

The Internet (Cont.)

Thomas Barrasso
CS-E1- Fall 2011

Parts of a URL

<http://webmail.fas.harvard.edu:80/index.php?id=1234#page2>

Remember These?

192.128.1.0

Vs.

FE80:0:0:0:0:0:0:C0A8:100

From 173.203.129.90 to harvard.edu

- + The process is known as a *reverse lookup*, broken down into three common types:
 - standard (from domain name to IP)
 - reverse (from IP to domain name)
 - electronic (for email)
- + Comcast's DNS doesn't have the entry, are we out of luck?
- + At the heart of it all lies the *root name servers* owned by...

Hangman

Which One of These Does Not Belong?

- 1) TCP, HTTP, FTP, SSH, SMTP
- 2) DSL, TELNET, Ethernet, CDMA
- 3) IPv4, IPv6, MAC, IPSec
- 4) TCP, UDP, POP

Remember to Forget

- + *Cache* is temporary storage used to increase performance.
- + This happens across the entire Internet spectrum, including:
 - A web browser remembers that 173.203.129.90 = harvard.edu
 - A web browser remembers the HTML document returned for webmail.fas.harvard.edu
 - A domain name server remembers that 173.203.129.90
 - A web server remembers the results of a search
- + This happens mostly transparent to the end users... except every now and then when the cache has yet to expire. Ever have to double-refresh a web page or noticed that your favorite website could not handle its current traffic?

Not My Speed

- + *Latency* simply refers to a time delay.
- + A lack (or improper) *caching*, initial HDD spin-up, or high network traffic can all be latencies slowing a process.
- + The average web user will wait roughly 1 second for a web page to load before considering it too slow and leaving.
- + In some sense we are the biggest latency! Few people can hit keys faster than the computer can accept and process the input.

Zero to Sixty...

- + *Bandwidth* is the measurement of how much data is transferred in a given unit of time.
- + Often expressed in kilobit or megabit per second.
- + *Kilobits* are not *kilobytes*, but they can be converted! One kilobyte per second equals eight kilobits per second.

Fin