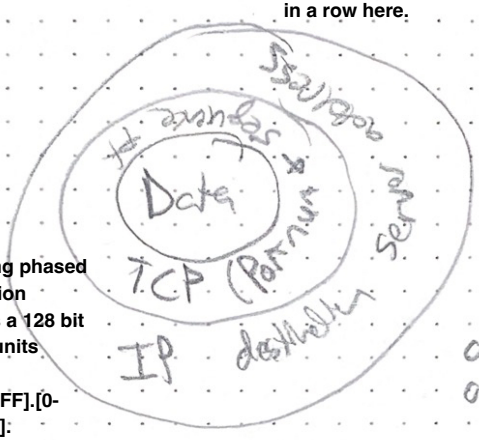
TCP/IP

Nesting Doll

Note: if there are several zeros in a row, you can use two colons to indicate the gap: 2001:0DB8:AC10::FE10:0AB50. There are 3 zeros in a row here.

IP(v4) addresses are made of 32 bitsbroken up into 4 sets of 8. So: [0-255].[0-255].[0-255].[0-255]

IP(v6) addresses are slowly being phased in because there are only ~4 billion possible IPv4 addresses. IPv6 is a 128 bit number broken up into 8 16 bit units (written in hex form). So: [0-FFFF].[0-FFFF].[0-FFFF].[0-FFFF].[0-FFFF].[0-FFFF].[0-FFFF].[0-FFFF].



* IP layer contains "network addresses" so TCP routes a wrong packet it can send a request back to origin for that packet

IP - gets the data to the intended server by informing intermediary routers of destination address. Routers can dynamically direct traffic along different network paths depending on state of network (ie whether there's traffic ahead)

TCP - Guarantees delivery b/c it contains information about how much of the total package has been delivered eg (1/6 3/6 4/6 2/6) ↑ still need 5 & 6

Also ~~designates~~ indicates which port the request should be sent to. Each port corresponds to a different service