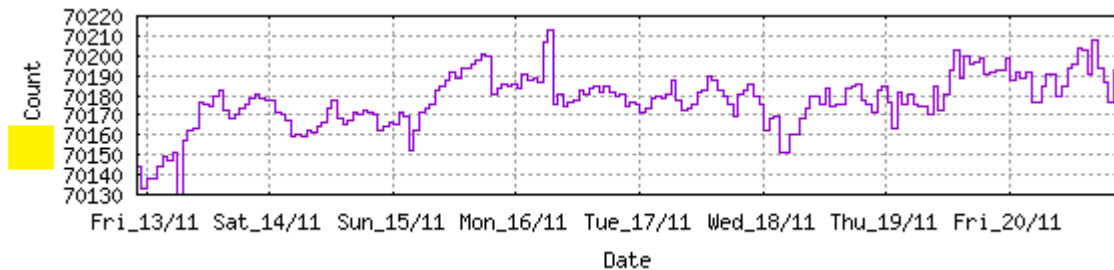


Networks Extra Credit (Due Wed 11/25/20)

1. Show below is a slightly redacted recent graph counting the number of certain types of network that comprise the internet. What is the name or the two-letter acronym for this kind of network?



2. (a) If Javon decides to start his own ISP, he will need to make agreements with bigger networking companies to carry his customers' traffic. What is the name for the type of agreement he will have to make, considering that his startup ISP will not yet be on equal footing with the bigger networking companies?
- (b) What routing protocol will Javon's routers use to talk to the routers of other ISPs on the internet in order to announce what IP address prefixes his ISP has?
3. The internet is what type of network?
- (a) circuit-switched (b) packet-switched (c) Ethernet-switched (d) none of these
4. Several devices all transmit on the same frequency band, with each one XOR-ing their message with a sequence of bits that is unique to them. This is a very rough description of what?
5. When we use flag bits to indicate the start or end of a frame, we have to do something special in case those flag bits occur naturally in the data being sent. What is the process that we have to do called? It's a one-word answer.
6. Go-Back-N is pretty similar to what feature of TCP?
7. Suppose we want to use Manchester encoding to encode the data 0001110. What will the encoded data look like? Assume the clock alternates between 0 and 1 at twice the rate of the data.
8. Suppose we want to use 4B/5B to encode the data 000000000010. What will the encoded data look like?