

Where Are We?

Basics:

Network Classification

Network Architecture

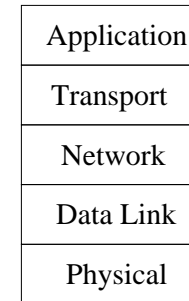
Delay Models

Implementation:

Protocol Design

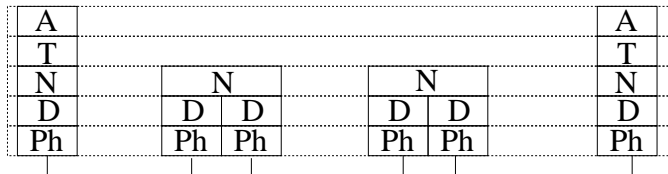
1

Layered Architecture



2

Layered Architecture



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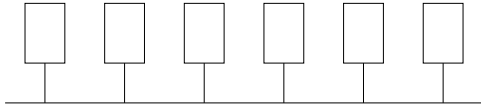
Data Link Layer

Functionality

- Reliable Delivery of Frames
- Flow Control
- Error Detection
- Error Correction

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Multiaccess Media



Ethernet

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Multiaccess Media

Wavelan

Cocktail Party

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Multiaccess Media

Rules

- "Don't interrupt when someone else is speaking"
- "Raise your hand if you have a question"
- "Give everyone a chance to speak"

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Multiaccess Protocols

- Channel Partitioning (Wireless Communication)
- Random Access (Ethernet)
- Taking Turns (Token Ring)

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Network Layer

Functionality

- Path Determination (Routing)
- Switching
- Addressing

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Transport Layer

Examples

- UDP
 - Application Multiplexing/Demultiplexing
 - Error Detection
- TCP
 - Application Multiplexing/Demultiplexing
 - Error Detection
 - Reliable Data Transfer
 - Congestion Control

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Transport Layer - Network Layer

- **Transport Layer Protocols:** provide a logical communication between processes running on different hosts.
- **Network Layer Protocols:** provide a logical communication between hosts.

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