Bangladesh Army University of Engineering & Technology

CSE-3215
Data Communication

Lecture-06

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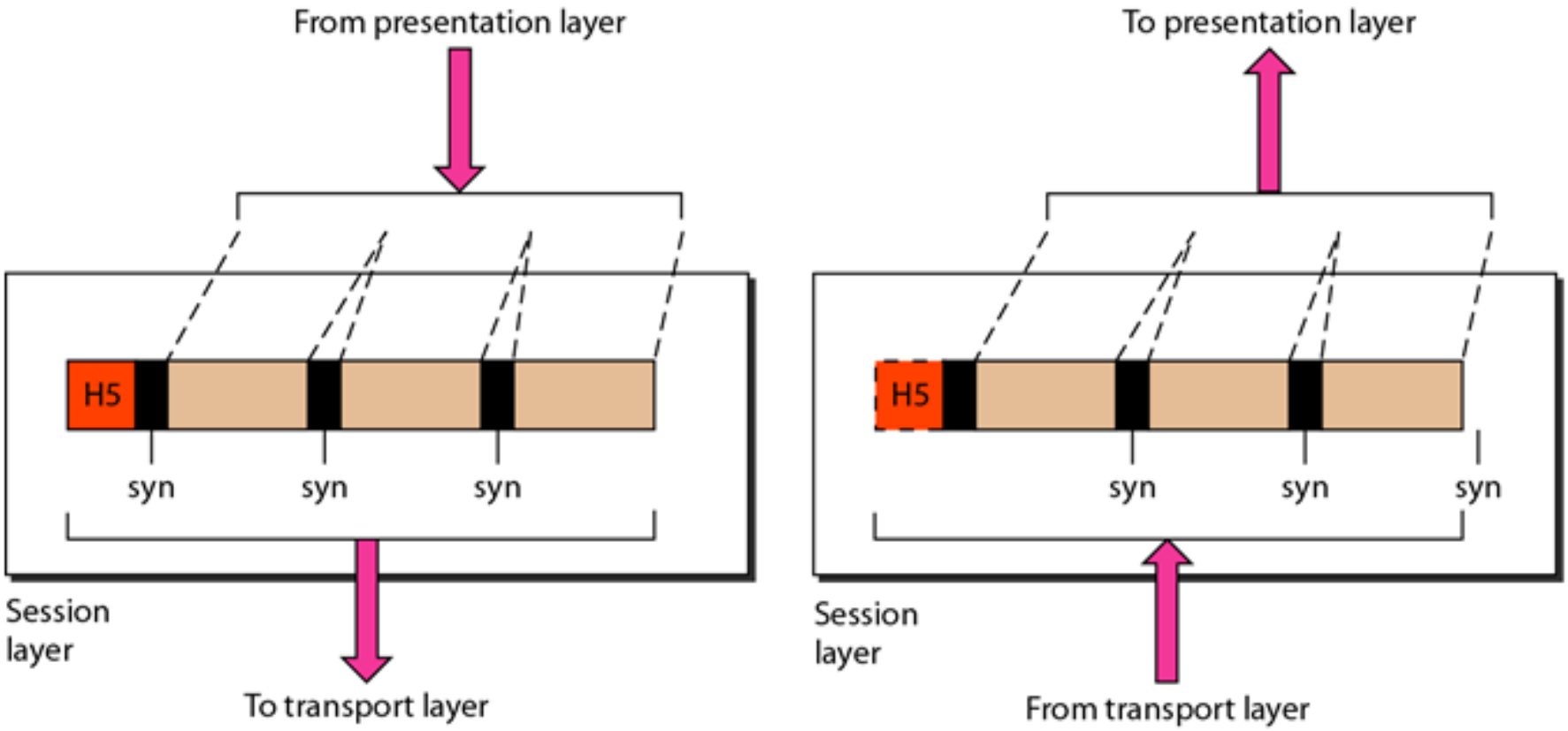
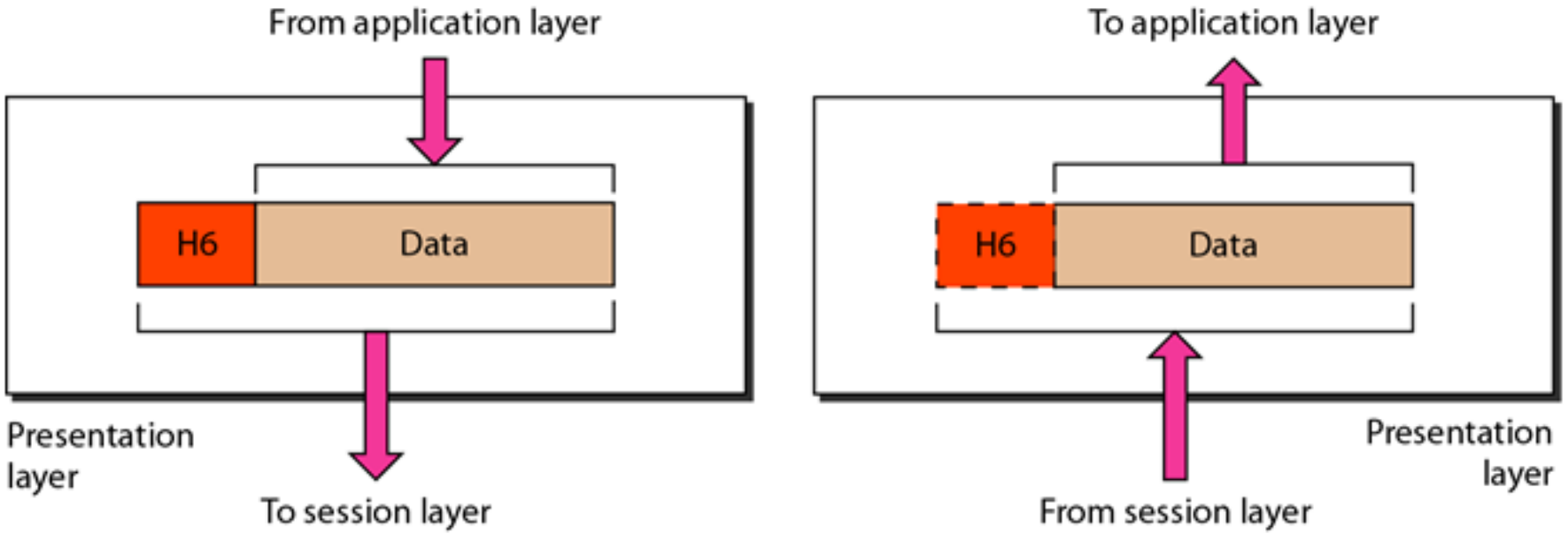
Session Layer



Note

The session layer is responsible for session maintenance and synchronization. It works as a dialogue controller

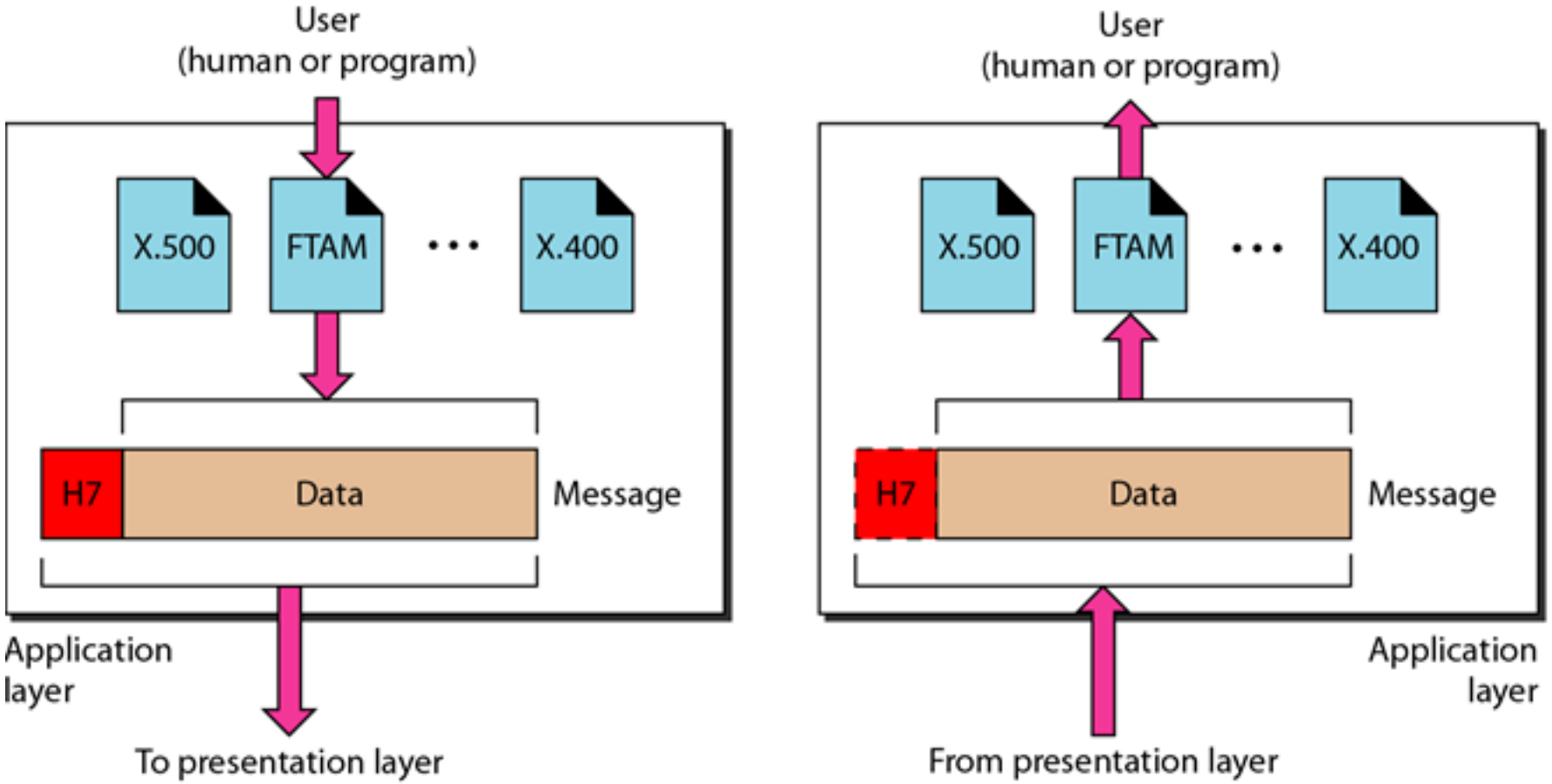
Presentation Layer



Note

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

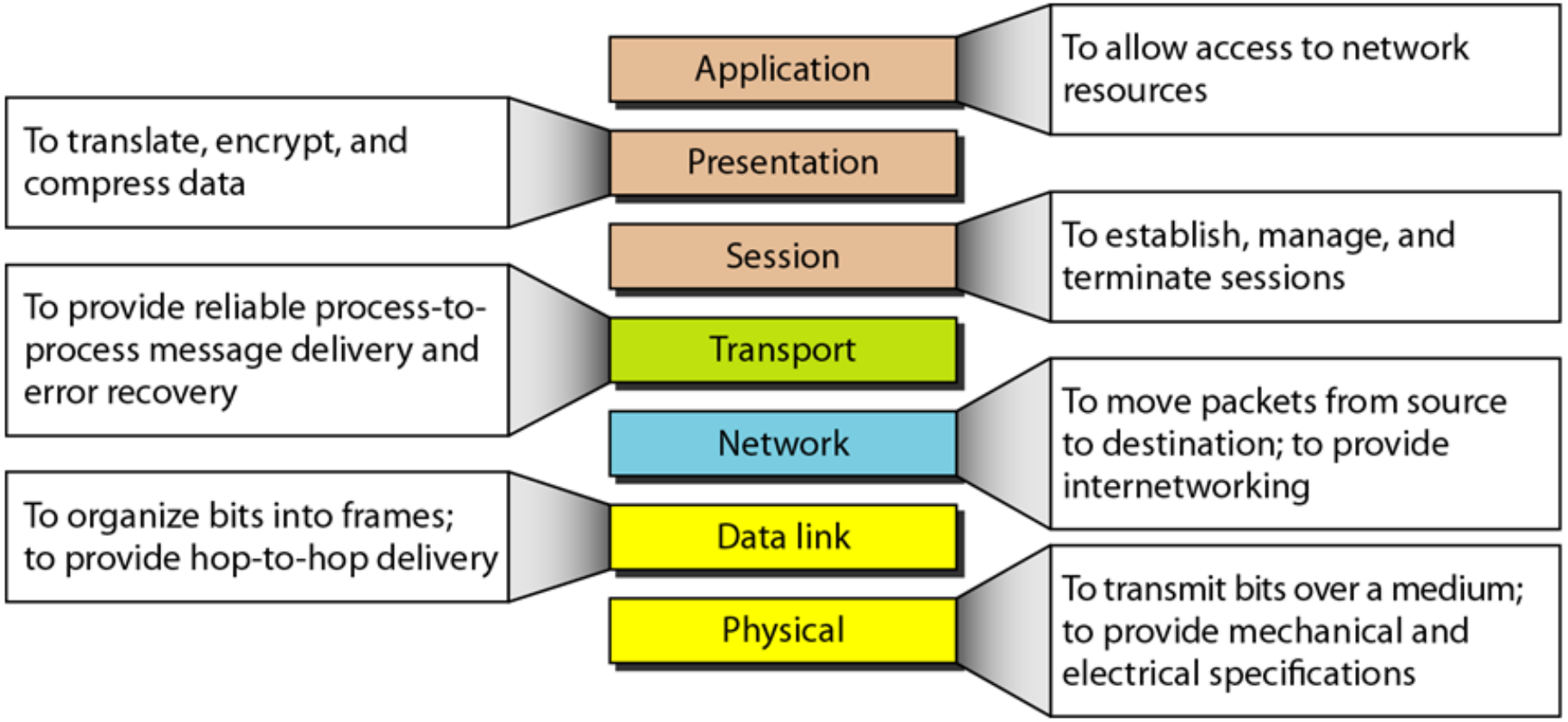
Application Layer



Note

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

Summary of OSI Layers



Let's take another look in a more technical way . . .

7 Application	**Key Responsibilities** - User Application Services **Common Protocols** - DNS; NFS; BOOTP; DHCP; SNMP; RMON; FTP; TFTP; SMTP; POP3; IMAP; NNTP; HTTP; Telnet **Scope**- Application data **Data Type can Handled** - User Data
6 Presentation	**Key Responsibilities** - Data Translation; Compression and Encryption **Common Protocols**- SSL; Shells and Redirectors; MIME **Scope**- Application data representations **Data Type can Handled** - Encoded User Data
5 Session	**Key Responsibilities** - Session Establishment, Management and Termination **Common Protocols**- NetBIOS, Sockets, Named Pipes, RPC **Scope**- Sessions between local or remote devices **Data Type can Handled** - Session
4 Transport	**Key Responsibilities** - Process-Level Addressing; Multiplexing/Demultiplexing; Connections; Segmentation and Reassembly Acknowledgments and Retransmissions, Flow Control **Common Protocols**- TCP and UDP; SPX; NetBEUI/NBF **Scope**- Communication between software processes **Data Type can Handled** - Datagram and Packets
3 Network	**Key Responsibilities**-Logical Addressing; Routing; Datagram Encapsulation; Fragmentation and Reassembly; Error Handling and Diagnostics **Common Protocols**- IP; IPv6; IP NAT; IPsec; Mobile IP; ICMP; IPX; DLC; PLP; Routing protocols such as RIP and BGP **Scope**- Messages between local or remote devices **Data Type can Handled**- Datagram and Packets
2 Datalink	**Key Responsibilities**- Logical Link Control; Media Access Control; Data Framing; Addressing; Error Detection and Handling; Defining Requirements of Physical Layer **Common Protocols**- EEE 802.2 LLC, Ethernet Family; Token Ring; FDDI and CDDI; IEEE 802.11 (WLAN, Wi-Fi); HomePNA; HomeRF; ATM; SLIP and PPP **Scope**- Low-level data messages between local devices **Data Type can Handled** - Frames
1 Physical	**Key Responsibilities**- Encoding and Signaling; Physical Data Transmission; Hardware Specifications; Topology and Design **Common Protocols**- (Physical layers of most of the technologies listed for the data link layer) **Scope**- Electrical or light signals sent between local devices **Data Type can Handled** - Bits

TCP/IP Model

The layers in the TCP/IP protocol suite do not exactly match those in the OSI model. The original TCP/IP protocol suite was defined as having four layers: host-to-network, internet, transport, and application. However, when TCP/IP is compared to OSI, we can say that the TCP/IP protocol suite is made of five layers: physical, data link, network, transport, and application.

Topics discussed in this section:

Physical and Data Link Layers
Network Layer
Transport Layer
Application Layer

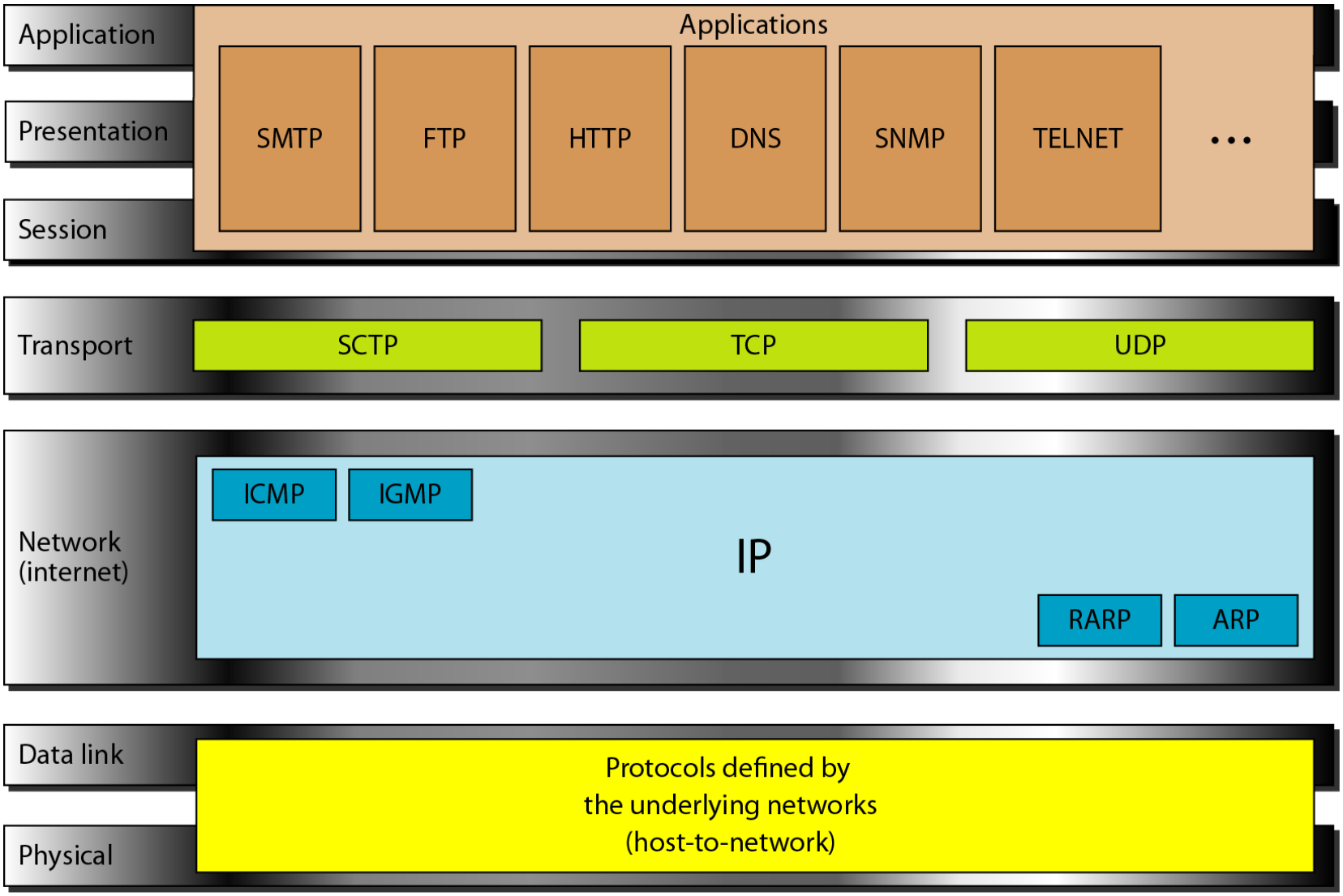


Figure: TCP/IP and OSI Model

That's all for today

Thank You