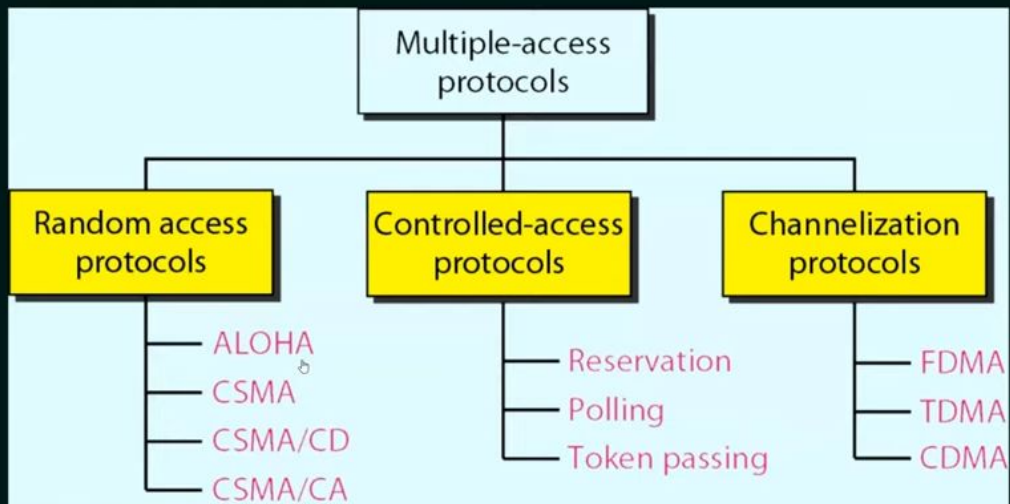


00:33

MULTIPLE ACCESS PROTOCOLS



NESO ACADEMY

05:04

SLOTTED ALOHA

- ★ It was developed just to improve the efficiency of pure aloha as the chances for collision in pure aloha are high.
- ★ The time of the shared channel is divided into discrete time intervals called slots.
- ★ Sending of data is allowed only at the beginning of these slots.
- ★ If a station misses out the allowed time, it must wait for the next slot. This reduces the probability of collision.

NESO ACADEMY

05:35

SLOTTED ALOHA

Vulnerable Time = Frame Transmission Time.

Throughput = $G \times e^{-G}$; Where G is the number of stations wish to transmit in the same time.

Maximum throughput = 0.368 for $G=1$.

NESO ACADEMY

07:10

PURE ALOHA VS SLOTTED ALOHA

Pure Aloha	Slotted Aloha
Any station can transmit the data at any time.	Any station can transmit the data at the beginning of any time slot.
The time is continuous and not globally synchronized.	The time is discrete and globally synchronized.
Vulnerable time in which collision may occur $= 2 \times T_{Fr}$	Vulnerable time in which collision may occur $= T_{Fr}$
Probability of successful transmission of data packet = $G \times e^{-2G}$	Probability of successful transmission of data packet = $G \times e^{-G}$
Maximum efficiency = 18.4% (Occurs at $G = 1/2$)	Maximum efficiency = 36.8% (Occurs at $G = 1$)
Main advantage: Simplicity in implementation.	Main advantage: It reduces the number of collisions to half and doubles the efficiency of pure aloha.

NESO ACADEMY