**DATA LINK FRAME**

**I. Why frames?**

- Reliability

- Esier validation

- Starvation

- Organize raw bit streams.

- Enable error detection and control.

- Facilitate local network addressing (MAC).

- Manage data flow.

- Control media access.

**II. Overall about the Frame**

- Data is encapsulated: Header and trailer to form a frame

- Parts of a frame: Header, Data, and Trailer

A diagram of a computer system

AI-generated content may be incorrect.- Fields vary according to data link layer protocol



IP Address – Layer 3



CRC Check????

Destination first  
Source after that

* Frame start and stop indicator flags - Used to identify the beginning and end limits of the frame.

**Layer 2 only does error detection**

* Addressing - Indicates the source and destination nodes on the media.
* Type - Identifies the Layer 3 protocol in the data field.
* Control - Identifies special flow control services such as quality of service (QoS). QoS gives forwarding priority to certain types of messages. For example, voice over IP (VoIP) frames normally receive priority because they are sensitive to delay.
* Data - Contains the frame payload (i.e., packet header, segment header, and the data).
* Error Detection - Included after the data to form the trailer.

**III. LAN & WAN Frames**

- The logical topology and physical media determine the data link protocol used:

+ Ethernet

+ 802.11 Wireless

+ Point-to-point (PPP)

+ High-Level Data link Control

+ Frame-Relay

- Each protocol performs media access control for specified logical topologies.

- lists the Layer 2 and Layer 3 address fields in the correct order?: Destination NIC address, source NIC address, source IP address, destination IP address

- The function of the last field in a data link layer frame?: To determine whether the frame experienced transmission errors