CSMA/CD:

It stands for carrier-sense multiple access with collision detection. It is a MAC protocol (2nd layer or data-link protocol). So, it is used in data-link layer. It is standardized by IEEE 802.3. It senses or listens whether the shared channel for transmission is busy or not, and defers transmissions until the channel is free. The collision detection technology detects collisions by sensing transmissions from other stations. On detection of a collision, the station stops transmitting, sends a jam signal, and then waits for a random time interval before retransmission.

FDDI:

FDDI stands for Fiber Distributed Data Interface. It is a set of ANSI and ISO guidelines for information transmission on fiber-optic lines in Local Area Network (LAN) that can expand in run upto 200 km (124 miles). The FDDI convention is based on the token ring protocol.

In expansion to being expansive geographically, an FDDI neighborhood region arranges can support thousands of clients. FDDI is habitually utilized on the spine for a Wide Area Network(WAN).  An FDDI network contains two token rings, one for possible backup in case the essential ring falls flat.

The primary ring offers up to 100 Mbps capacity. In case the secondary ring isn’t required for backup, it can also carry information, amplifying capacity to 200 Mbps. The single ring can amplify the most extreme remove; a double ring can expand 100 km (62 miles).

Characteristics of FDDI:

* FDDI gives 100 Mbps of information throughput.
* FDDI incorporates two interfaces.
* It is utilized to associate the equipment to the ring over long distances.
* FDDI could be a LAN with Station Management.
* Allows all stations to have broken even with the sum of time to transmit information.
* FDDI defines two classes of traffic viz. synchronous and asynchronous.

Advantages of FDDI:

* Fiber optic cables transmit signals over more noteworthy separations of approximately 200 km.
* It is conceivable to supply the need to the work stations associated within the chain. Consequently, based on the prerequisite a few stations are bypassed to supply speedier benefit to the rest.
* FDDI employments different tokens to make strides organize speed.
* It offers a higher transmission capacity (up to 250 Gbps). Thus, it can handle information rates up to 100 Mbps.
* It offers tall security because it is troublesome to spy on the fiber-optic link.
* Fiber optic cable does not break as effectively as other sorts of cables.

Disadvantages of FDDI:

* FDDI is complex. Thus, establishment and support require an incredible bargain of expertise.
* FDDI is expensive. Typically, since fiber optic cable, connectors and concentrators are exceptionally costly.

Baseband and broadband:

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| --- | --- | --- |
| Basis of differences | baseband | broadband |
| Cost | inexpensive | expensive |
| speed | slow | fast |
| communication | It uses the entire available bandwidth and uses the transmission medium as a single-channel device | In it signals are modulated as radiofrequency analog waves that use different frequency ranges. |