

# Terminology and Definitions

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- Ring
  - A medium consisting of a set of links and nodes, behaving as a single channel and a single contention domain with a set of Medium Dependent Interfaces (MDIs) that can be in three different modes: insert, transit, and drop
- Link
  - The medium connection, including connectors, between Medium Dependent Interfaces (MDIs) that can be a contention point
- Contention Domain
  - A system in which multiple users share a single channel ( in our case the ring) in a way that can lead to conflicts, in our case if two frames are transmitted in the same link simultaneously. It is the job of the MAC resolve contentions in a contention domain.

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- Node
  - An intermediate entity that represents a set of stations (hosts) connected to it to the ring via its Medium Dependent Interfaces (MDIs)
- PHY Service Access Point (PHY SAP)
  - The PHY contains the functions that transmit, receive, and manage the encoded signals that are impressed on and recovered from the physical medium. The PHY SAP is the point at which services are provided by the PHY *layer* (or *sub layer*) to the MAC layer (or sub layer) (the MAC is immediately above the PHY)

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- MAC latency
  - The time difference between the entrance at the MAC transit SAP of a packet and the exit from the MAC transit SAP of the same packet
- MAC Jitter
  - The variation in MAC latency between any two pairs of packets that transverse the transit path in the MAC

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- Store and Forward
  - The transmission mode that stores and then forwards every packet during transit at every intermediate node between the ingress and egress on the ring
- Pass Through Transit Path
  - The transmission mode that stores and then forwards  $O(1)$  number of packets at each node during transit between the ingress and egress nodes

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- Steering
  - A protection scheme in which upon becoming aware of a ring failure, each transmitting node redirects all its transmit flows to avoid the failed segment
- Wrapping
  - A protection scheme in which a node detecting a ring failure at one of its ring interfaces, loops packets back at the failed interface

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- QoS for a particular service consists of
  - Committed Bandwidth guarantee
  - Delay Bound guarantee
  - Jitter guarantee
  - Maximum Packet loss guarantee
  - Availability guarantee

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- **layer management:** Functions related to the administration of a given Open Systems Interconnection (OSI) *layer*. These functions are performed in the layer itself according to the protocol of the layer and partly performed as a subset of *network management* or *systems management*.
- **Layer Management Entity (LME):** The entity in a *layer* that performs local management of a layer. The LME provides information about the layer, effects control over it, and indicates the occurrence of certain events within it.
- **Layer Management Interface (LMI):** The service interface provided by the *Layer Management Entity (LME)* to the *Network Management Process (NMP)*.