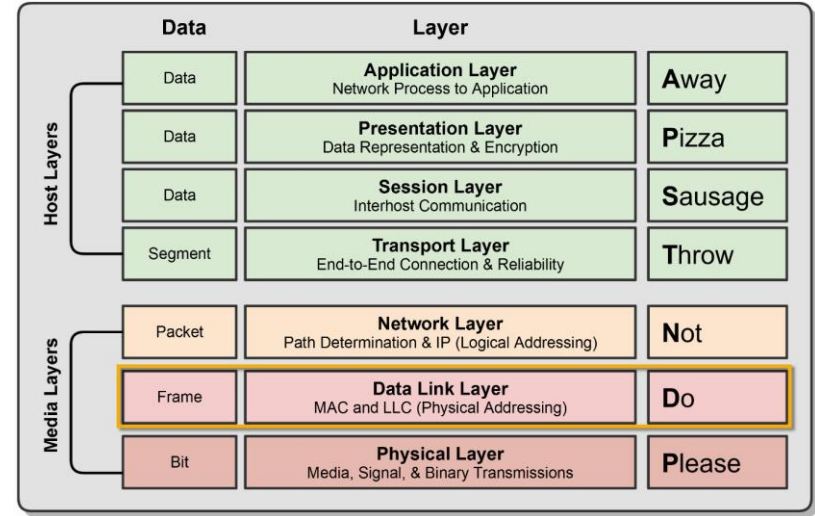# Layer 2 – Data Link Layer

- The "Switching" Layer
- Ensures that messages are delivered to the proper device on a LAN using hardware addresses.
  - MAC (Media Access Control) Address
  - Only concerned with the local delivery of frames on the same network.
- Responsible for packaging the data into frames for the physical layer.
- Translates messages from the Network layer into bits for the Physical layer.

	Data	Layer	
Host Layers	Data	**Application Layer** Network Process to Application	**A**way
	Data	**Presentation Layer** Data Representation & Encryption	**P**izza
	Data	**Session Layer** Interhost Communication	**S**ausage
	Segment	**Transport Layer** End-to-End Connection & Reliability	**Throw**
Media Layers	Packet	**Network Layer** Path Determination & IP (Logical Addressing)	**N**ot
	Frame	**Data Link Layer** MAC and LLC (Physical Addressing)	**Do**
	Bit	**Physical Layer** Media, Signal, & Binary Transmissions	**Please**

00:09:5B:EC:EE:F2   Switch   10:4C:1B:00:EE:F2:1A

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Layer 2 – Data Link Layer

Has two Sub-Layers

- **Logical Link Control (LLC) Layer**
    - Error Control and Flow Control
        - Detect and correct corrupted data frames.
        - Limits amount of data sent so devices aren't overwhelmed.
- **Media Access Control (MAC) Layer**
    - Physical Addressing (MAC Address)
        - 48-Bit MAC Address burned on NIC.
    - Logical Topology and Media Access
        - Ethernet, Token Ring, etc.
        - CSMA/CD & CSMA/CA

Data Link Layer

Logical Link Control (LLC) Layer
Error and Flow Control Mechanisms

Media Access Control (MAC) Layer
Physical Addressing and Logical Topology

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