

Domain Registries in 2033

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What is a Domain Name?

- A set of strings (ASCII or IDN) separated by dots
e.g. mail.domains.lk, බැපැල්.ලංකා
- Used to identify *services* on the Internet
- Can identify a *large number* of services
- Easy to remember
- Easy to type
- Keyboard (or voice) oriented
- Not so useful in a GUI



Why Domain Names?

- Computers like numbers
 - e.g. 203.143.45.32
- People can't remember long numbers
- Domain names provide a **mapping** between names and numbers`

Internet Address (IP)

Google IP4 Address

216.58.216.164

Google IP6 Address

2607:f8b0:4005:805::200e

ComputerHope.com

Features of Current Domain Names

- Text
 - e.g. facebook.com
- Unique
 - A name should always refer to the same service
- Hierarchical
 - Consists of a set of labels (from right to left)
 - e.g. www.yahoo.co.uk

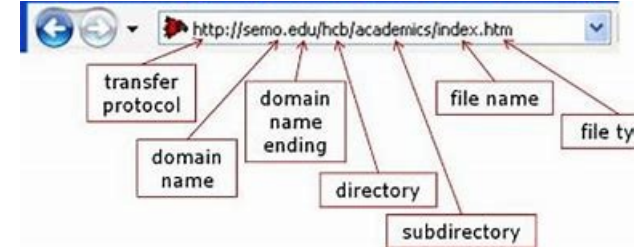
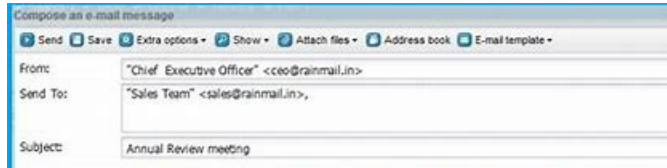


Three Aspects of Domain Name System

- Domain Name *Registration*
 - One-off
 - Plus renewals, changes etc.
- Domain Name *Resolution*
 - May happen millions of times a second
- Domain Name *Search*
 - To find a domain
 - On Whois, etc.
 - Implicitly in web searches and web page links

Common Uses of Domain Names

- Website names
- E-mail addresses



When Are Domain Names Needed?

- When you use a service
 - Most often, domain names are hidden behind webpage links, or handled internally by apps and search engines
- Rarely typed-in
 - Most people type some text in the address bar and let a search engine handle it



Alternatives to Domain Names

- Company and Personal Names
 - Long and not always unique
- Apps
 - Ecosystems which hide domain names
- Appstores
 - Use their own naming system
- UserIDs and handles
 - FaceBook, etc.
- Phone Nos
 - e.g. WhatsApp



Better Homes
& Gardens.

SINGAPORE
SYMPHONY
ORCHESTRA

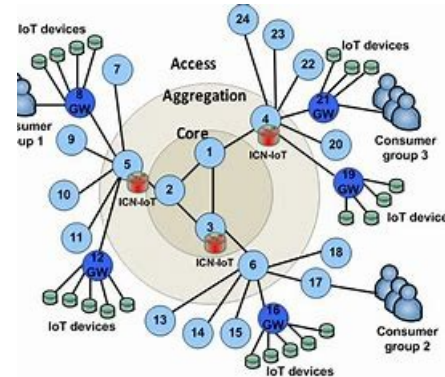
Why do People use Domain Names?

- Unique
- Easily remembered
- Structured
 - Can mirror national and organisational structure

Domain Names in the Future

New Technologies

- Metaverse / virtual reality
- Decentralised Data
 - blockchain
- Contextual names
 - e.g. fourth floor
- Internet of Things (IoT)
 - Billions of named devices
- AI interfaces
 - Chat



New Technologies (cont.)

- Non-textual names
 - Images
 - Video
 - Gestures
 - Voice



Augmenting DNS Data

- Currently, we basically store names and IP addresses
- What other data can we make available?
 - Legal Name
 - Other Names
 - Address
 - Phone No., e-mail, etc.
 - Company No.
 - Business Recommendations
- e-KYC

Beyond Domain Registration

- We may become a registry of *attributes* of organisations and people (not just IP addresses)
- LK Domain Registry has started with our *TopWeb* product
- Attributes may be confirmed by registrant, registry or a third party
- Anyone can check on attributes
- **Registrant** should control visibility of attributes

Will Domain Names become Obsolete?

- Unlikely
 - Used behind-the-scenes in most applications
 - Useful level of indirection

but

- Organisations and people may not want/need their own, memorable, domain name
 - Use Gmail, FaceBook, etc.
 - May become a *behind-the-scene* technology

Thank You

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