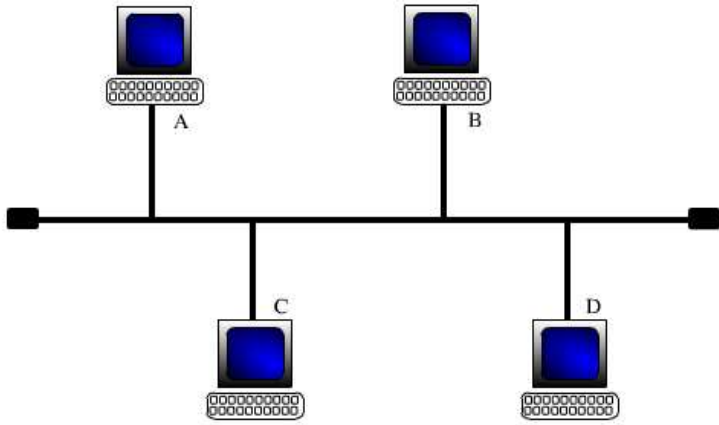
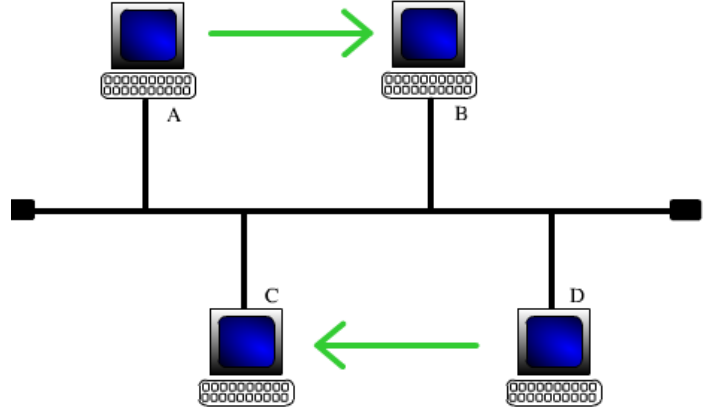


Carrier Sense, Multiple Access with Collision Detection

Carrier Sense, Multiple Access with Collision Detection

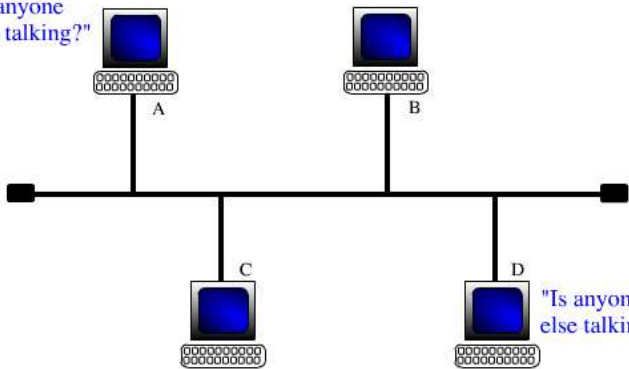


Four workstations (A,B,C,D) on a CSMA/CD bus network .



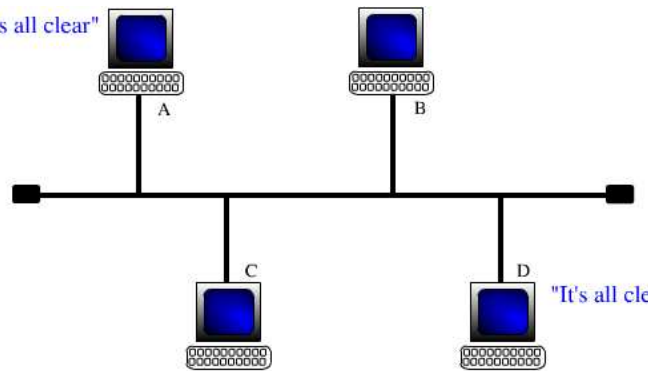
Workstation "A" wants to send a packet to Workstation "B" at the same time that "D" want to transmit to workstation "C".

"Is anyone else talking?"



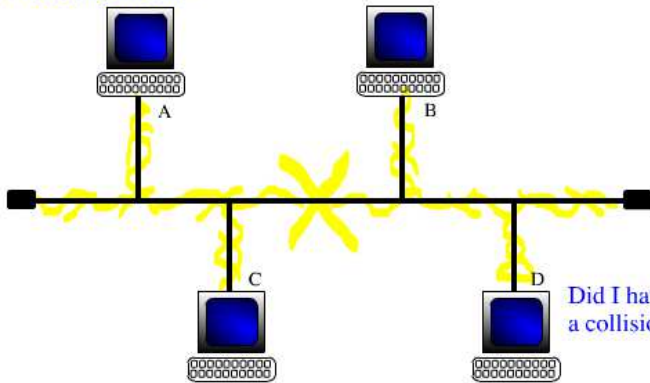
Both A and D listen at the same time to see if anyone else is transmitting.

"It's all clear"



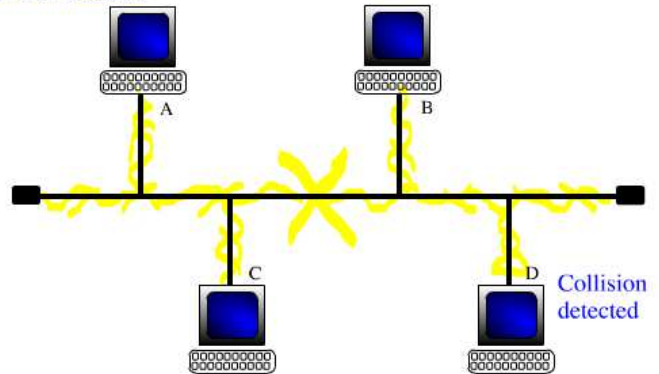
Both A and D sense that the communications channel is clear.

Did I have a collision?



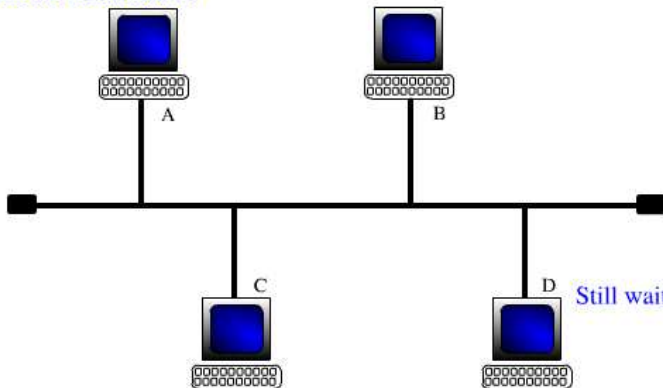
Both A and D listen to their own transmission to see if they returned exactly the way it was sent out. This is "Collision Detection".

Collision detected



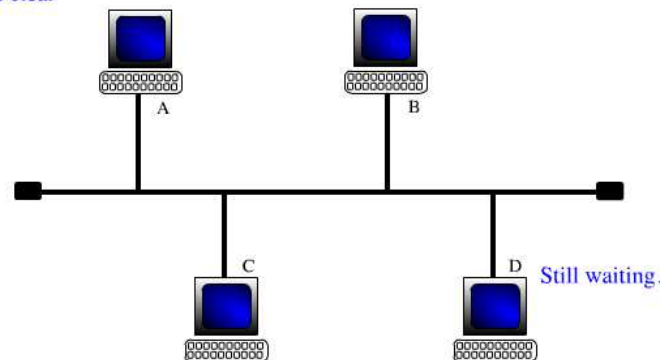
A and D both detect a collision. Both must now try again after waiting a random period of time.

Listen for transmission



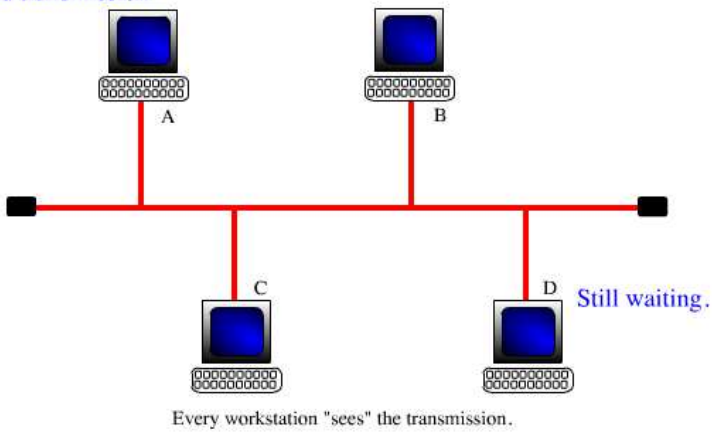
A's random time is up and it must check again to see if the carrier is clear.

All clear



A's random time is up and it must check again to see if the carrier is clear.

Send transmission



Listen for collision, all clear!

