Rocking around the Domains World

A Presentation on the Known Knowledge
for the 2nd edition
of the Afghanistan School on Internet Governance
Kabul, 30 April 2018

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A Couple of Words about APTLD:
Our Region at a Glance

APTLD: Some Hard Facts

- A non-profit, non-governmental association

- 60 Members: 45 Ordinary and 15 Associate

- From Afghanistan (A) to (New) Zealand (Z)

- From the Baltic sea to the Antarctic area to the Latin America

- From miniscule members (a few hundreds of registrations) to giants (China- 20m registrations)

- From university-based computer departments to nations' cyberadministrations

- An association to serve >60% of the global population

Hard Fact: what our members do is <u>domain names</u>

What is domain (name)?

Domain means a group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the IP address.

All devices sharing a common part of the IP address are said to be in the same domain.

Accordingly, **domain name** is the part of a network address which identifies it as belonging to a particular domain

Its length can be 3 to 63 characters, including letters, digits, and hyphens (-), but it cannot start and end with hyphens

Hard fact:

http://www.thelongestdomainnameintheworldandthensomeandthensomemoreandmore.com/ **is believed to be the world's longest domain name.**

The Secret behind Domain Name

Do not trust your eyes, as what you see is not what it in reality is :

www.nic.af = 103.23.247.203,

Any IP address consists of two parts: the first set of numbers (before the 1st dot one identifies the network its belong in; all the other numbers (after the 1st dot) identify the node, or host. All nodes on a given network **share the same network prefix (103.)** but each node must have **a unique host number**.

Try: https://ipinfo.info/html/ip_checker.php -just out of curiosity

So, domain names as we see them in the browser's window were created just to make surfing the Internet an easier process

How to Read Domains?

http://nic.af/en/page/about-us

`http(s)`	transfer protocol (type of information being transferred) (secure)
`www.nic.af`	website name, host name
`nic`	second-level domain name
`.af`	top-level domain name
`en`	directory name (major category)
`page`	sub-directory name (sub-category)
`about-us`	file name (a file within the directory)
`html`	file format

Is domain=website?

Not quite: a simple answer is, domain can become home (host) to plenty websites, just like this toy:

Hard fact: presently, there are more than 330m domains and some 1.9bn (!) websites on the internet. You can always check how the number of websites grows live at:
http://www.internetlivestats.com/total-number-of-websites/

Is Domain a Property?

Yes....

You can buy, sell, otherwise trade, etc. it (with some domains not to be traded)

...and No

If not renewed on a regular basis, they go back to the market

Hard fact: While many people don't report the sale of their domains publicly and, prices vary of course, the most expensive domain sold was *Insurance.com* at $35.6m, followed by *VacationRentals.com* ($35m), and *PrivateJet.com* ($30.18m)

Get Whatever You Like....☺

- **Hard fact: given ALL the combinations of All the allowed characters and ALL possible lengths (3 to 63 characters), the total number of domain names available is:**
  433,018,769,429,481,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000,000

…Well, Not Quite So ☹

You cannot typically register what is prohibited by a given TLD operator (registry).

For example: . AF registration rules hold the following:

Domain name registration is strictly prohibited by any of the following purposes:

1. The display of sexually offensive contents;

2. Spamming activities including the development of tools used to spam ; or any software or resources to be used for illegal activities, including viruses and hacking tools;

3. Any other activity which is illegal under Afghan law.

As well, the .AF registry will not accept the following domain names for registration names that are already registered ("first come, first served" -principle) or that are put on hold due to being disputed (incl. Legally; or that consist of characters other than "a-z", "A-Z", "0-9" and "-", or that start or end with r"-" , or have less than three characters or more than sixty-three (63) characters, or have "-" on the third and the fourth position.

Hard fact: do not try to get a famous trademark or a very similar to that (e.g. _coco-cola.af_), the trademark owner will most likely come after you and make you cancel the registration

How are domains organized?

- Together, domains are organized into a hierarchic pyramid, aka the Domain Names System (DNS), which is both a part of the skeleton and the flesh on the bones of the Internet

Bottom-up, there are:

Third-level domain names: *abc.gov.af*

Second-level domains: *nic.af*

And……

Top Level Domains

On top of that pyramid, there are (surprise, surprise!) **top level** domains (TLDS), a total of 1,543 (as of 9 April 2018)

They are of different classes:

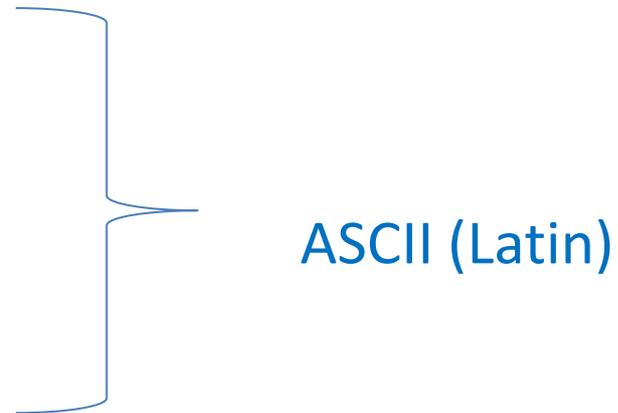Infrastructure TLD – just 1: *.arpa*

Testing TLD- just 1: *tTLD*

Restricted TLDs: *.int, .edu, .gov, .mil*   ASCII (Latin)

Country-code TLDs- some 200+: e.g. *.af*

Legacy Generic TLDs -. *com, org, net*.

Internationalized TLDs – non-ASCII (non-Latin): .ஜ.; .**香港**

New gTLDS- >1000; both ASCII & IDNs *(.bank, .hotel, .شبكة.)*

Big question (1)
Who Sets the Rules on the Market?

Simple: since 1998 that has been the Internet Corporation for Assigned Names and Numbers (ICANN), a California-based non-profit private corporation.

Hard facts:

1) **domains had existed long before ICANN was established (the first domain name registered was Symbolics.com (March 15, 1985))**

2) **Not everyone is happy with ICANN's existence- many governments keep challenging its mandate arguing that it is the way for the US to control the Internet**

Big question (2)
Who Trades Domains on the Market?

Typically, TLD administrators are not involved in retail.

There are specialized commercial companies – **registrars** and **resellers** that operate on the market.

However, private persons (anyone) can also do that easily, and some of them do that professionally. The are called domainers.

Hard facts:

The biggest TLD Operator is Verisign (*.com*) (USA) >130m registrations

The biggest registrar is GoDaddy (USA) (revenue: US$2,231,900,000; >6,000 staff (2017))

The most successful domainer of all times is Kevin Ham (Canada)

Big question (3)
Is there Crime in the Domain Names Space?

Wow, plenty!

Just google for cybersquatting, domain theft, phishing, spoofing, hijacking, and DoS and DDoS, of course

Hard fact: you can actually track the all-out war live – check out the best sources at:
https://krebsonsecurity.com/2015/01/whos-attacking-whom-realtime-attack-trackers/

Big question (4)
Back to ccTLDs: Do They Belong to States?

In some sense, Yes…..

ISO assigned 2-character country codes (alpha-2) to each country and territory, including future ones. That is why they are not allowed on the market.

…and NO

These country codes do not belong to states, nor are they a part of their sovereignty (Israel vs. .IR case)

Hard fact: some countries *(Pakistan (.PK), Turkmenistan (.TM), Tonga (.TO))* saw their ccTLDs "stolen" from them in the 1990s and have not got them back ever since

Will Domain Live On/Are There Domain Names Killers?

Yes…

Some believe social media (e.g. FB), tech giants' advanced solutions, Blockchain, and IoT will eventually kill the domain names industry, as domains will not be used

….and No

With FB's challenges, and IoT allowing practically infinite number of IP addresses (360m per every resident of planet Earth !!!), every connected object could be given a unique domain name, and YOU would be able to have YOUR own top-level domain to operate your house, why not?

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