

Rocking around the Domains World

A Presentation on the Known Knowledge
for the Armenian IG School

Leonid Todorov, General Manager

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.isoc.am = IP Address: 185.92.84.41

Any IP address consists of two parts: the first set of numbers (before the 1st dot) 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 (e.g. 185.)** 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 easier.



Is domain=website?

Not quite: a simple answer is, domain can become home (host) to more than 1 websites, just like this toy:



Hard fact: presently, there are more than 354.7m domains and some 1.8bn (!) 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, in most cases 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)



...Well, Not Quite So 😞

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

For example: .AM registration rules hold the following:

- We can revoke a domain if it is proved that the domain is being used for spreading spam and/or any illegal or inappropriate purposes (to stir up an international, ethnic, religious discord, to abet in international terrorism, to promote violence, to boost up pornography, to support trafficking).
- Should the party requesting registration or the de jure or de facto owner or operator of domain use the domain for any illegal purposes stated above AM NIC reserves the right to suspend the domain name and/or revoke the registration by the decision of the Council of ISOC AM
- As well, the .AM registry is unlikely to accept the 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 which consist of characters other than "a-z", "A-Z", "0-9" and "-", or that start or end with "-", or have less than three characters or more than sixty-three (63) characters
- **Hard fact: do not try to get a famous trademark or a very similar to that (e.g. [coca-cola.am](#)), for 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.am***

Second-level domains: ***isoc.am***

And.....

Ta-da! Top Level Domains

On top of that pyramid, there are (surprise, surprise!) **top level domains** (TLDS), a total of >1,000

They are of different classes:

Infrastructure TLD – just 1: **.arpa**

Testing TLD- just 1: **tTLD**

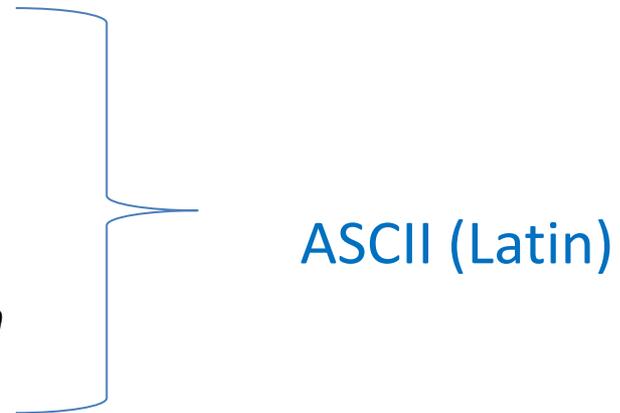
Restricted TLDs: **.int, .edu, .gov, .mil**

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

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

Internationalized TLDs – **non-ASCII (non-Latin): .ڭڭ; .香港, and .huy**

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, but as instructed by its community. On the national level, it is a registry (e.g. dotAM in Armenia)

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- 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. They are called domainers.

Hard facts:

The biggest TLD Operator is Verisign (.com) (USA) >140m 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 (5)

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?

Thank you!

L.TODOROV@APTLD.ORG