SNS COLLEGE OF TECHNOLOGY

Coimbatore-35
An Autonomous Institution

Accredited by NBA – AICTE and Accredited by NAAC – UGC with 'A++' Grade
Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

19ECT301- COMMUNICATION NETWORKS

III YEAR/V SEMESTER

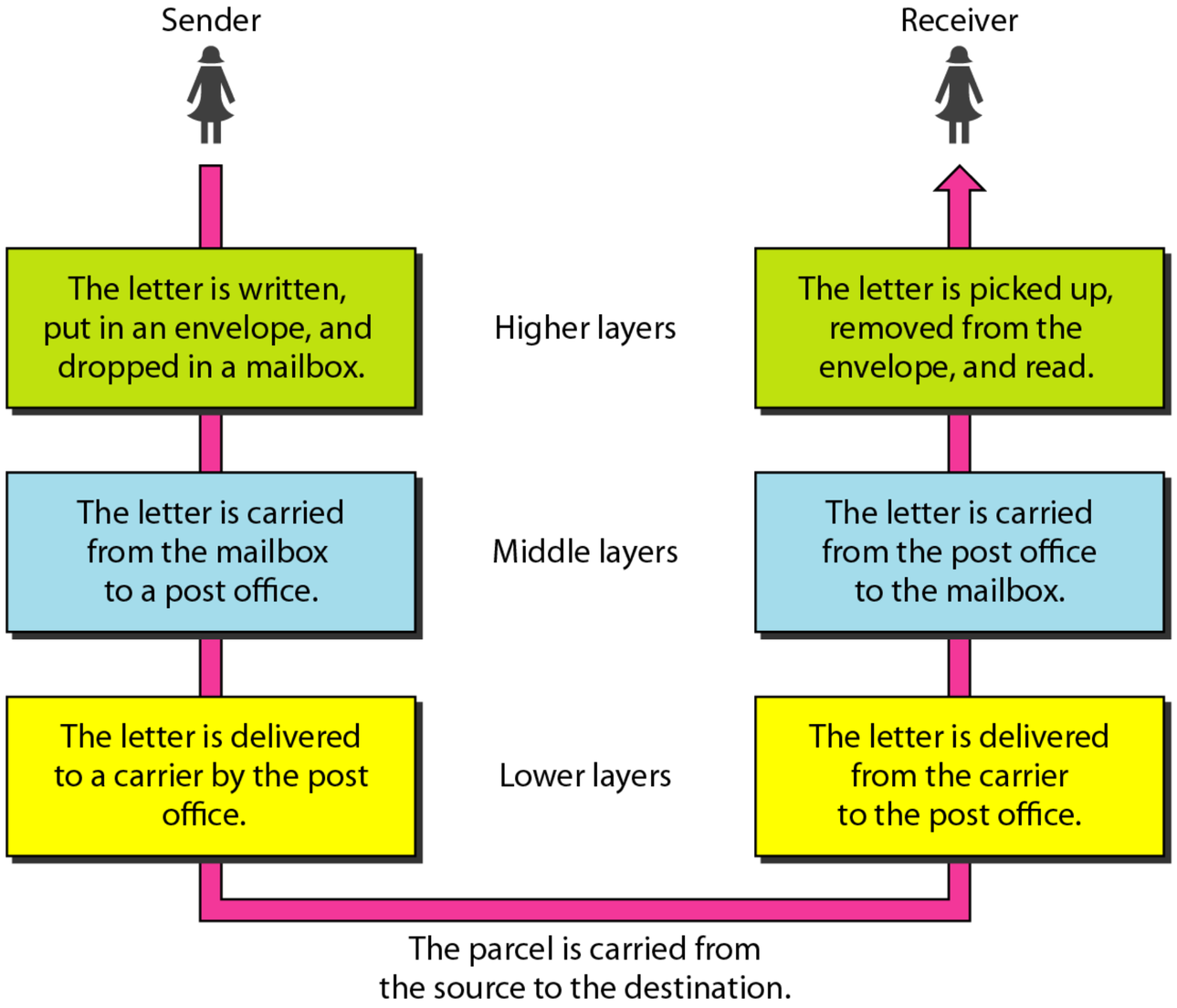
UNIT 1 – INTRODUCTION TO NETWORKS AND LAYERED ARCHITECTURE

TOPIC 3 – PROTOCOL LAYERS AND SERVICE MODELS OSI

PROTOCOL LAYERS

The concept of **layers** in our daily life. As an example, let us consider two friends who communicate through postal mail. The process of sending a letter to a friend would be complex if there were no services available from the post office.

TASKS INVOLVED IN SENDING A LETTER

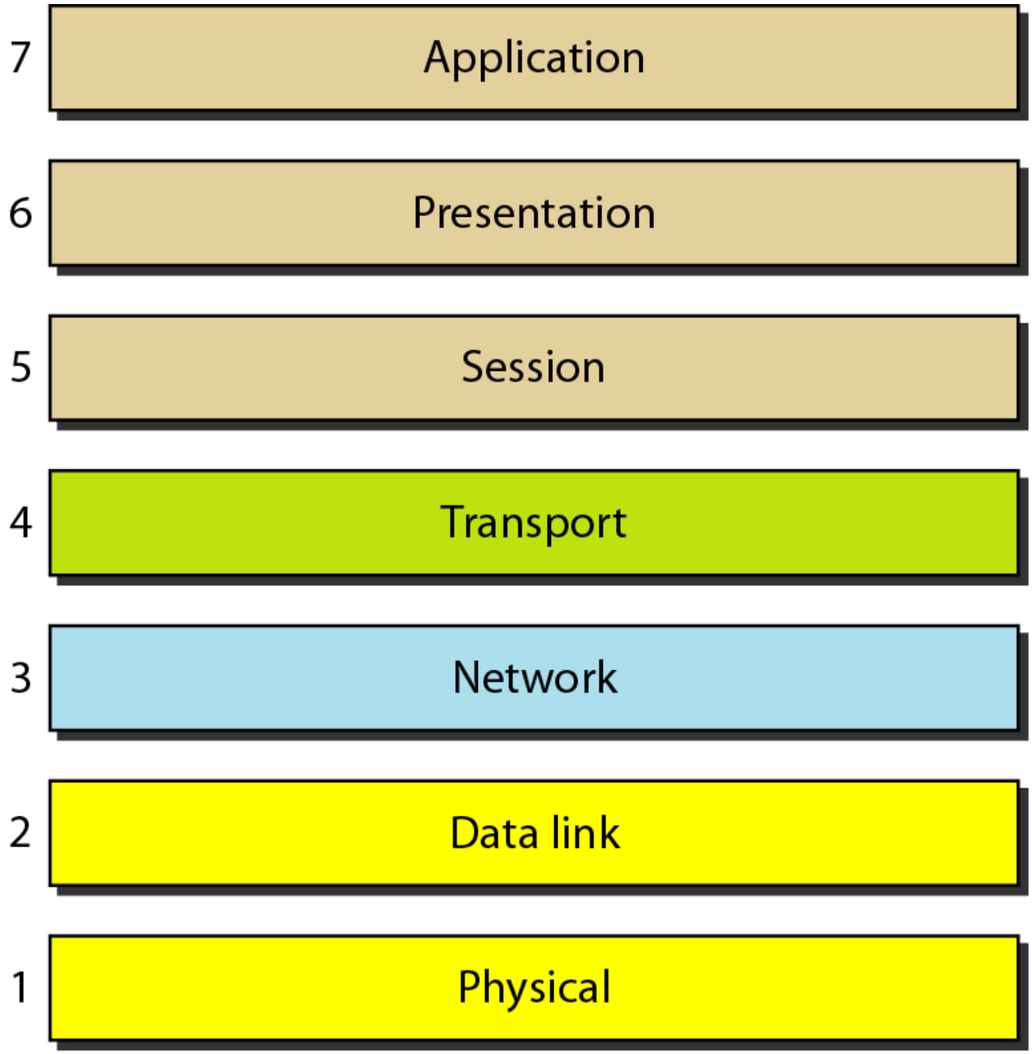


THE OSI MODEL

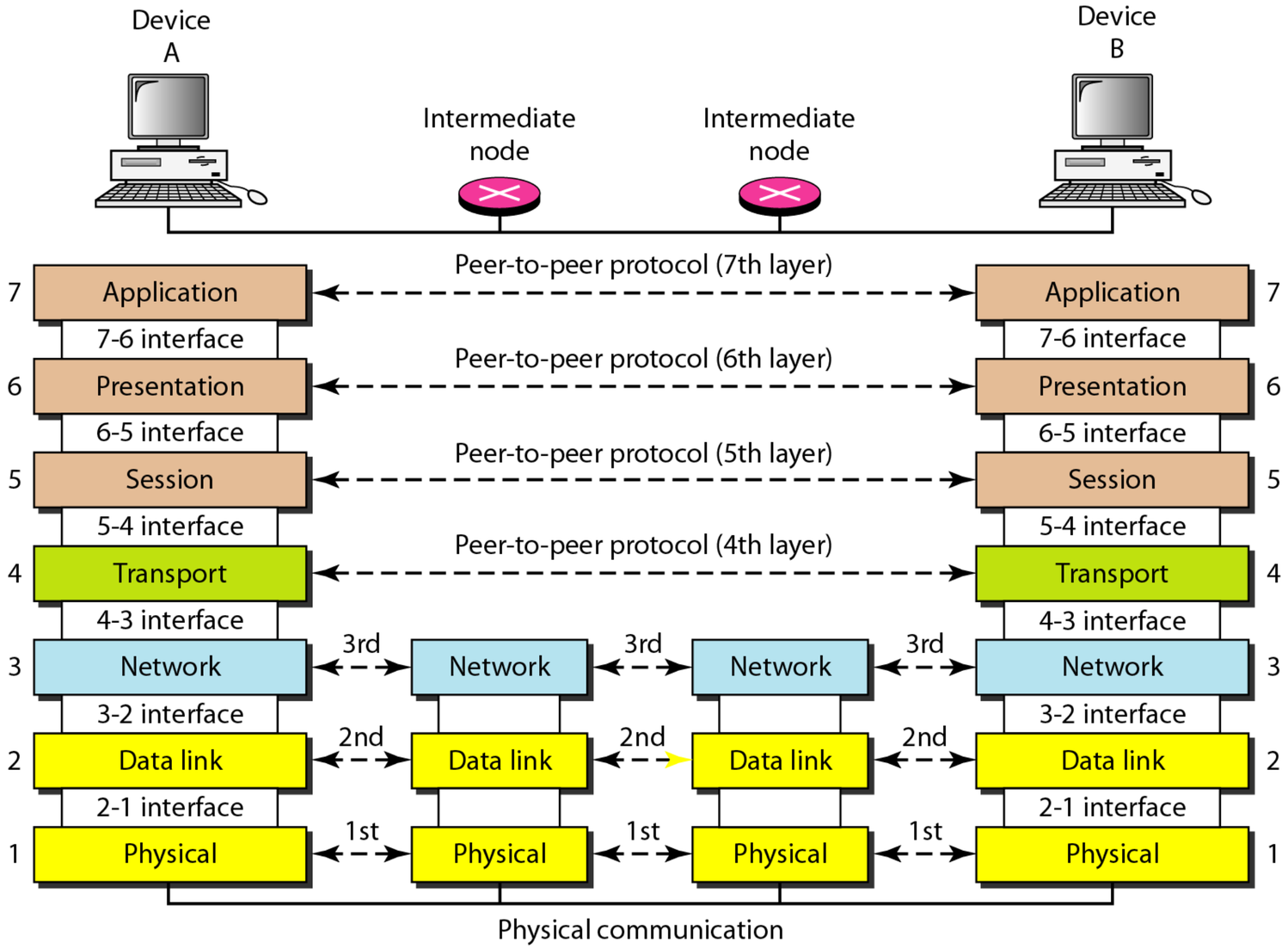
Established in 1947, the International Standards Organization **(ISO)** is a multinational body dedicated to worldwide agreement on international standards. An ISO standard that covers all aspects of network communications is the Open Systems Interconnection **(OSI)** model. It was first introduced in the late 1970s.

ISO is the organization.
OSI is the model.

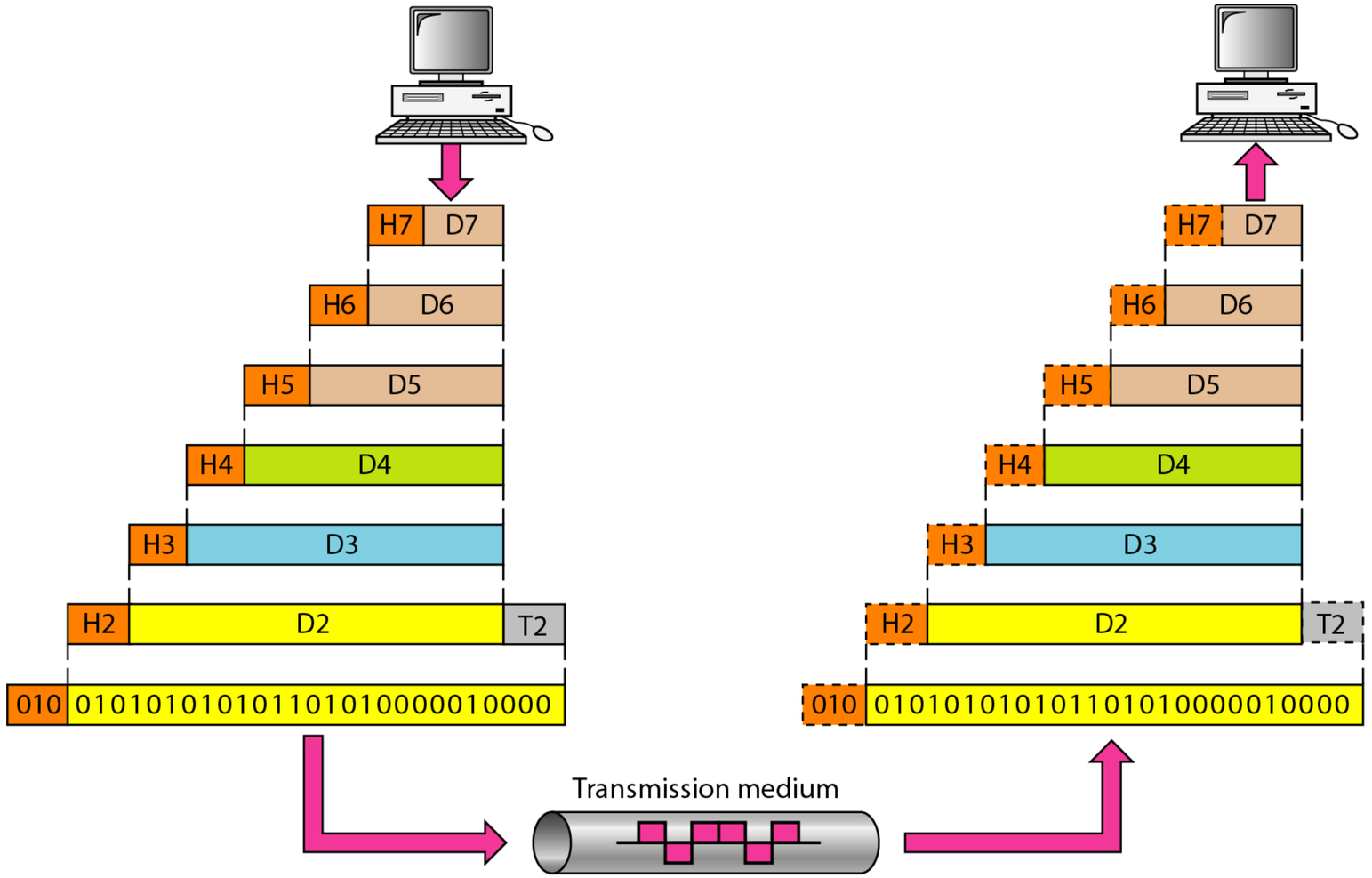
SEVEN LAYERS OF THE OSI MODEL



THE INTERACTION BETWEEN LAYERS IN THE OSI MODEL



AN EXCHANGE USING THE OSI MODEL

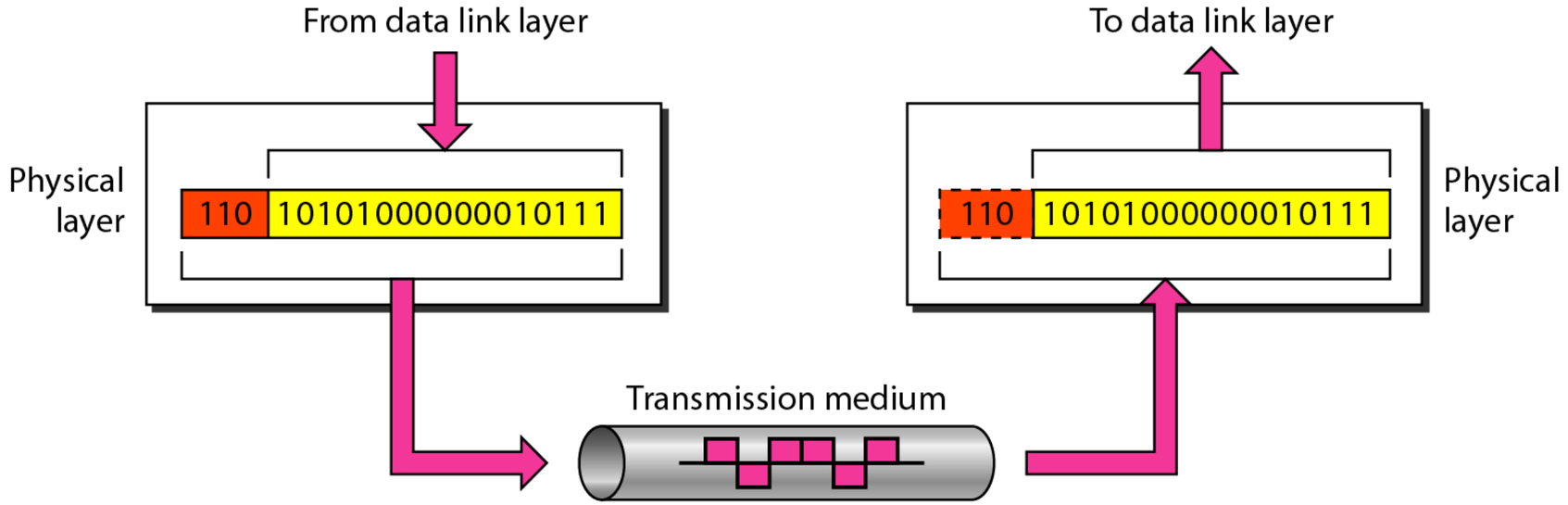


LAYERS IN THE OSI MODEL

In this section we briefly describe the functions of each layer in the OSI model.

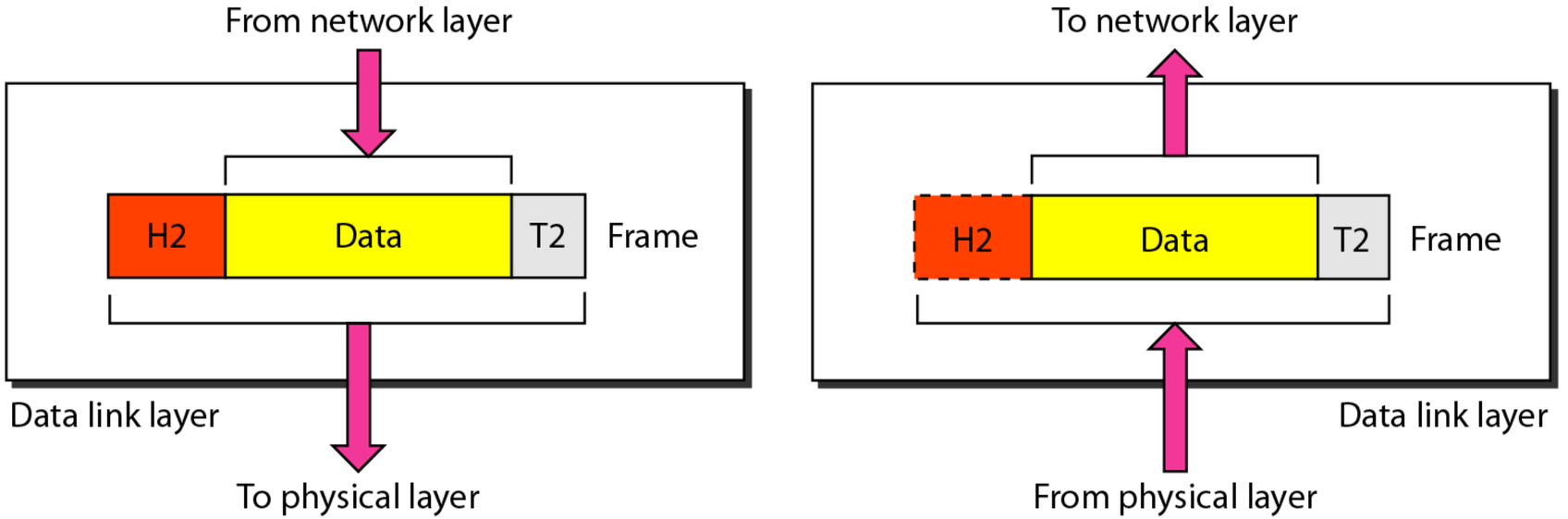
1. Physical Layer
2. Data Link Layer
3. Network Layer
4. Transport Layer
5. Session Layer
6. Presentation Layer
7. Application Layer

PHYSICAL LAYER

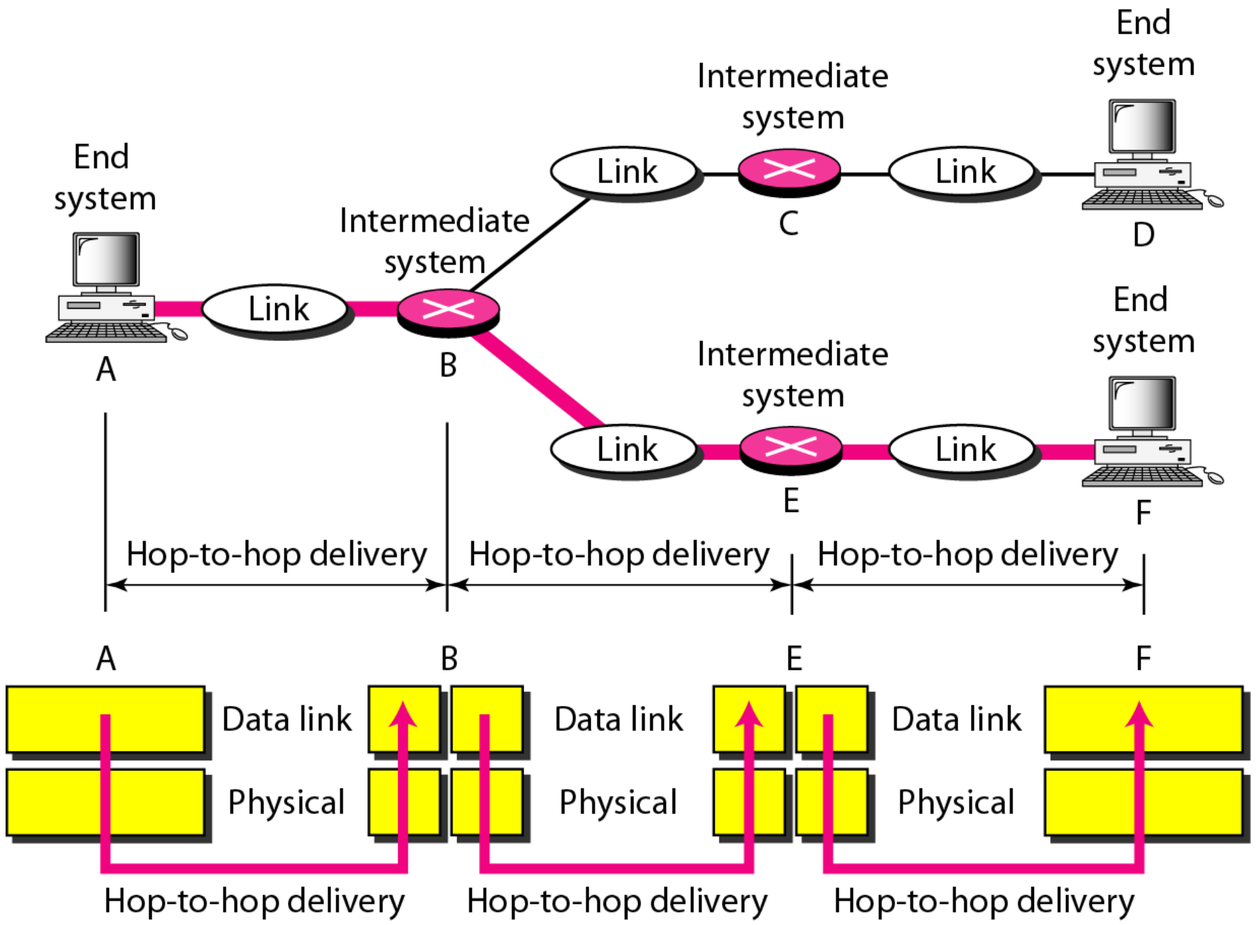


The physical layer is responsible for movements of individual bits from one hop (node) to the next.

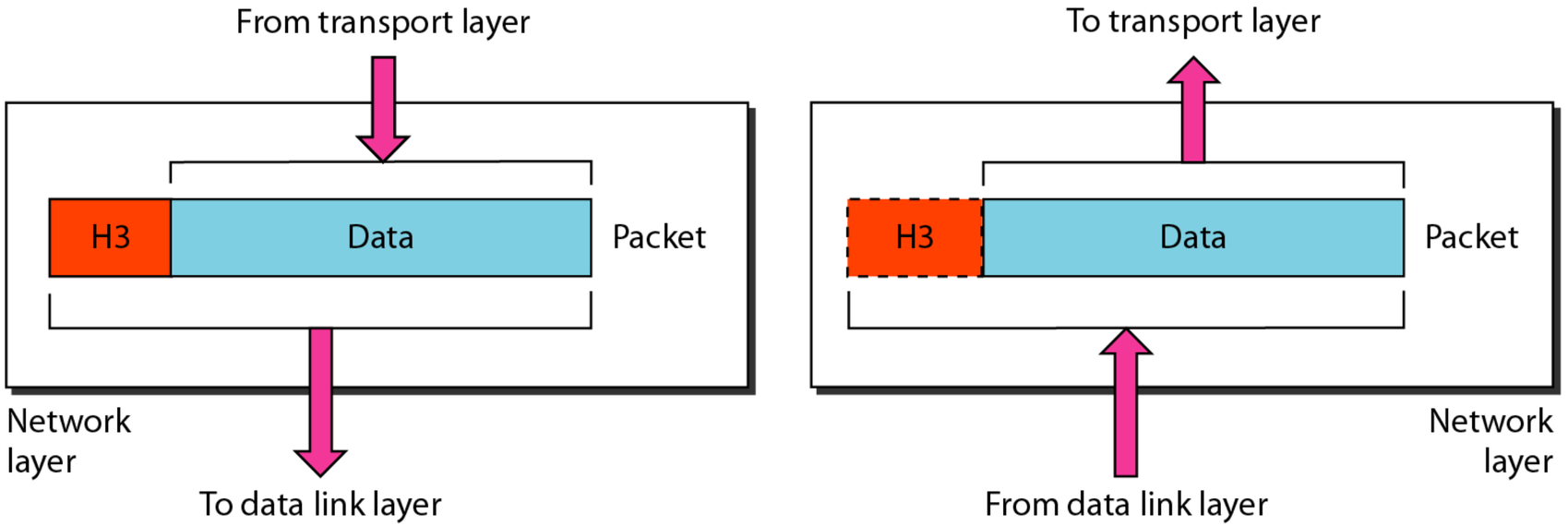
DATA LINK LAYER



HOP TO HOP DELIVERY

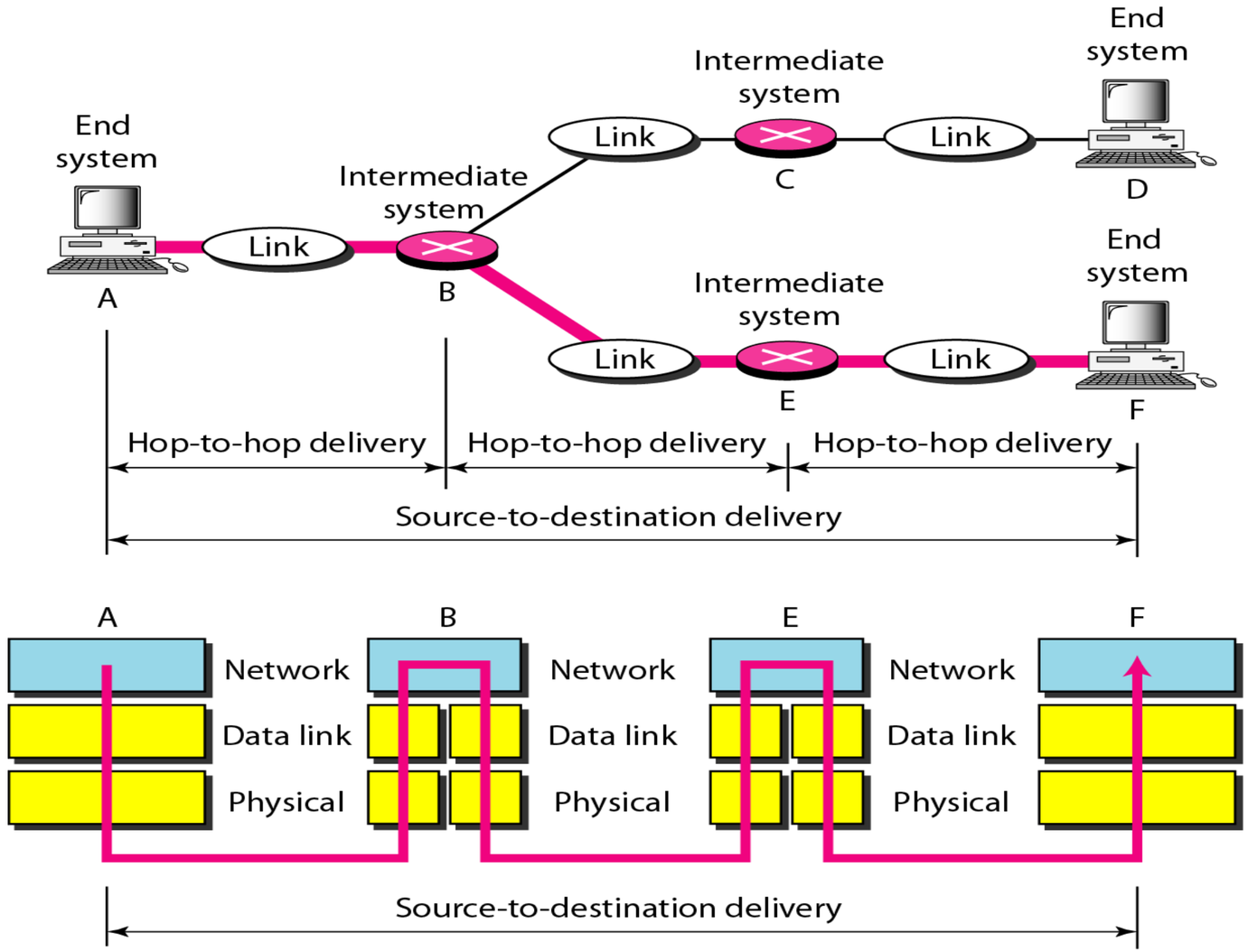


NETWORK LAYER

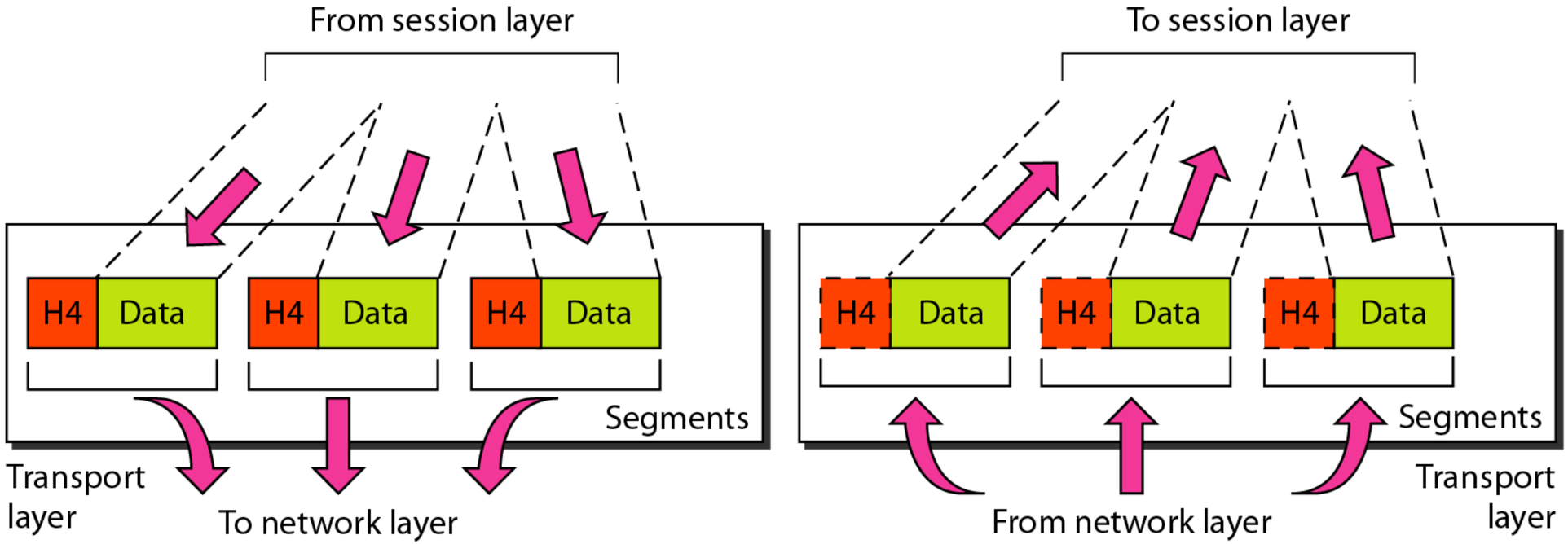


The network layer is responsible for the delivery of individual packets from the source host to the destination host.

SOURCE-TO-DESTINATION DELIVERY

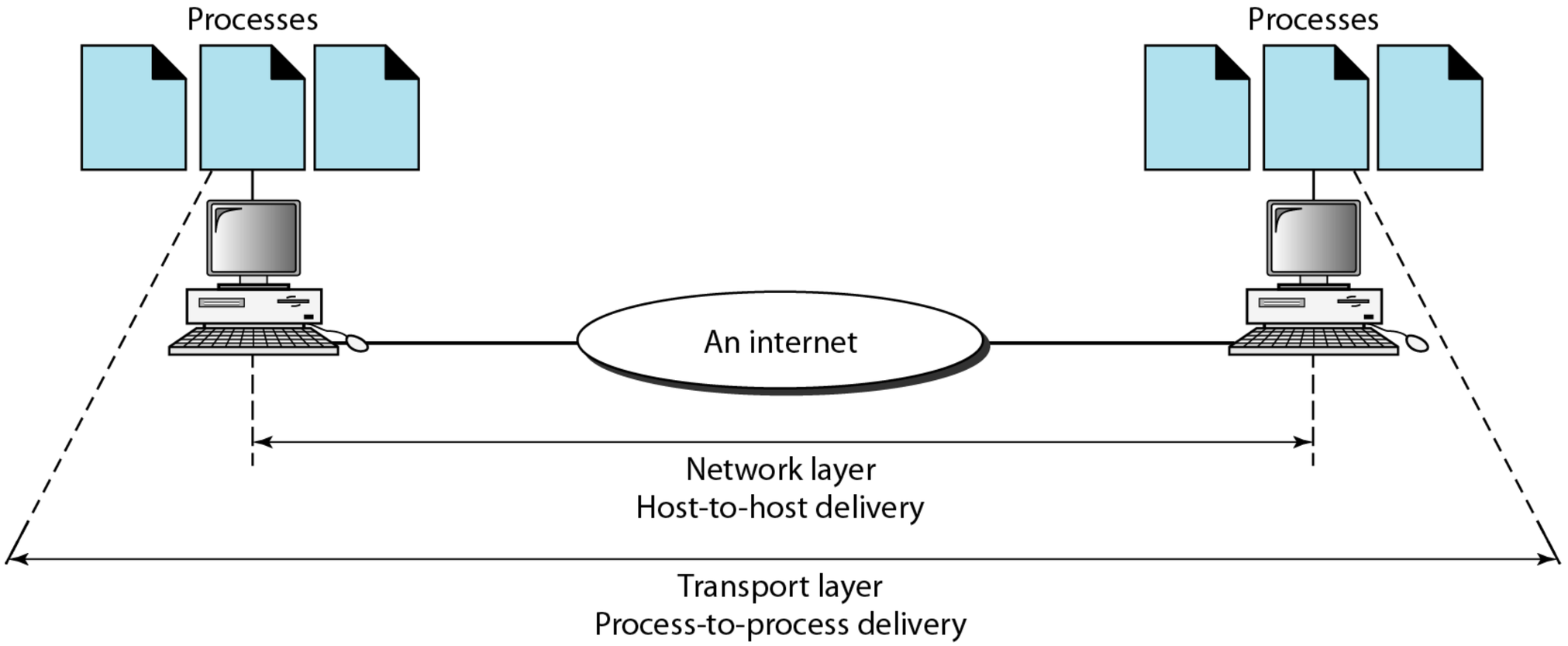


TRANSPORT LAYER

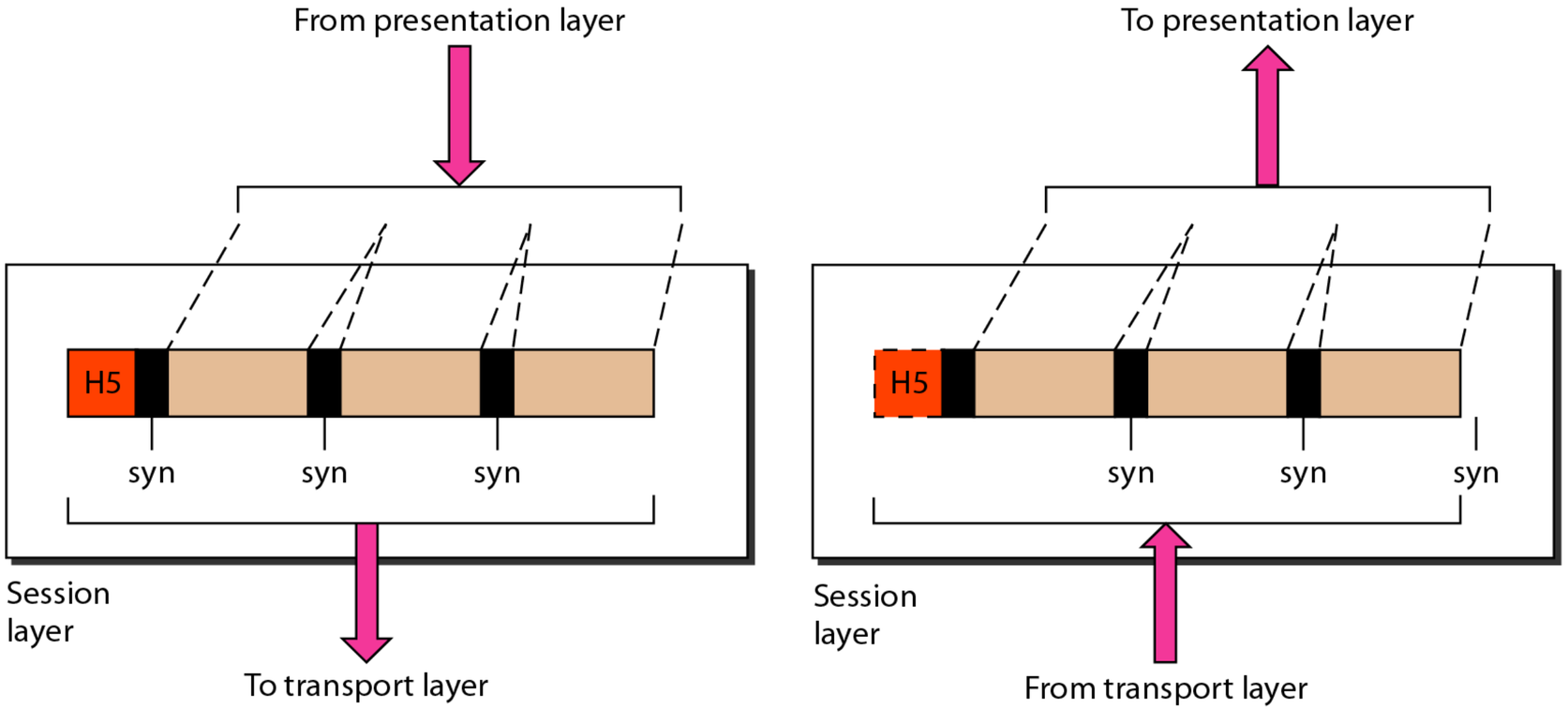


The transport layer is responsible for the delivery of a message from one process to another.

RELIABLE PROCESS-TO-PROCESS DELIVERY OF A MESSAGE

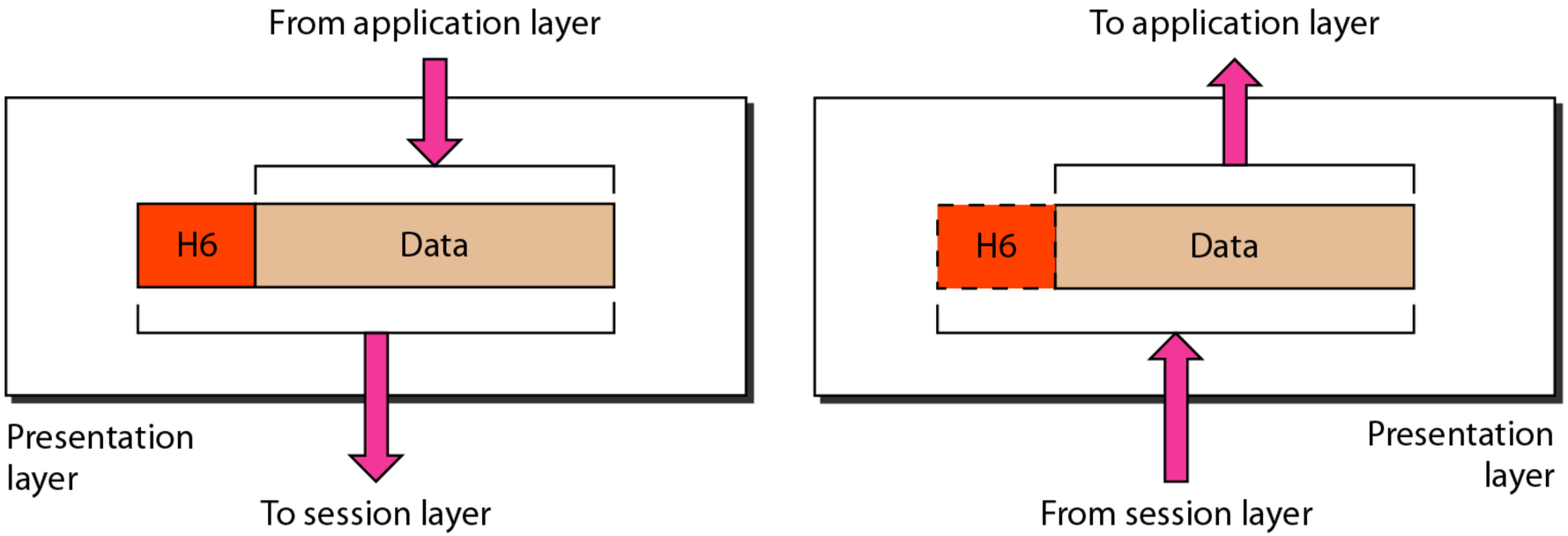


SESSIONS LAYER



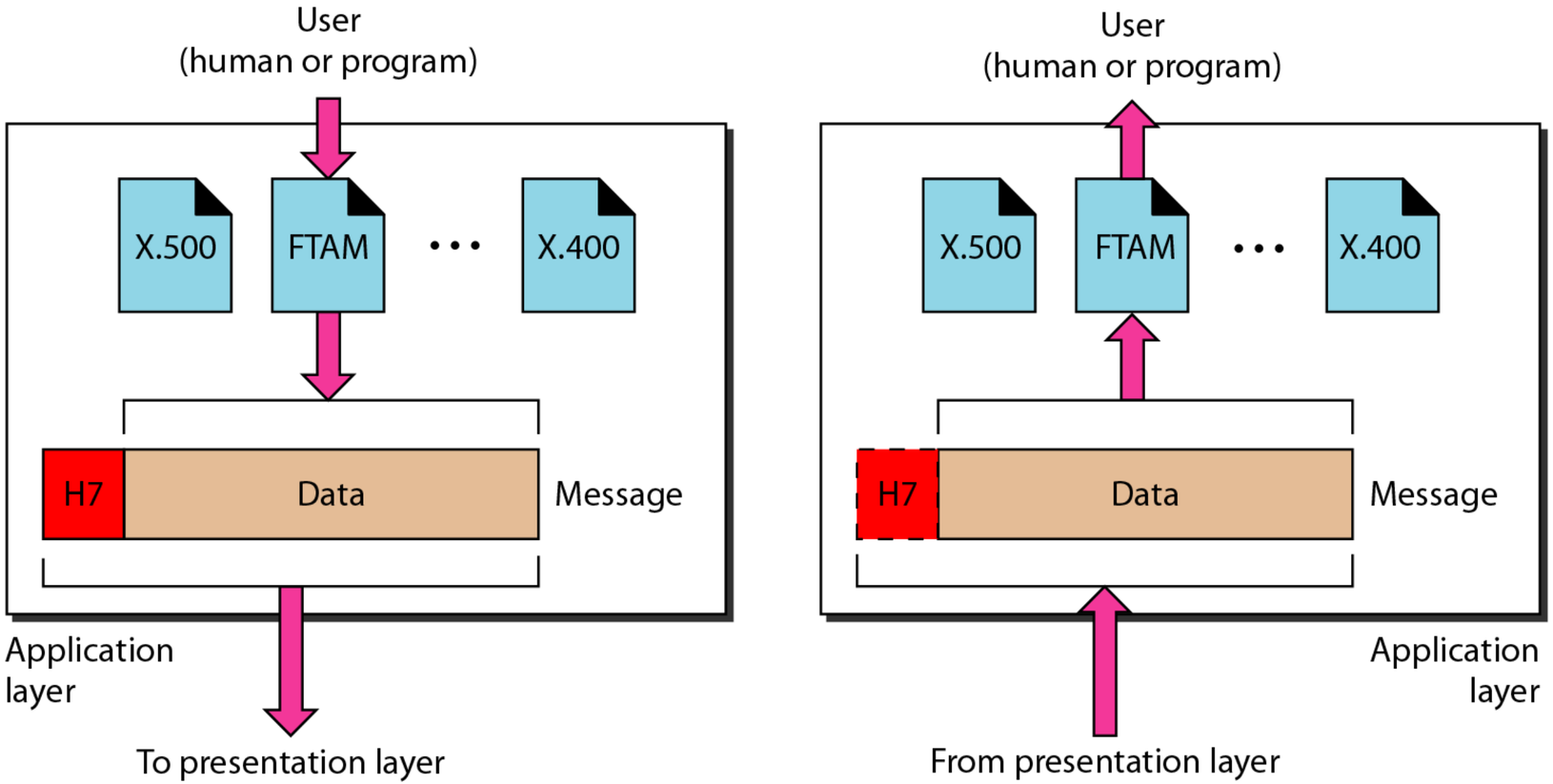
The session layer is responsible for dialog control and synchronization.

PRESENTATION LAYER



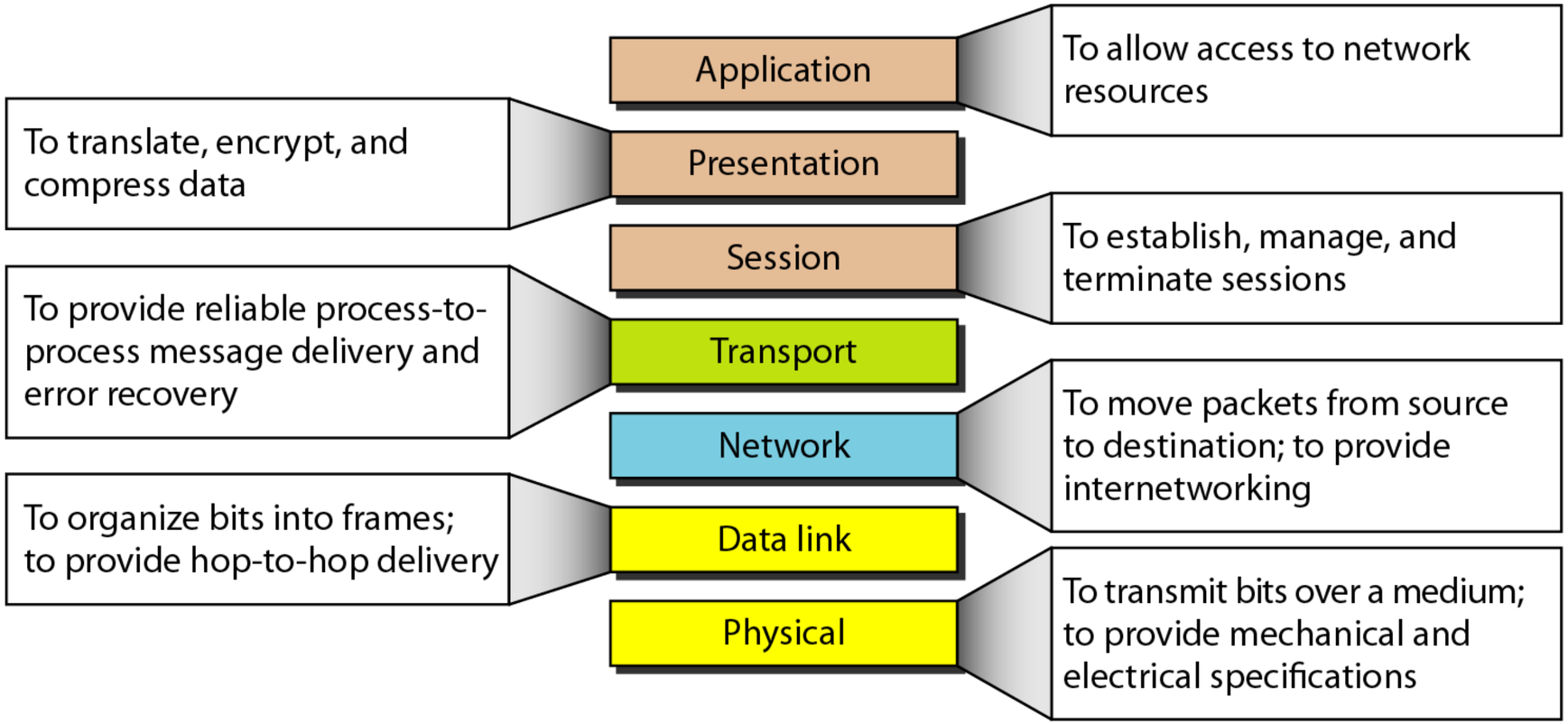
The presentation layer is responsible for translation, compression, and encryption.

APPLICATION LAYER



The application layer is responsible for providing services to the user.

SUMMARY OF LAYERS



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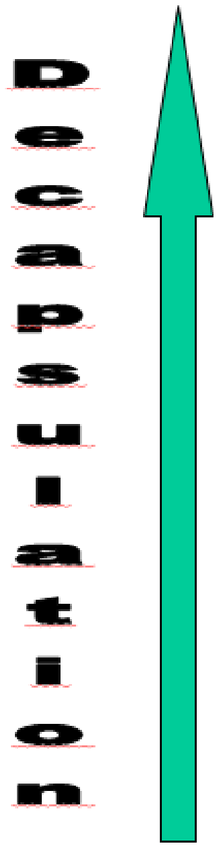
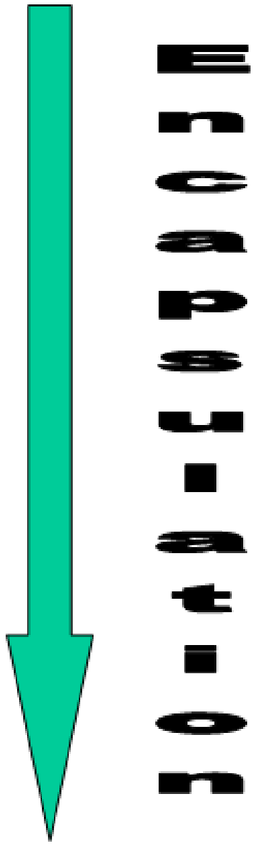


Layer	PDU Name
7.) Application	Data
6.) Presentation	Data
5.) Session	Data
4.) Transport	Segment
3.) Network	Packet
2.) Data Link	Frame
1.) Physical	Bits



THANK YOU