WAN Technologies

T1/E1 and T3/E3/DS3

Questions

1. A T1 line employs what type of multiplexing?
   Time-division multiplexing
2. When entering a building, what type of media does a T1 line most likely use?
   Fiber optic cables
3. With what type of media would a T3 likely use when it enters a building??
   Coax

Satellite, ISDN, Cable, DSK, and Dialup

Questions

1. How does the cost of non-terrestrial communications compare with conventional terrestrial networking?
   It's more expensive
2. Other than cost, what is the significant disadvantage of satellite communications?
   High latency
3. What does the A in "ADSL" represent?
   Asymmetric, in this case higher speeds are available to customer for downloading fro, the Internet.
4. What type of media would an ADSL use when it enters a building?
   Telephones lines
5. What type of DSL is capable of speeds of up to 100Mbit/s?
   Very-high-bit-rate digital subscriber line, VDSL, is capable of supporting applications such a high definition television as well as telephone services (voice over IP)

Circuit Switching and Packet Switching

Questions

1. Which technology, circuit or packet switching, is most like the technology utilized by POTS?
   POTS, plain old telephone service, utilizes circuit switching
2. What is the major criticism of circuit switching?
   Nobody else can use the band width when it's idle
3. Why is packet switching considered more efficient that circuit switching?
   The media is shared, others can use the bandwidth when you aren't

Transmission Media, Speed, and Distance

Questions

1. What are the three major WAN cable types?
   Coax, twisted pair, and fiber
2. When was coax cable patented?
   1880
3. What type of cable is typically used in a local area network?
   Twisted pair cable
4. What purpose does the twist in TWP copper cable serve?
   It reduces interference
5. What type of cabling would you use for very long distance and very high speed runs?
   Fiber optic
6. When you use fiber optic cables, what are two conventional cabling operations that require extra care?
   It mist be terminated properly and it should not be bent past the bend radius