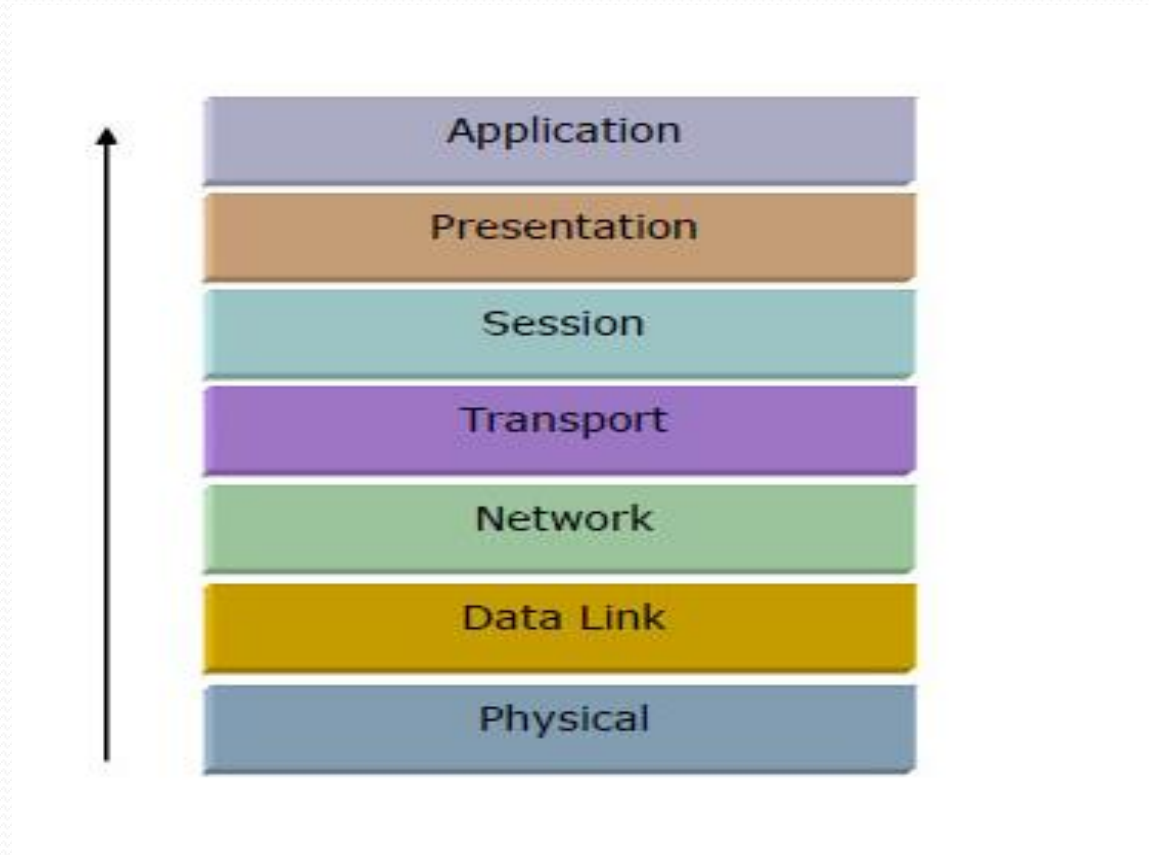# Purpose of the OSI MODEL

- Open Communication between different systems without requiring changes to the underlying hardware and software.

- *OSI Model is not a Protocol. It is a model for understanding and designing a network architecture that is flexible, robust and interoperable*

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Definition of the OSI MODEL

-

- A layered framework for the design of network systems that allows communication across all types of computer systems regardless of their underlying architecture
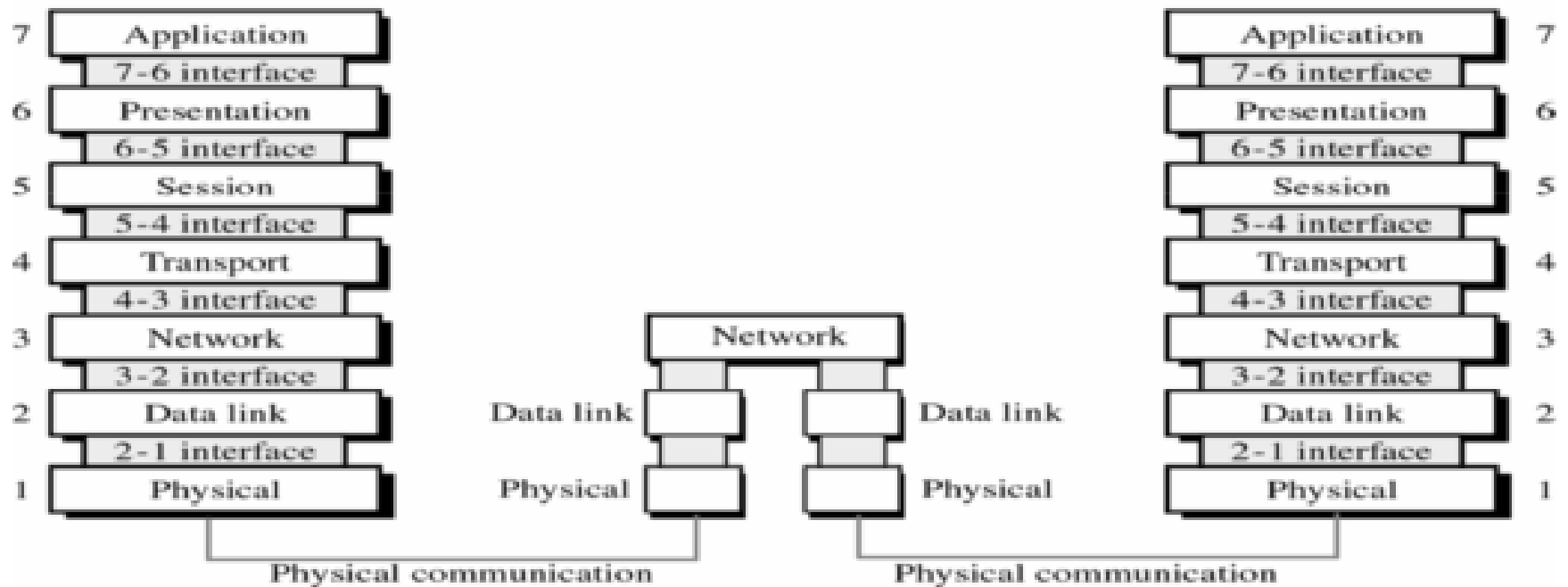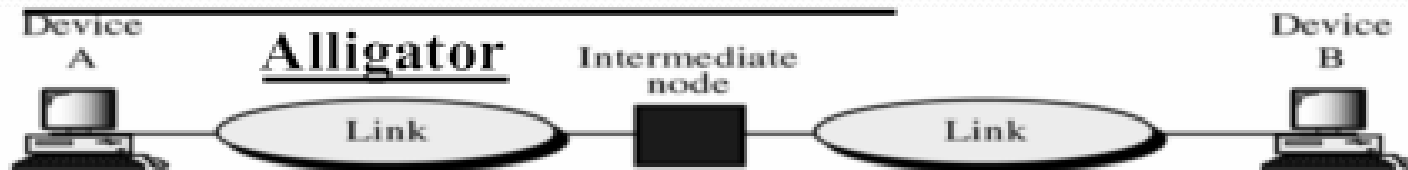
OSI MODEL

Layers of the OSI Model

- 1. Physical (Bits)
- 2. Data Link (Frames)
- 3. Network (Packets)
- 4. Transport (Segment)
- 5. Session (Dialog units)
- 6. Presentation (Raw Data)
- 7. Application (Text, Numbers)

OSI MODEL

OSI MODEL

- o As the message travels from A to B , it may pas through many intermediate "Nodes"

- o These nodes usually involve only the first three layers of the OSI Model

- o In developing the OSI model, designers identified which networking functions had related uses and collected those functions into discrete groups that became the layers

- o Each layer defines a family of functions distinct from other layers

Headers and trailers

- o Control data added to a data parcel
- o Sender appends header and passes it to the lower layer
- o Receiver removes header and passes it to upper layer
- o Headers are added at layer 6,5,4,3,2. Trailer is added at layer 2
- Passing of data and network information down through the layers of sending machine AND Back up through the layers of the receiving
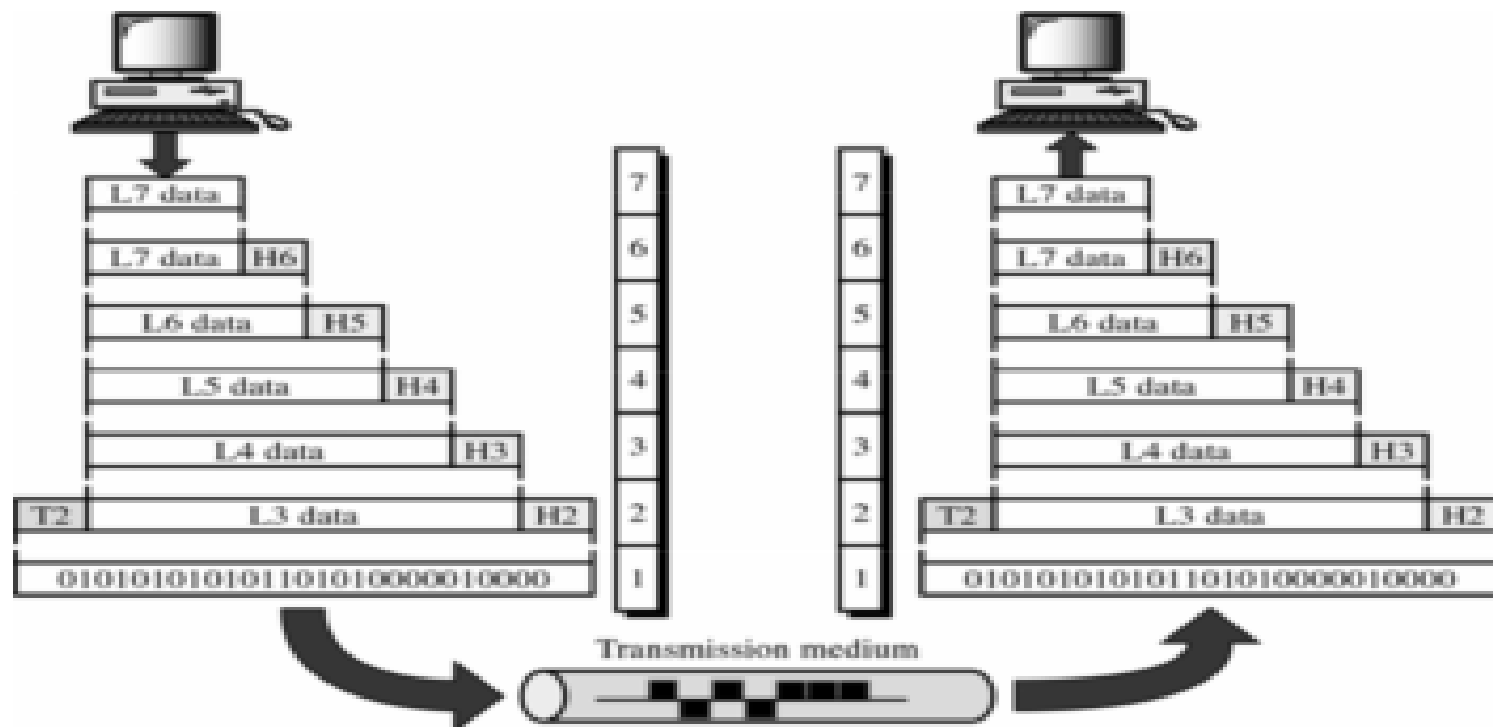
INTERFACE

- Each interface defines what information and services a layer must provide for the layer above it

- Interface provides MODULARITY

- Each layer works as a separate module

- Any modification or replacements can be made without changes in surrounding layers

Organization of Layers

- o Layer 4
- –Ensures end-to-end reliable transmission
- o Upper OSI Layers always implemented in Software
- o Lower Layers are a combination of software and hardware
- o Physical layer is mostly Hardware

The OSI Model

Questions