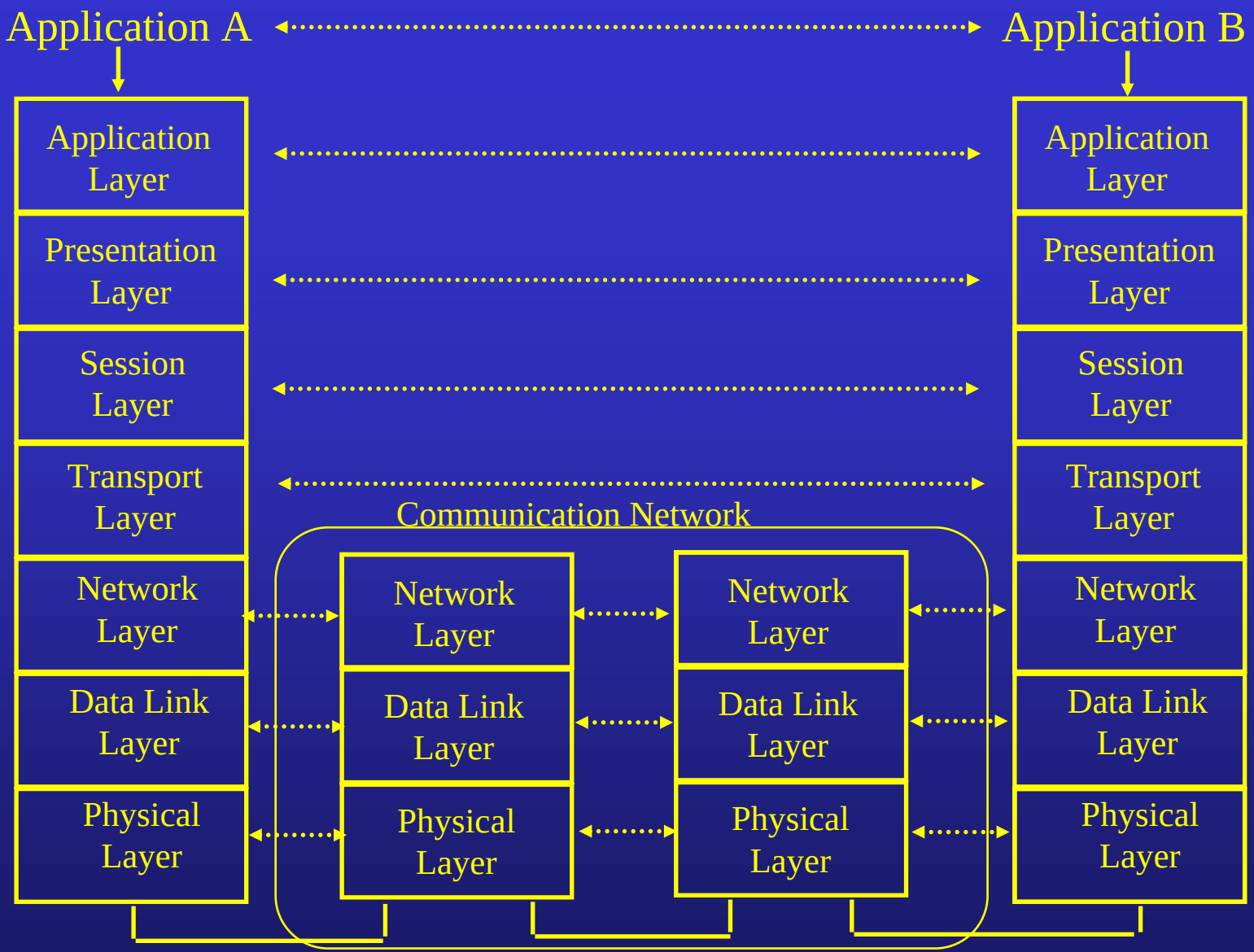
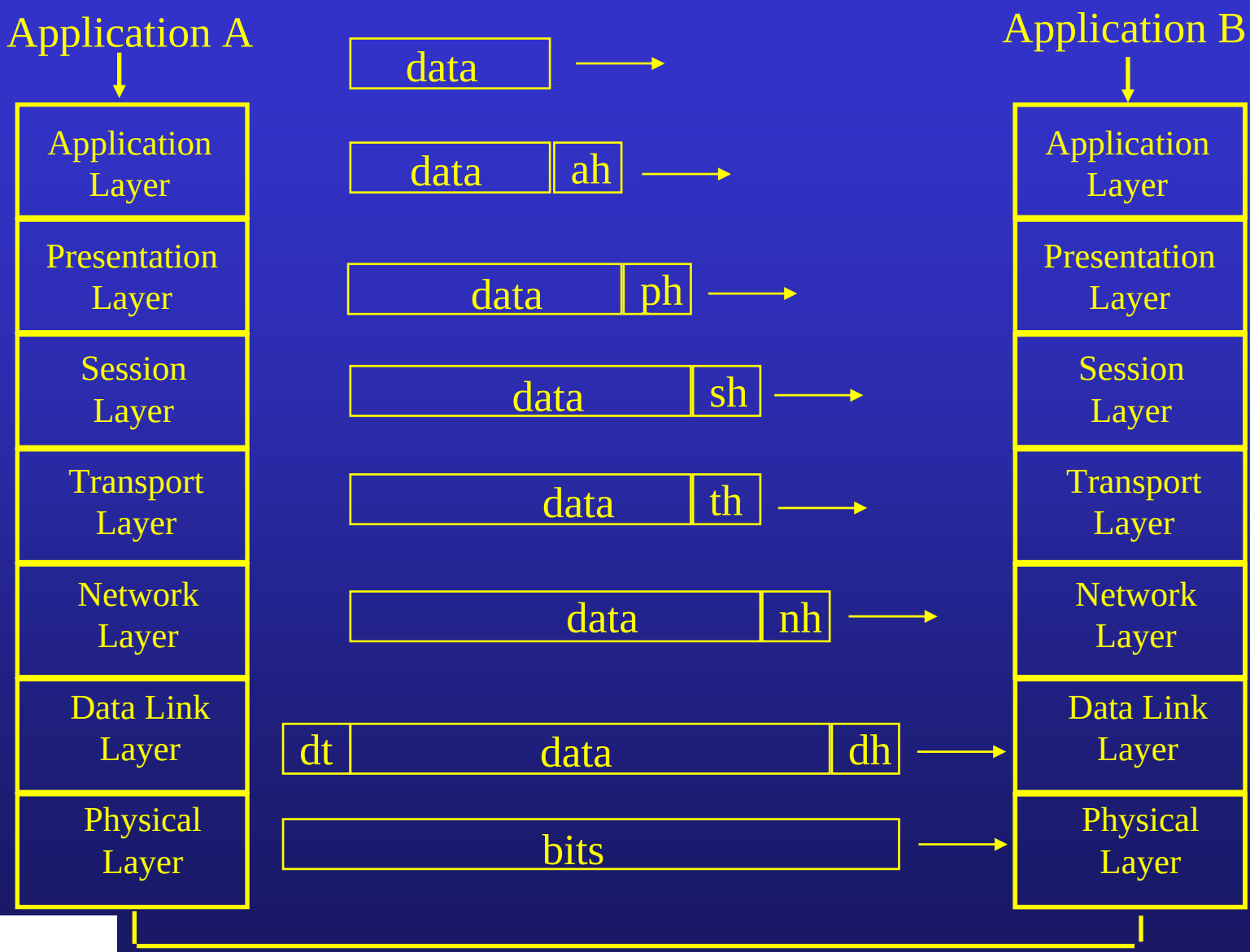
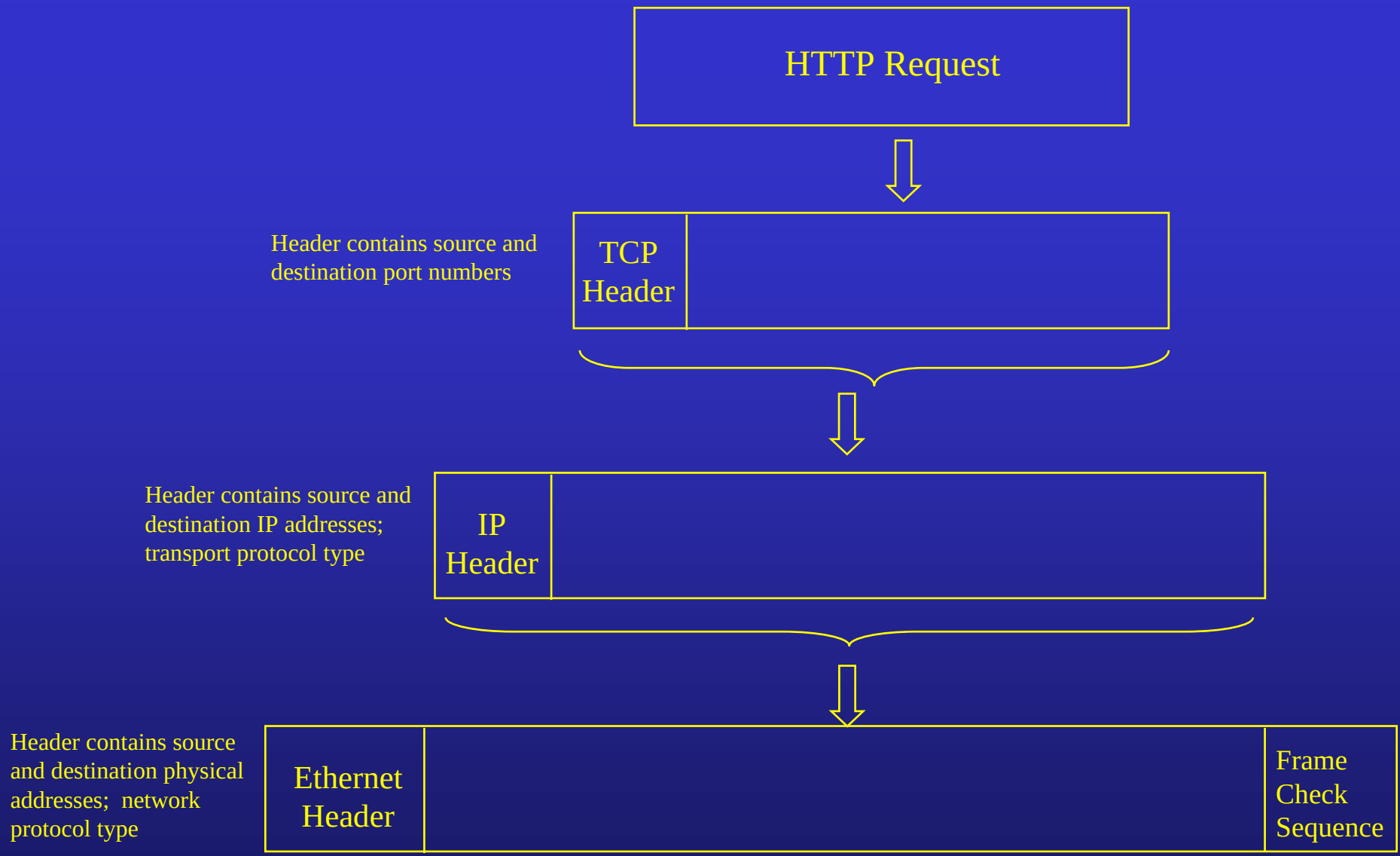
International Standards Organization Open Systems Interconnect (OSI) Reference Model



Leon-Garcia & Widjaja: *Communication Networks* Figure 2.6

Networks: OSI Reference Model


Application A
Application Layer
Presentation Layer
Session Layer
Transport Layer
Network Layer
Data Link Layer
Physical Layer
data
data ah
data ph
data sh
data th
data nh
dt data dh
bits
Application B
Application Layer
Presentation Layer
Session Layer
Transport Layer
Network Layer
Data Link Layer
Physical Layer



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OSI versus TCP/IP

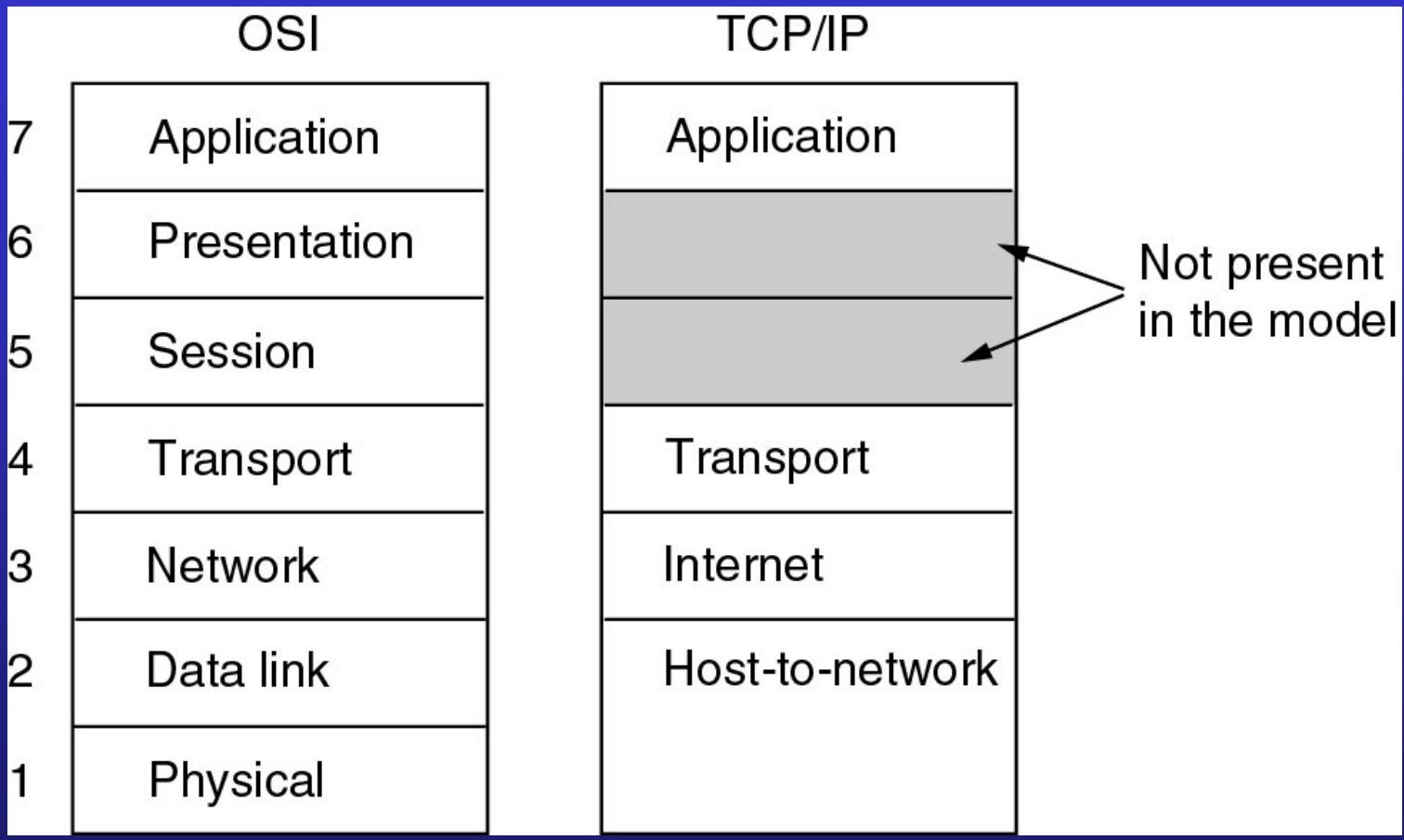
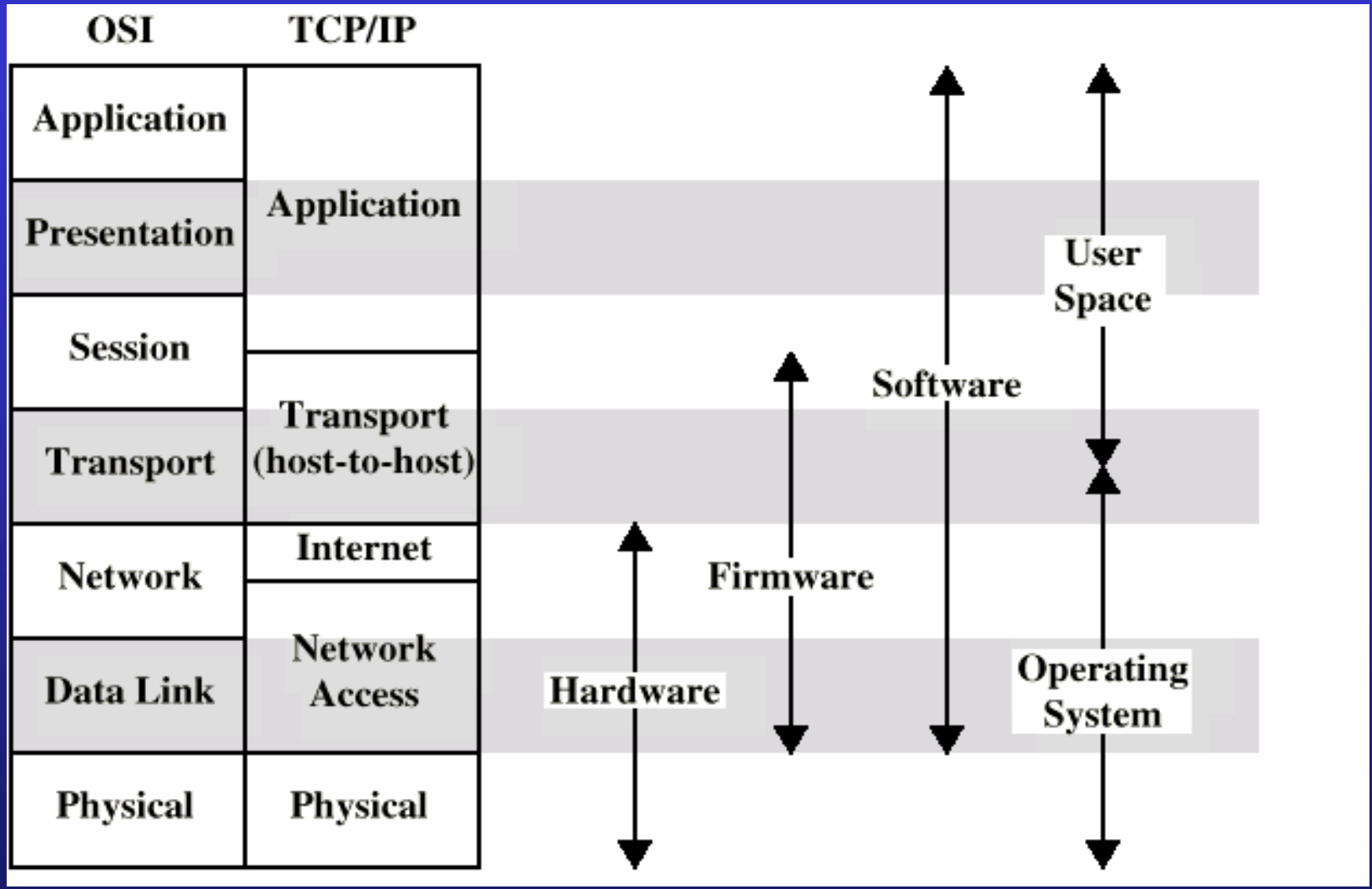


Figure 1-21. The TCP/IP reference model.

OSI versus TCP/IP



DCC 6th Ed., W. Stallings Figure 1.11

Seven Layer OSI Model

Application Layer
Provides users access to the OSI environment and distributed information services.

Presentation Layer
Provides application processes independence from differences in data representation (e.g. abstract syntax notation).

Session Layer
Provides the control structure for communicating between applications.
Establishes, manages and terminates session connections between cooperating applications.

Transport Layer
Provides reliable transparent transfer of data between end points.
Provides end-to-end flow control and error recovery.

Network Layer
Provides upper layers with independence from the data transmission, routing and switching technologies used to connect systems.
Responsible for establishing, managing and terminating connections.

Data Link Layer
Provides for reliable transfer of information across the physical layer.
Sends and receives frames with the necessary synchronization, flow control and error control.

Physical Layer
Concerned with transmission of an unstructured bit stream over a physical medium.
Deals with the mechanical, electrical, functional and procedural characteristics to access the physical medium.