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/ IV SEMESTER

UNIT 1 – INTRODUCTION TO NETWORKS AND LAYERED ARCHITECTURE

TOPIC 6 – OSI LAYER

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.
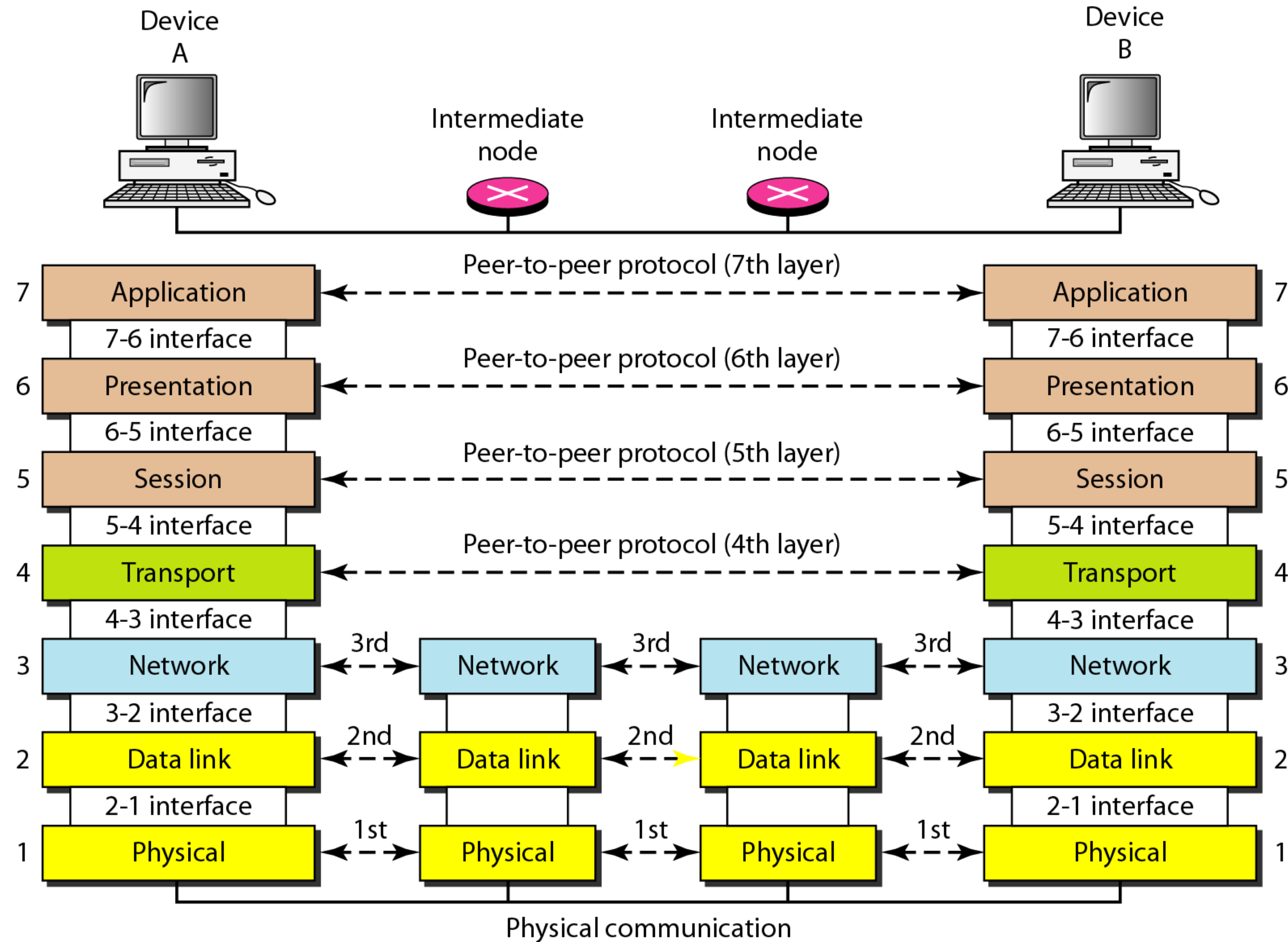
ISO is the organization.
OSI is the model.

SEVEN LAYERS OF THE OSI MODEL

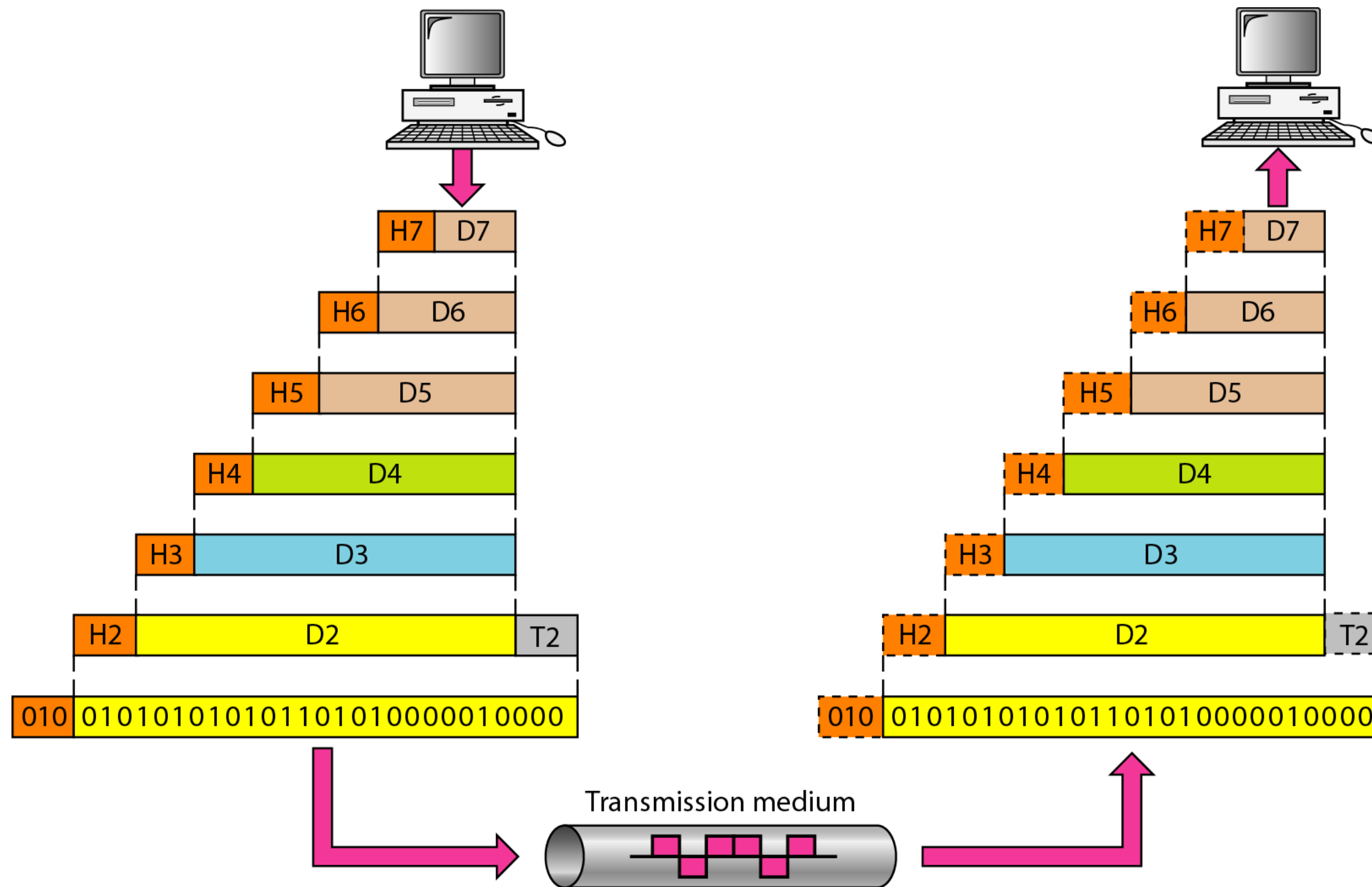|	
7	Application
6	Presentation
5	Session
4	Transport
3	Network
2	Data link
1	Physical
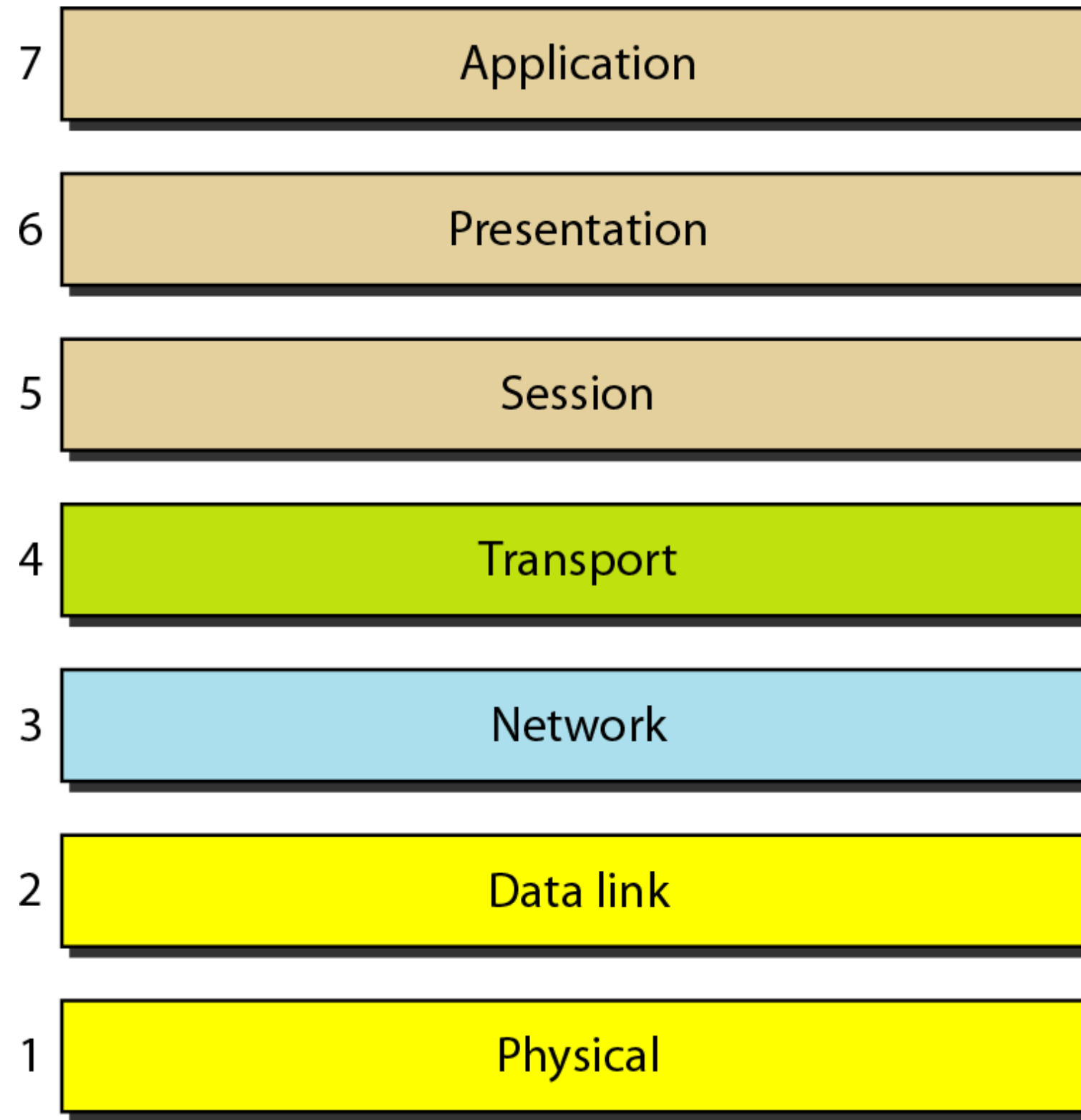
THE INTERACTION BETWEEN LAYERS IN THE OSI MODEL

AN EXCHANGE USING THE OSI MODEL
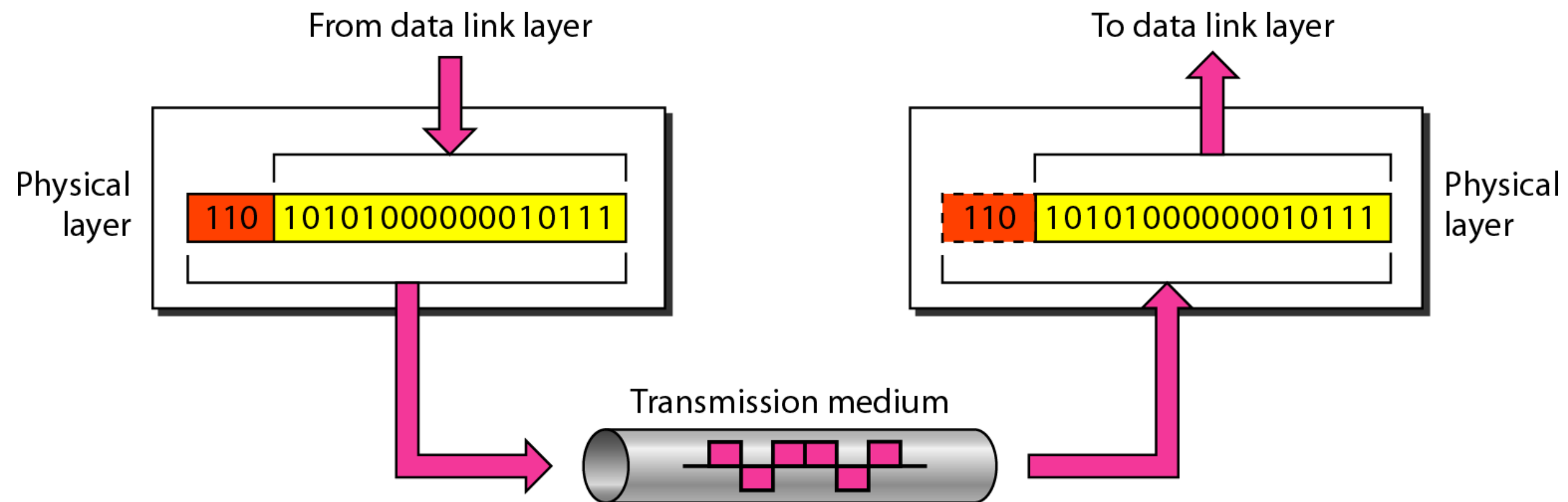
LAYERS IN THE OSI MODEL

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
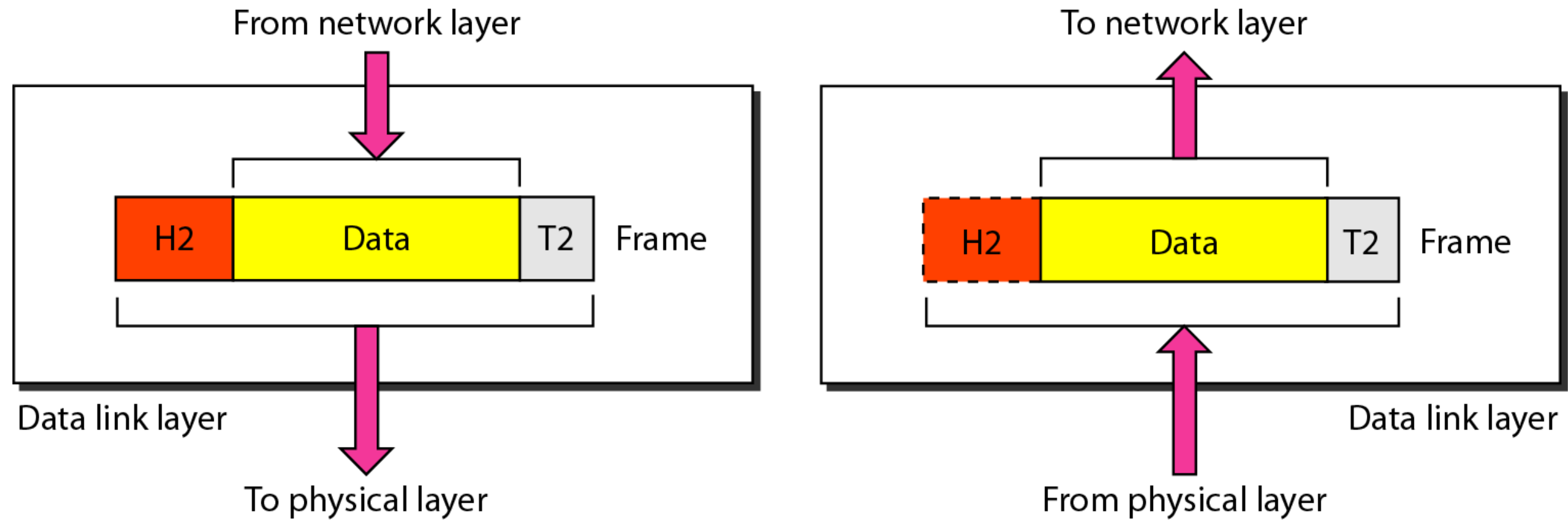6. Presentation Layer
7. Application Layer

PHYSICAL LAYER

From data link layer

To data link layer

Physical layer

| 110 | 10101000000010111 |

Physical layer

| 110 | 10101000000010111 |

Transmission medium

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

From transport layer

To transport layer

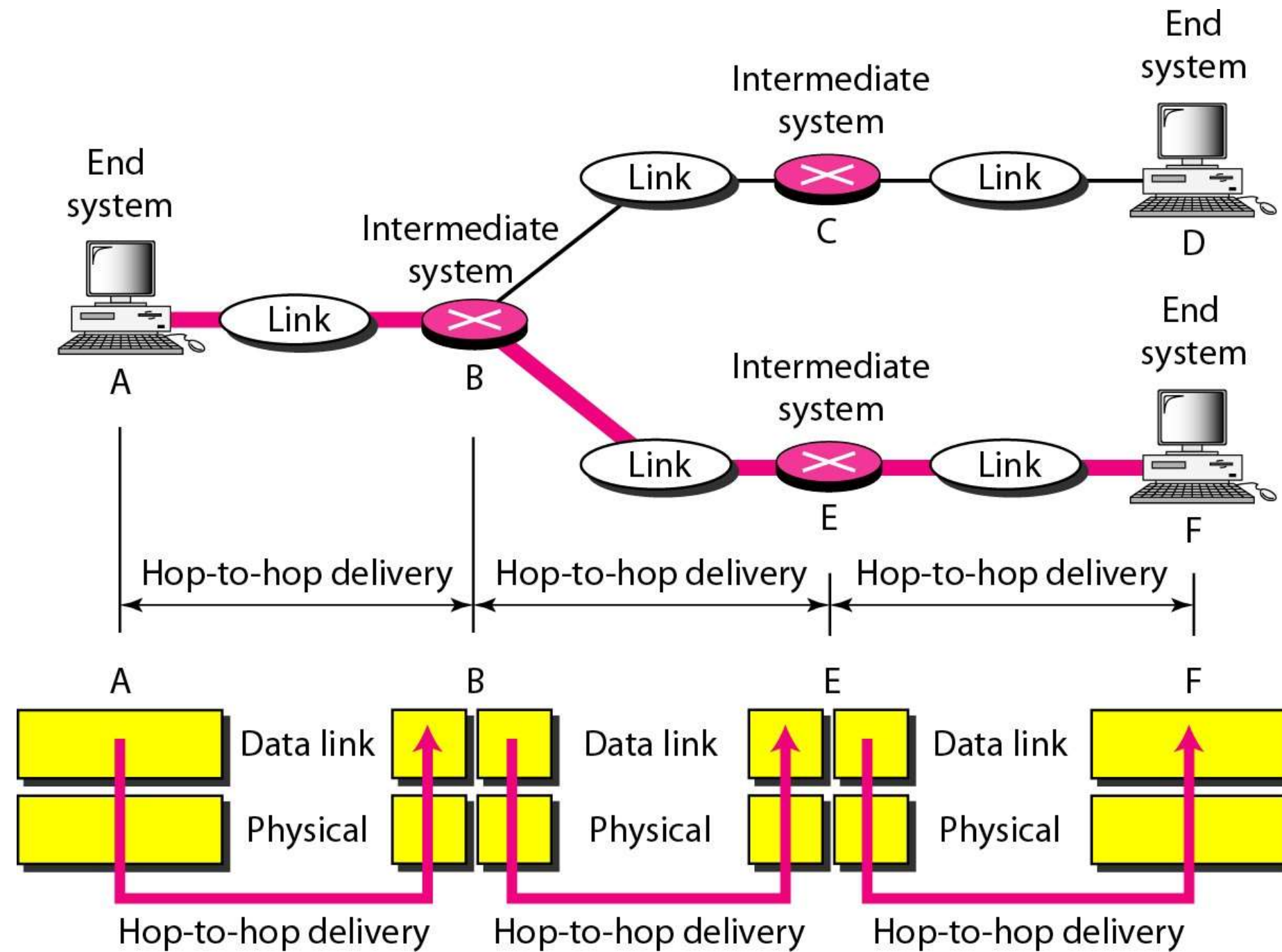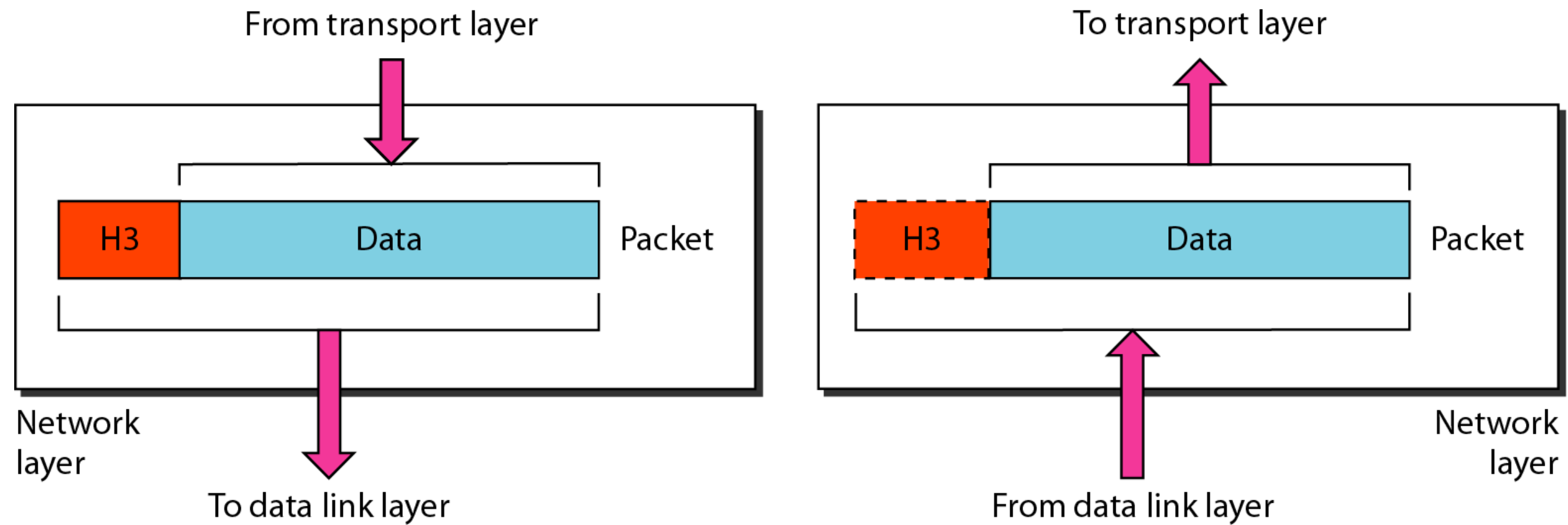| H3 | Data | Packet |

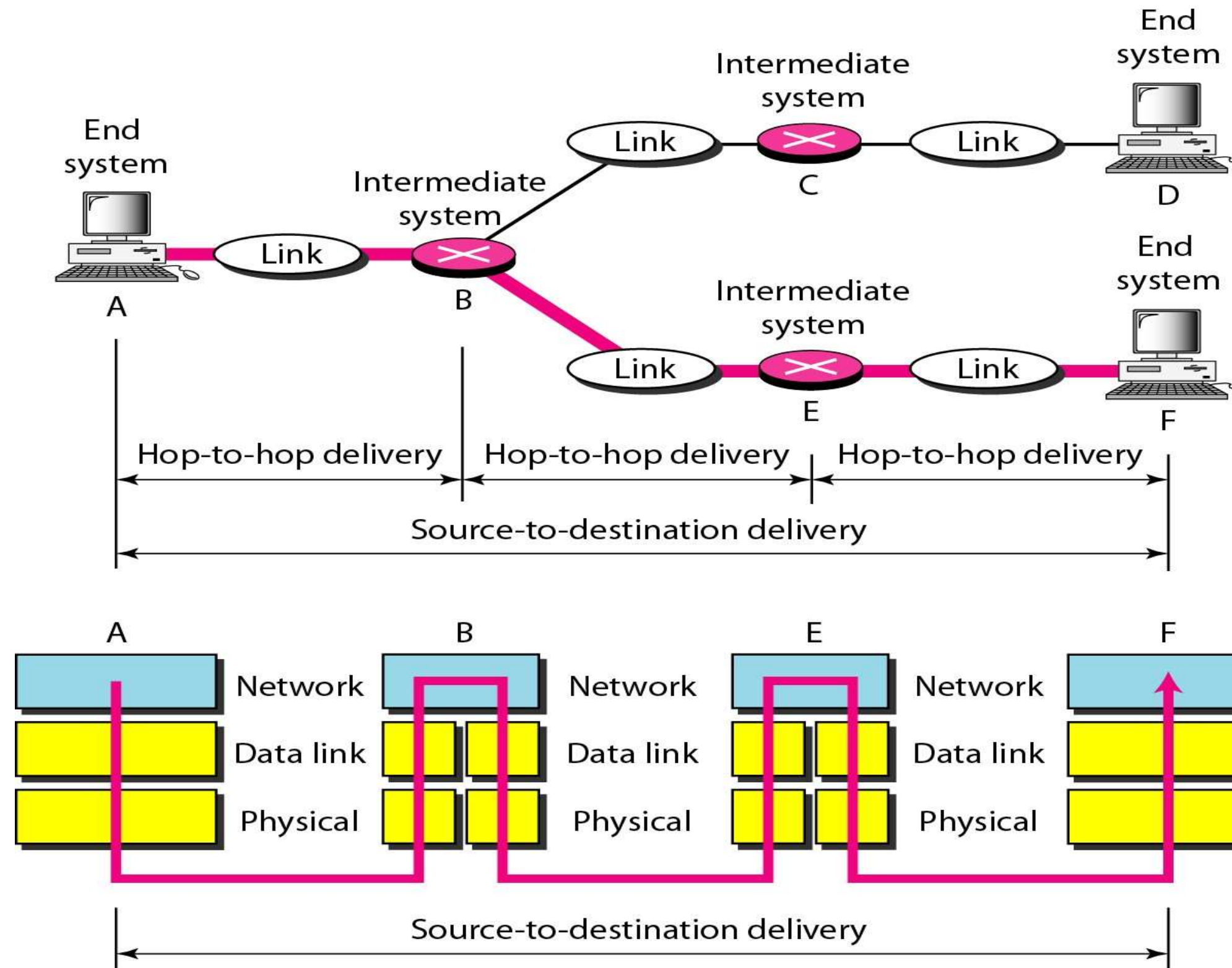| H3 | Data | Packet |

Network layer

To data link layer

From data link layer

Network layer

The network layer is responsible for the delivery of individual packets from the source host to the destination host.
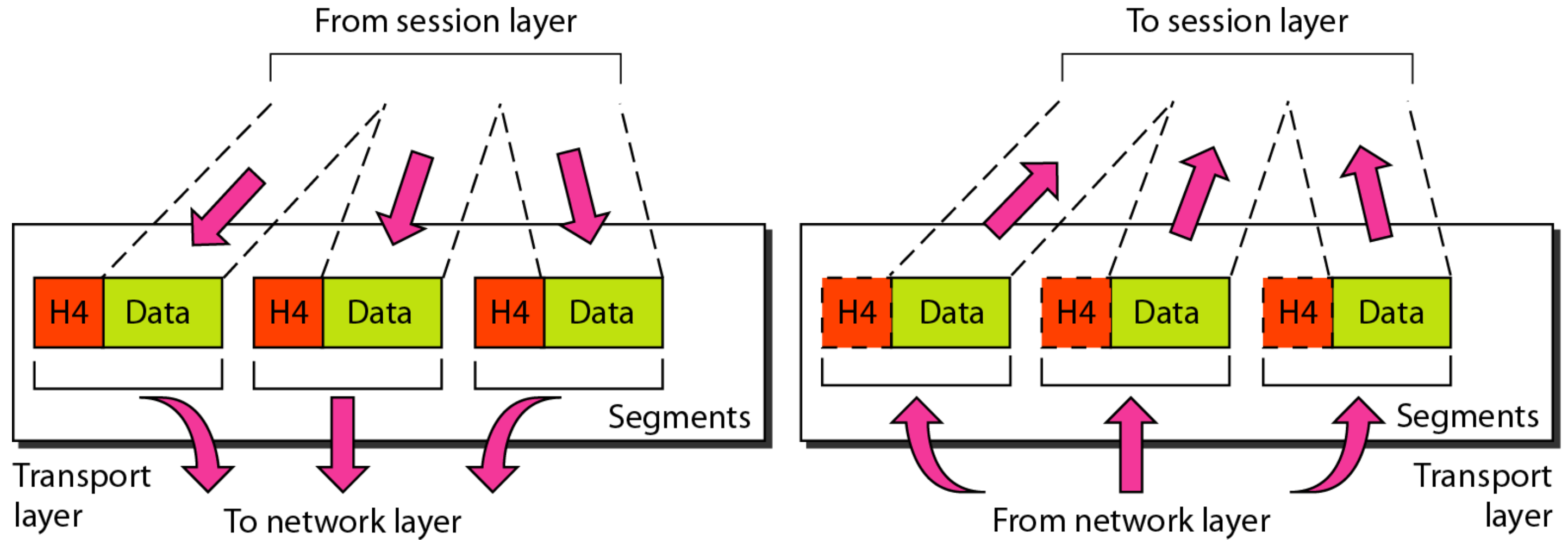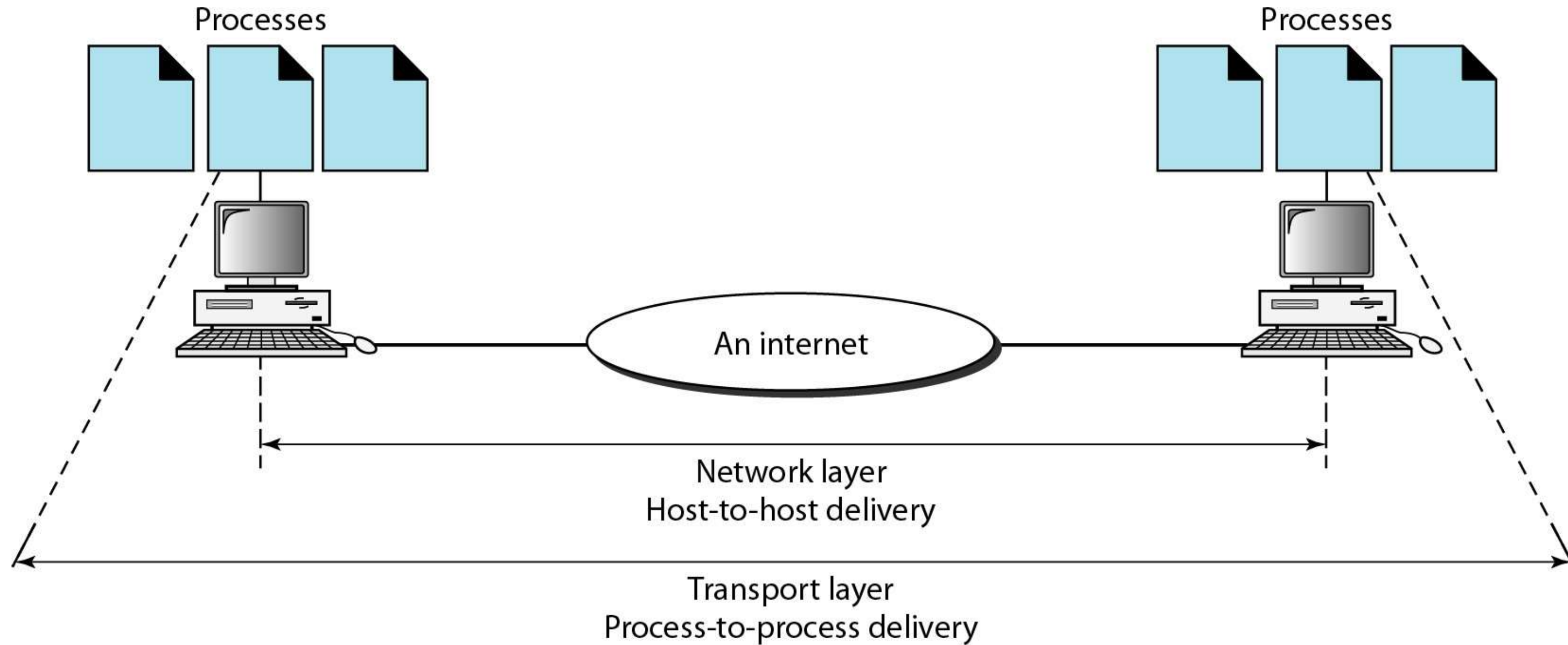
SOURCE-TO-DESTINATION DELIVERY

TRANSPORT LAYER

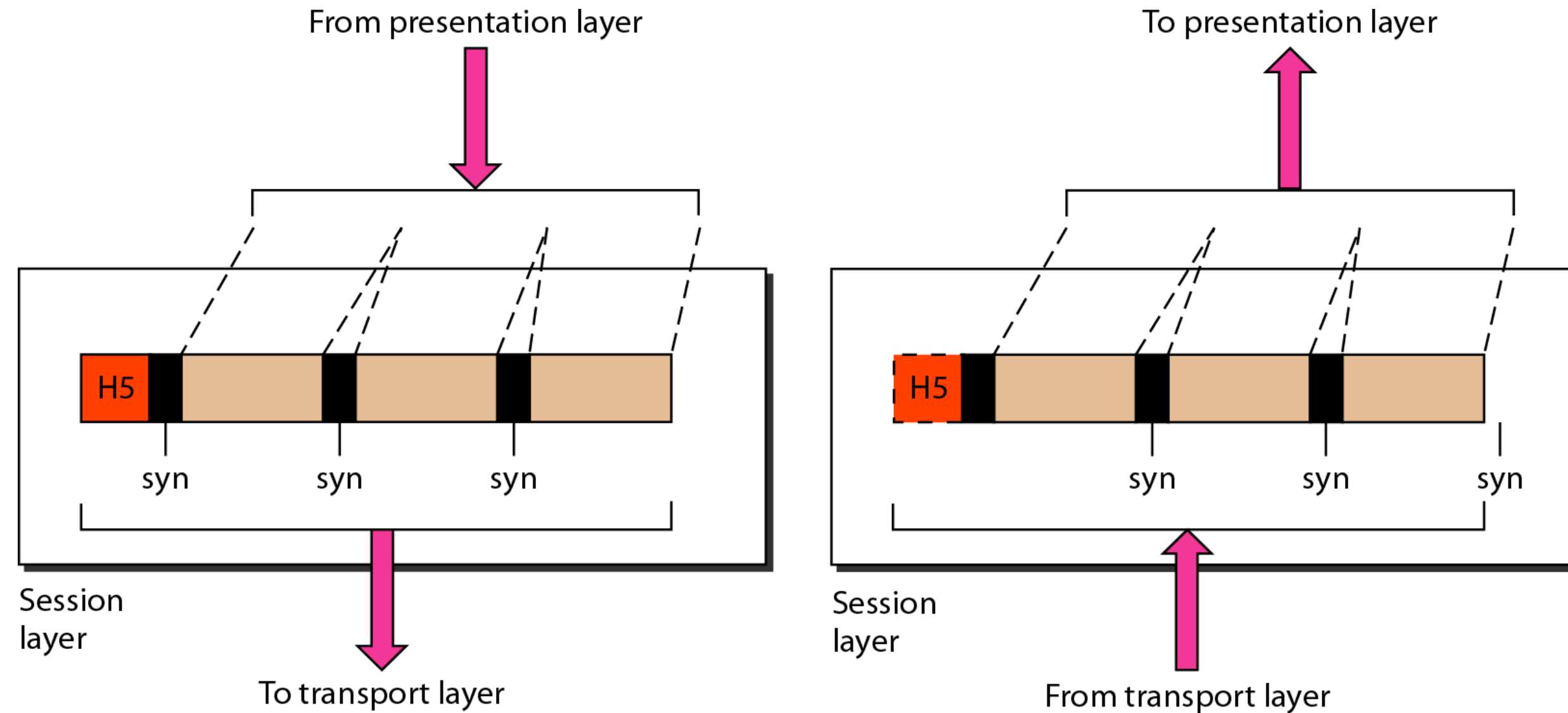The transport layer is responsible for the delivery of a message from one process to another.

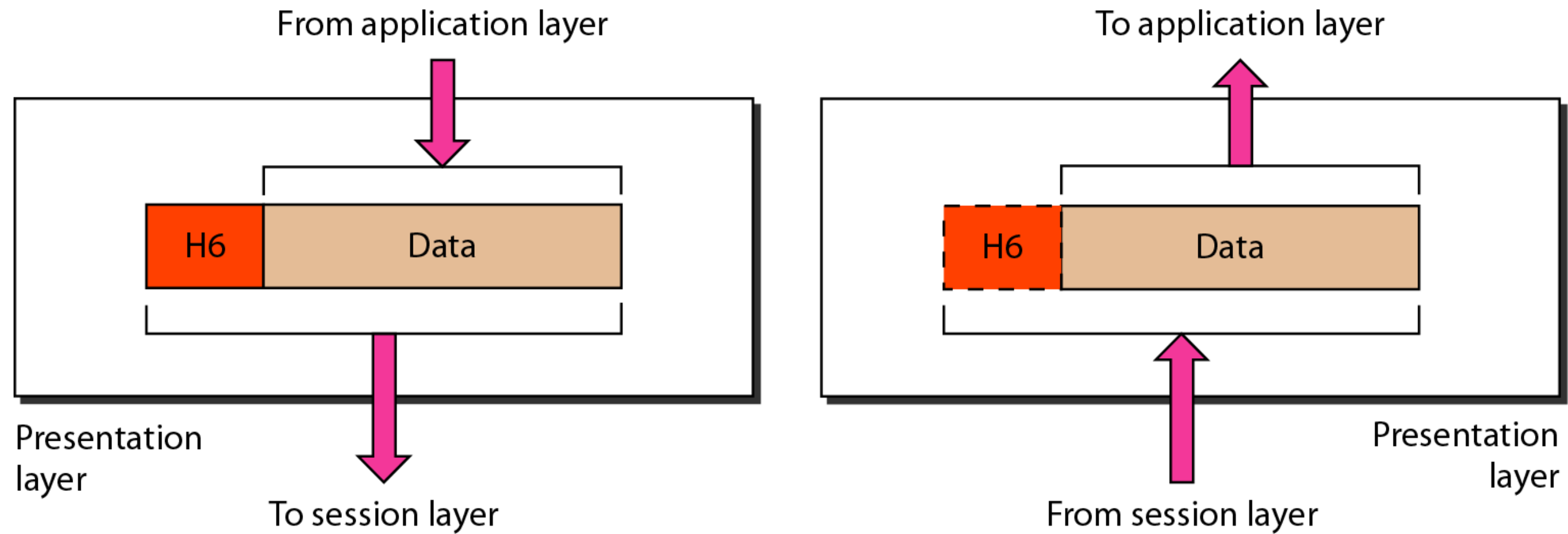# RELIABLE PROCESS-TO-PROCESS DELIVERY OF A MESSAGE

SESSIONS LAYER

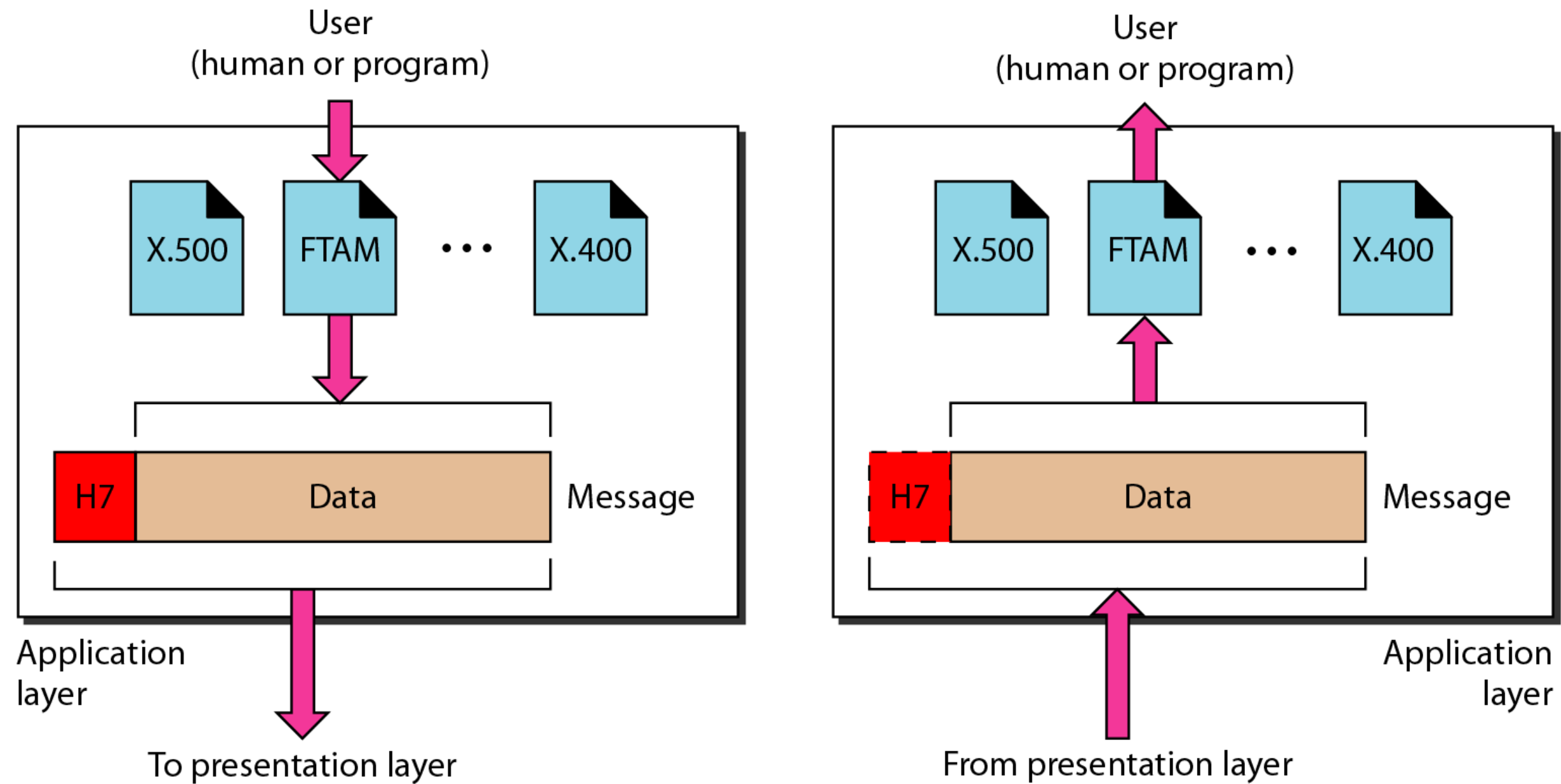The session layer is responsible for dialog control and synchronization.

PRESENTATION LAYER

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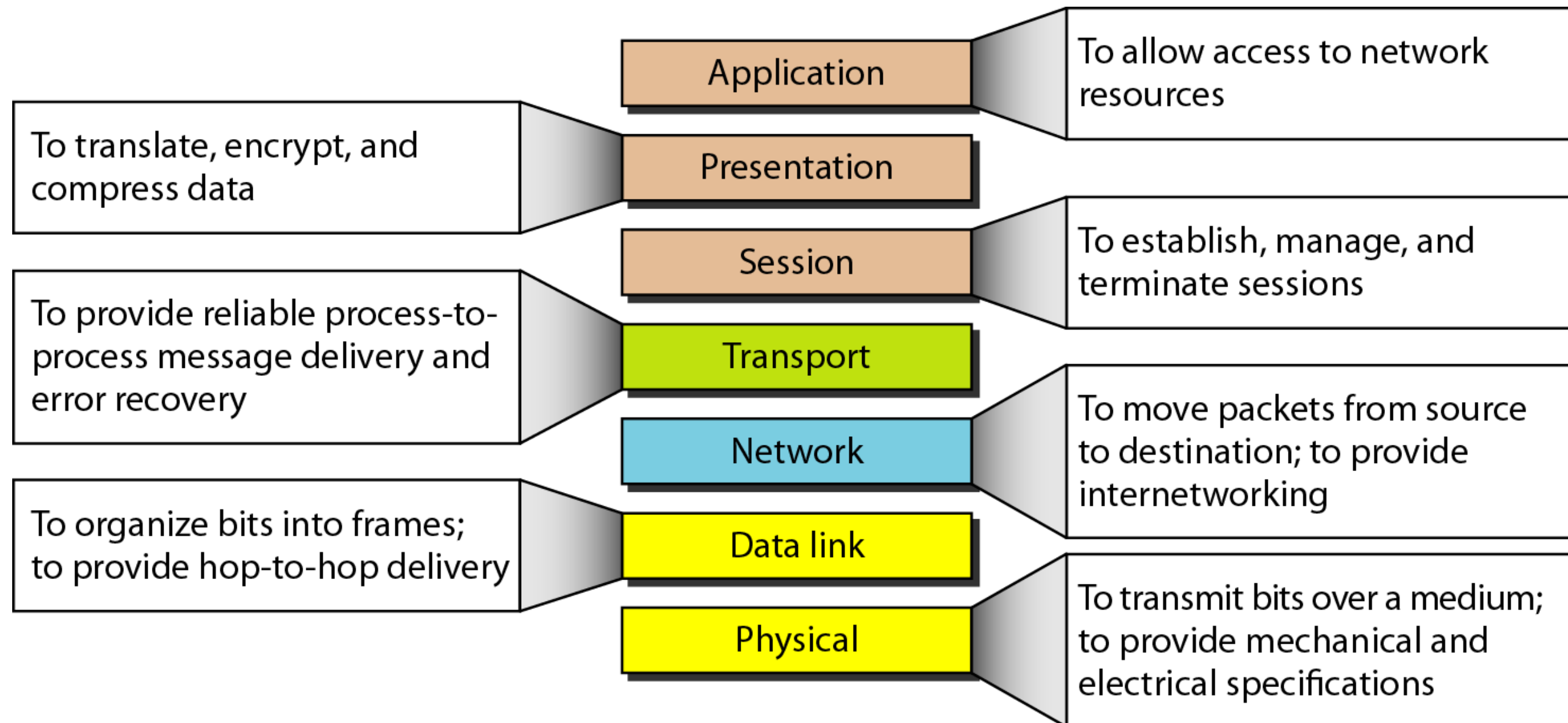
APPLICATION LAYER

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

SUMMARY OF LAYERS

Layer	Function
Application	To allow access to network resources
Presentation	To translate, encrypt, and compress data
Session	To establish, manage, and terminate sessions
Transport	To provide reliable process-to-process message delivery and error recovery
Network	To move packets from source to destination; to provide internetworking
Data link	To organize bits into frames; to provide hop-to-hop delivery
Physical	To transmit bits over a medium; to provide mechanical and electrical specifications

SUMMARY OF LAYERS

Decapsulation ↑

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

↓ **Encapsulation**

THANK YOU