

Name: \_\_\_\_\_

## This week's readings

- [1] Peter B. Danzig, Katia Obraczka, and Anant Kumar. An analysis of wide-area name server traffic: a study of the Internet domain name system. In *Proceedings of the ACM SIGCOMM Conference on Communications Architectures and Protocols*, pages 281–292. Baltimore, MD, August 1992. URL <http://portal.acm.org/citation.cfm?id=144301#>.
- [2] Paul Mockapetris and Keith Dunlap. Development of the Domain Name System. In *Proceedings of the ACM SIGCOMM Symposium on Communications Architectures and Protocols*. Stanford, CA, August 1988. URL <http://www.cs.colostate.edu/~cs580/Papers/md88.pdf>.
- [3] Jaeyeon Jung, Emil Sit, Hari Balakrishnan, and Robert Morris. DNS performance and the effectiveness of caching. *IEEE/ACM Transactions on Networking*, 10(5), October 2002. Originally in IMW 2001, URL <http://nms.lcs.mit.edu/papers/dns-ton2002.pdf>.

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1. What is the difference between “telnet cuyahoga.cs.umd.edu.” and “telnet cuyahoga.cs.umd.edu” (without the trailing dot)?

2. DNS was designed with hierarchy as a fundamental principle. What is one advantage of this design?

3. DNS was designed with hierarchy as a fundamental principle. What is one disadvantage of this design?

4. Name lookups should be reliable. Why does DNS use UDP instead of TCP?

5. What is negative caching?

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Vocabulary (some of this may be covered in class)

- A record
- delegation
- DNS zone
- domain
- FQDN
- hierarchical naming
- IN record
- iterative name lookup
- MX record
- negative caching
- recursive name lookup
- reverse DNS lookup
- root name server
- secondary name server
- top-level domain (TLD)