.generic
.community
.region

.gTLD

.Root

.org
.asia
.gov
.jobs
.info
.edu
.int
.net
.name
.museum
.biz
.aero
.tel
.arpa

.Root
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
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=ZXP2dieeZeS
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

<table>
<thead>
<tr>
<th>Item</th>
<th>Worldwide</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>~ 7 billion</td>
<td>~ 750 million</td>
</tr>
<tr>
<td>Internet Population</td>
<td>~ 3 billion</td>
<td>~ 220 million</td>
</tr>
<tr>
<td>Internet Penetration Rate</td>
<td>42.86%</td>
<td>29.33%</td>
</tr>
<tr>
<td>Total ccTLD Registration</td>
<td>~ 120 million</td>
<td>~ 1.5 million</td>
</tr>
<tr>
<td>Largest ccTLD</td>
<td>.cn (China)</td>
<td>21.4 million</td>
</tr>
<tr>
<td>Largest IDN ccTLD</td>
<td>.Рф (Russia)</td>
<td>898,959</td>
</tr>
<tr>
<td>ICANN Accredited Registrars</td>
<td>~ 2,500</td>
<td>17</td>
</tr>
<tr>
<td>New gTLD Applications</td>
<td>1,930 (1,420 unique)</td>
<td>~ 30 Applications</td>
</tr>
<tr>
<td>Largest ICANN Accredited Registrar</td>
<td>GoDaddy (USA)</td>
<td>~ 53 million DUMs</td>
</tr>
</tbody>
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Study Report Online

http://bit.ly/1Qa9liz
Engage with ICANN – Thank You and Questions

One World, One Internet

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