LINK/PHYSICAL LAYER

CyberQuince

LINK LAYER SERVICES

FRAMING

- Encapsulation of network-layer “packets” into a link-layer “datagram” before transmission

LINK ACCESS

- Specifies rules for transmission of frames

RELIABLE DELIVERY

- Guarantee for delivery of datagrams across a link without error

ERROR DETECTION AND CORRECTION

- In order to ensure delivery, detected errors must be corrected

IMPLEMENTATION

For the most part, the link layer is implemented in a network adapter, or NIC (*Network Interface Card*).

At the heart of the network adapter is the link-layer controller, usually a single, special-purpose chip that implements many of the link-layer services (framing, link access, error detection, and so on).

Thus, much of a link-layer controller's functionality is implemented in hardware.

PHYSCAL LAYER SERVICES

CONNECTION ESTABLISHMENT

- Physical establishment of a connection between two remote devices.

CONNECTION TERMINATION

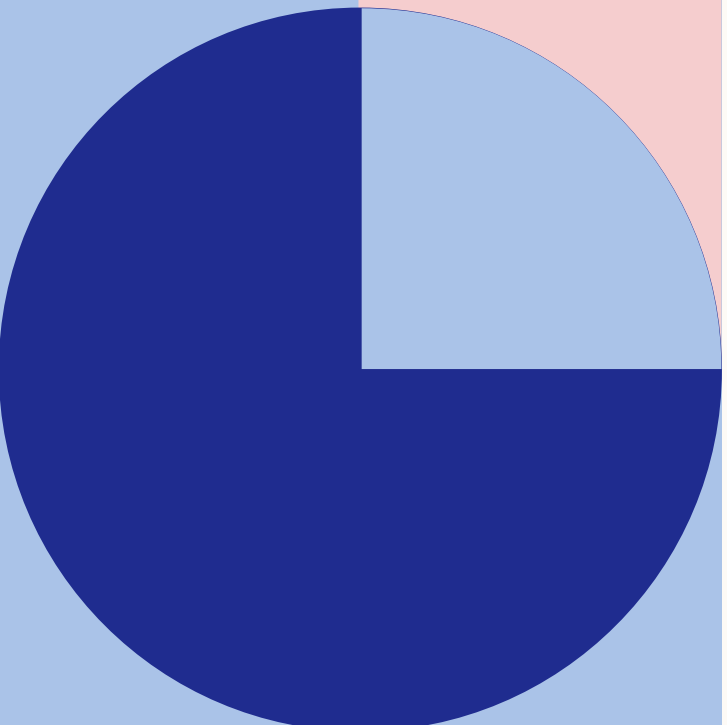
- Physical termination of a connection between two remote devices.

MODULATION

- Conversion between the representation of user's data and the corresponding transmitting signals

COMMUNICATION RESOURCE SHARING

- Flow control
- Contention resolution (collision avoidance)



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