

# ECSE-6600: Internet Protocols

## Informal Quiz #12: Naming/DNS: SOLUTIONS

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

# 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