

ECSE-6600: Internet Protocols

Informal Quiz #12: Naming/DNS

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Naming and DNS (Slide set #13): Informal Quiz

Naming/DNS

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- A name always refers to a single access point (or network interface)
- Name resolution is a special case of a general indirection problem of ID-to-location mapping.
- The separation of names from location addresses is attractive in part because the mapping can be deferred and changed.
- Name spaces allow flexible structuring of names
- The use of DNS, routing/forwarding, ARP is an example of composing naming domains to access a resource given a URL.
- URLs and URNs allow the integration of name spaces and resolution methods
- DNS is a distributed database offering strong consistency and atomicity guarantees
- DNS cannot be used to do the inverse mapping from an IP-address to a name
- The DNS name tree is organized as a hierarchy of non-overlapping zones
- The SRV record type refers only to a name server implementing the represented zone
- IPv6 address mappings require a AAAA DNS record.
- /etc/hosts is an example of a flat namespace

Naming/DNS

- □ The two types of resolution methods in DNS are recursive and iterative
- □ Caching in DNS is the same as pre-fetching.
- □ The “dig” program allows the querying of the DNS system
- □ DNS maintains strict consistency amongst the cached DNS entries.
- □ The early X.500 vision is now broken down into a set of layers: DNS, directories and discovery services.
- □ Discovery services like Jini provide more dynamism and plug-and-play capabilities compared to directories which essentially provide attribute-based searches (yellow-pages)
- □ ENUM allows telephone numbers to be written DNS-style and helps in the deployment of internet telephony.
- □ Today’s internet architecture suffers from overloading of ID semantics and subsequent brittleness
- □ Advanced naming systems propose further layers of indirections and new IDs for services, entities etc
- □ Mobile IP is actually an example for dynamic/late-binding between an entity ID and a location ID.
- □ Explicit delegation will allow the integration of middleboxes seamlessly into the Internet architecture