Jnan Chandra Ghosh Polytechnic
Kolkata-23

Subject : Computer Network - II
Subject Teacher Name : Uttam Kumar Podder
DETCE / S6
Date : 10.04.2020

UNIT : 2 (Local Area Network) ①

Q1. Discuss peresistence methods with flow diagram.

Answer : **Peresistence methods:** What should a station do if the channel is busy? What should do if the channel idle? Three methods have been devised to answere these questions:
1) The 1-persistent method 2) The nonpersistent method and 3) The p-persistent Method.

1-persistent method: In this method, after the station finds the line idle, it sends its freame immediately (with probability 1). This method has the highest chance of collision because two or more station may find the line idle and send theire freames immediately. This method is simple and straight-forewaked.

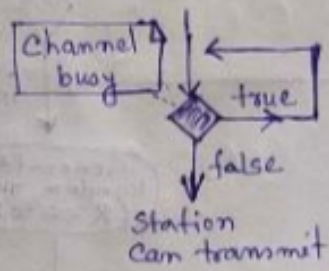

Fig. a.) 1- Peresistent method

Nonperesistent method: In the non-peresistent method, a station that has a freame ready to be sent Senses the line firest. If the channel is idle, it Sends immediately. If the channel is not idle, it wait a reandom amount of time (quite like Aloha) and then Senses the line again.

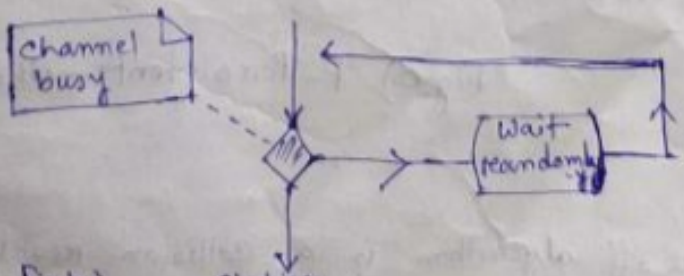

Fig.b.) Non-peresistent method.

P-persistent method: This is an approach between above two persistent CSMA access mode. When the transmitting node is ready to transmit data, it senses the transmission medium for idle or busy. if idle, then it transmit a freame with probability P. if busy, then it senses the transmission medium continuously untill it becomes idle, then transmits with probability P. if the node does not transmit (the probability of this event (1-P)), it waits until the next available time slot. If the transmission medium is still not busy, it transmits again with the same probability P.

Jnan Chandra Ghosh Polytechnic Kolkata-23

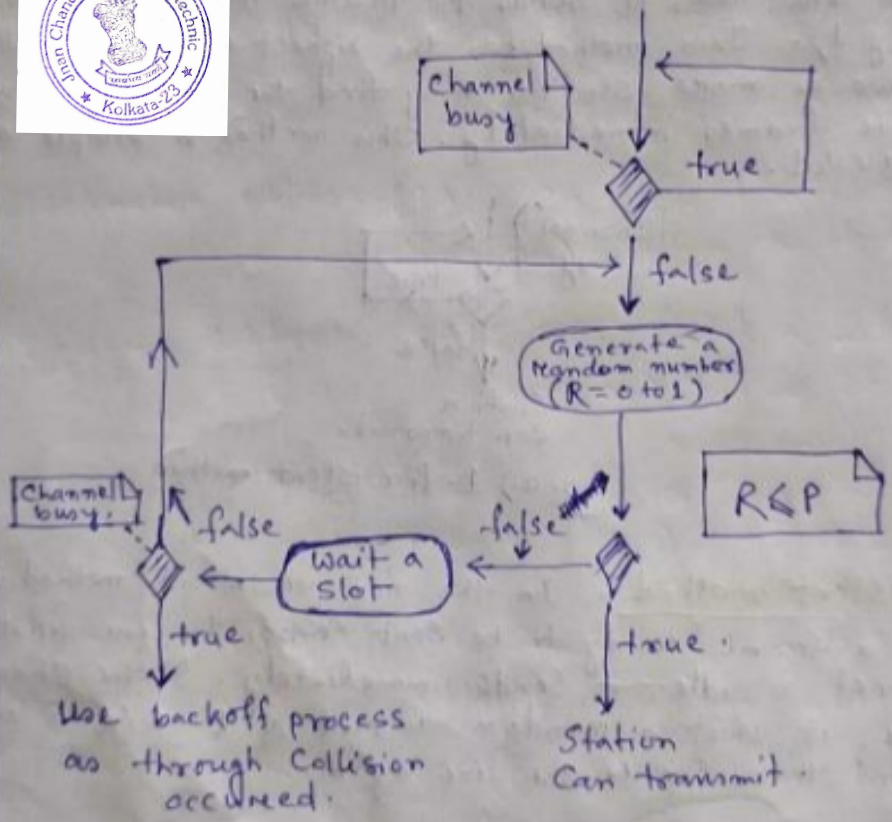

Fig.c) P-Persistent method.

[N.B:
* Back off algorithm is a collision resolution mechanism which is used in random access MAC protocols (CSMA/CD). This algorithm is generally used in Ethernet to schedule re-transmissions after collisions. If a collision take place between 2 stations, they may restart transmission as soon as they can after the collision. *]

(Q2.) Compare between CSMA/CA and CSMA/CD

Answer:- Let's see the difference between CSMA/CA and CSMA/CD

S.NO	CSMA/CD	CSMA/CA
1)	CSAM/CD stands for Carrier Sense multiple access with Collision detection.	(1) CSMA/CA stands for Carrier sense multiple access with collision avoidance.
2)	CSMA/CD is effective after a Collision.	2) Whereas CSMA/CA is effective before a Collision.
3)	It only reduces the recovery time.	3) Whereas CSMA/CA minimize the posibility of collision.
4)	CSMA/CD resend the data freame whenever a Conflict occures.	4) Whereas CSMA/CA will firest transmit the intent to send for data transmission.
5)	CSMA/CD is used in Wired networks.	5) Where as CSMA/CA is Commonly used in Wireless network.
6)	CSMA/CD is used in 802.3 standard.	6) While CSMA/CA is used in 802.11 standard.
7)	It is more effective than Simple CSMA.	7) While it is Similar to Simple CSMA.

Jnan Chandra Ghosh Polytechnic
Kolkata-23