DNS – the protocol

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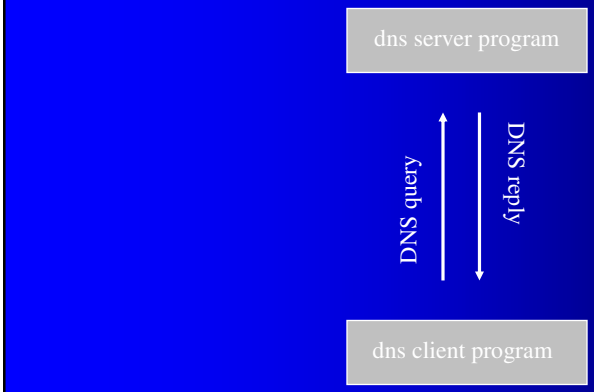
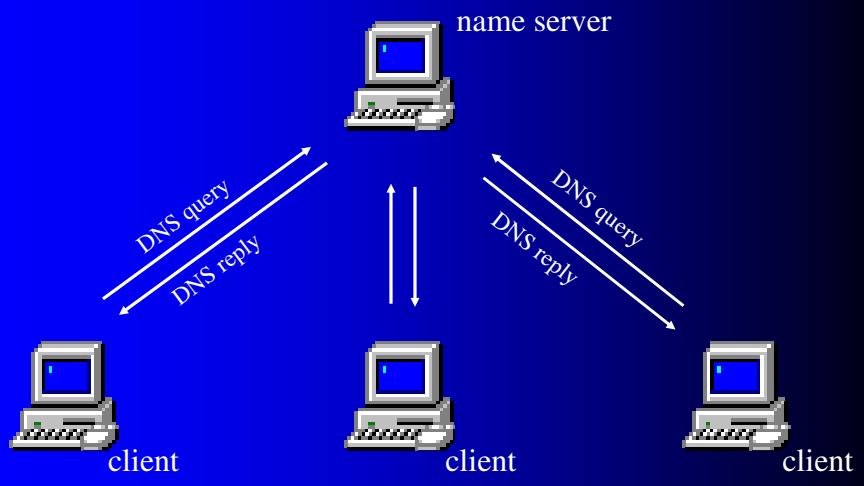
DNS as a language

- spoken between pairs of programs
  - a dns client program, e.g., the resolver
  - a dns server program, e.g., BIND
  - they're written specially to speak it
- discussing server giving info it has, or gets, to client
- simple query-response behavior

A DNS conversation



Typical configuration…



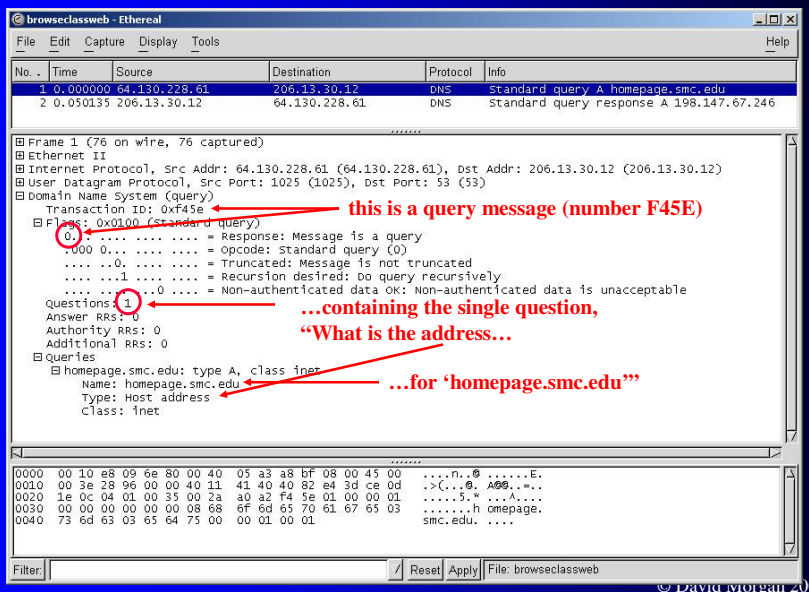
DNS particles of speech

- DNS messages
- 2 kinds
  - query messages
  - reply messages
- both have same format

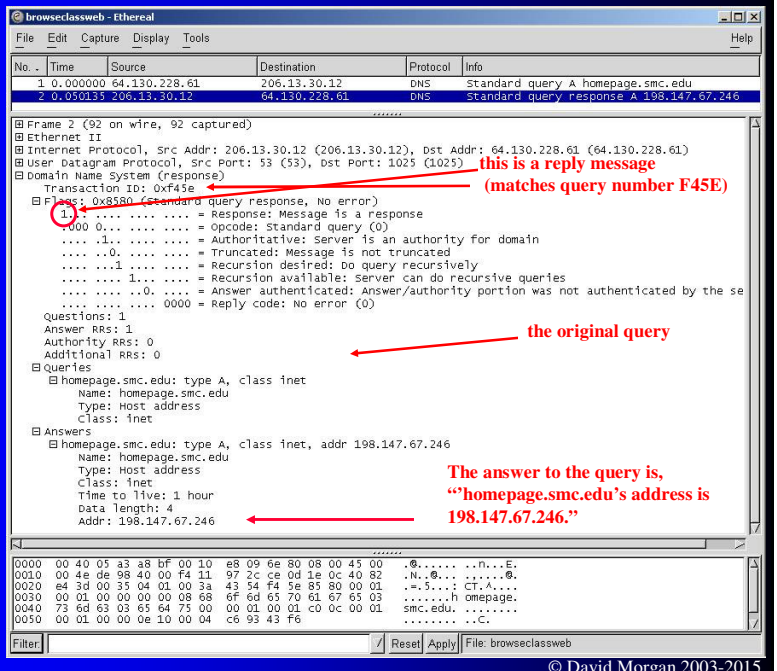
DNS message format

Identification	Flags
Number of questions	Number of answer RRs
Number of authority RRs	Number of additional RRs
Questions (variable number)	
Answers (variable number of resource records)	
Authority (variable number of resource records)	
Additional info (variable number of resource records)	

A DNS query



The DNS reply



Biblio

- RFC 1034 “Domain names - concepts and facilities”
- RFC 1035 “Domain names - implementation and specification”
- DNS and BIND, Albitz and Liu, O’Reilly, 4th ed. 2001, Appendix A “DNS Message Format and Resource Records”