1. application layer protocol
   1. A protocol that governs an application, usually TCP or UDP.
2. A records
   1. A record in a DNS authoritative server that tells you the actual IP address for something.
3. authoritative DSN server
   1. A DNS server that holds the actual DNS records for a particular domain/address.
4. bandwidth delay product
   1. The transmission speed times the seconds it takes to propagate across a whole cord, so essentially how many bits can be in transmission at once.
5. best-effort delivery service
   1. Doesn’t guarantee everything. Stuff can be lost, out of order, or delivered multiple times. Reliability is still possible (think Checksum), but it’s not guaranteed.
6. bottleneck link
   1. The link that’s the slowest, which will slow down the potential speed of the overall link.
7. cable modem
   1. Transmits data where all of TV data is transmitted. Unlike DSL, two home cannot transfer data at the same time because it’s in series. It uses Frequency Division Multiplexing.
8. circuit switching
   1. Resources require a guaranteed e2e connection for the duration of the connection. This means bandwidth. It was commonly used with telephones, and requires a call set up ahead of time.
9. Client
   1. Makes requests. Named as such in a Client/Server model.
10. client-server architecture
    1. Client makes request, receives service from server, e.g., web service, email
11. CNAME records
    1. DNS records that maps an alias’s name to a true domain name.
12. conditional GET
    1. A get request that checks if the resource has changed with the last-modified header, will return a 304 if it has not
13. congestion control
    1. Checks if the link has a traffic jam, and will slow down transmission if it does.
14. connection socket
    1. Provided by TCP as the server-side socket that actually connects with the client side socket after the three way handshake. This is where the data transfer actually occurs.
15. content distribution network
    1. A common server used to house copies data (think Netflix or Akamai) closer to people’s homes to ensure quicker transfer of media. The user will be directed to a local CDN so that their data intake is fast, and may choose to switch which CDN they are receiving from if the network speed is slowing down.
16. content-provider network
    1. The network itself of CDNs and the origin server with the original data. The ultimate goal is to bring the content closer to people’s homes so they can access the content faster.
17. DASH
    1. Dynamic Adaptive Streaming over HTTP:
       1. Server:
          1. Divides video into chunks
          2. Chunks are stored, encoding at different rates
          3. Provides a manifest with URL of different chunks
       2. Client:
          1. Periodically requests 1 chunk at a specific encoding rate given current Client/Server bandwidth, finds it with the manifest file
18. Datagram
    1. The basic unit in a packet-switching network. Typically referred to when talking about UDP, whereas packets are for TCP.
19. data-link layer protocol
    1. Protocols in the link layer. These refer to thinks like Ethernet, 802.11, etc.
20. Demultiplexing
    1. The act of delivering received data to the appropriate application. This depends on TCP/UDP, since those have different specifications. TCP will deliver it to the connection because it is connection-oriented, whereas UDP will deliver it to the socket because all the UDP datagram has is a packet.
21. denial of service attack
    1. Overloading a resource by making an amount of requests that the resource cannot handle.
22. destination port number
    1. Where the request is going in the machine. This is used in both UDP and TCP headers.
23. digital subscriber line
    1. DSL: Voice and data are transmitted at different frequencies, which is frequency division multiplexing. Different common channels are transmitted in different frequency bands.
24. Domain Name System
    1. The phonebook of the internet. ANS. Stuff. Bleh.
25. flow control
    1. You know
26. Handshake
    1. An agreement made prior to a connection being set up, used in TCP.
27. host/end-system
    1. Can be client or server. Just the end point of a request/response.
28. Hostname
    1. Refers to the domain name of a host computer
29. HTTP
    1. A protocol in the application layer used for web services. Client/Server based. Port 80. Uses TCP. Stateless. GET, POST, DELETE, etc. connection: keep-alive keeps a connection oe[en,
30. IMAP
    1. An application protocol used to retrieve mail from a web server. This one is always synced.
31. Internet Exchange Point
    1. Essentially a room where tier 1 ISPs share the internet with each other.
32. Internet Service Provider
    1. An organization that provides users the ability to use the internet.
33. iterative DNS query
    1. Asks for address at the local DNS, local DNS says “try this next”, it does.
34. listening socket:
    1. The server socket that opens the stuff.
35. local DNS server
36. manifest file
    1. Returns metadata of files stored elsewhere. In Content Distribution Networks, there are manifest files of URLs of resources in CDNs.
37. MX records
    1. Specifies the mail server responsible for receiving mail for the specified domain.
38. network layer protocol
    1. IP
39. nodal processing delay
    1. The delay of the node actually finding the thing inside whatever
40. non-persistent connection
    1. A connection where the connection has to be reestablished for each request.
41. NS records
    1. Responds with the ANS for the domain.
42. Packet
    1. A unit of measurement consistently used in TCP that is transferred from one place to another.
43. packet header
    1. A packet will have a header, depending on the protocol. For example, a TCP packet header is larger than one in UDP, meaning it has more overhead.
44. packet payload
    1. The actual data being sent in a packet.
45. packet switching:
    1. The opposite of circuit switching. It means that little tiny packets are sent through the network at their own leisure and take their own independent hops, and are eventually reconstructed at the destination.
46. parallel connection
47. peer-to-peer architecture
    1. No server. Arbirary end systems communicate. Self-scalable. Users are intermittently connected and change ip addresses.
48. persistent connection
49. physical layer protocol
    1. The legit wires I guess, it’s the phsycial crap that carries data like Fiber, Coax, twisted pair
50. pipelined connection
51. POP
52. point-of-presence
    1. Connection between two different networks or communicating entities.
53. proxy cache
54. proxy server
55. pull protocol
56. push protocol
57. queuing delay
58. recursive DNS query
59. regional ISP
    1. A very large ISP. One step below tier 1 providers.
60. resource records
    1. The general name for a record in a DNS server.
61. RFC
    1. A publication from the technology community. In this case, each standardization has a fresh RFC with a number about how it works.
62. root DNS server
    1. The overall root DNS severs.
63. round-trip-time
64. segment
    1. A part of a computer network that is separate from the rest. Used to separate stuff so requests/responses don’t go on partso f a network where they don’t have to.
65. server
66. shared medium
    1. Anything that channels information for more than one user at a time.
67. SMTP
68. Socket
    1. A host-local, application created, OS controlled interface into which an application process can both senf an ecive amessafe to/from an application process
69. source port number
    1. The port number of the source. Common port numbers: 20 for FTP, 80 for ftp, 53 for DNS,
70. stateless protocol
71. TCP
72. TCP connection
    1. Connection-oriented
73. Throughput
74. tier-1 ISP
    1. A tier 1 isp is an isp that exchanges data with other isps.
75. time division multiplexing
76. top-level domain server
    1. COM, NET, just the things that appear at the end of a domain. One level below root.
77. traffic intensity
    1. Average occupancy of a resource over a period of time.
78. transmission delay
79. transport layer 2
80. frequency division multiplexing
81. guided/unguided media
    1. Guided: in a cord, like coax, cable, fiver, twisted pair. Unguided is not.
82. port number
    1. the location of specific sockets. Used to connect shit.
83. propagation delay
84. protocol stack protocol
85. UDP
86. Utilization
87. well-known port number

Questions:

Statistical Multiplexing (Packet vs Circuit)

Does UDP also have a 3 way handshake? How is their socket setup different from TCPs?