

OSI model

- It is a seven layered reference model.
- Internetworking is not supported.
- It clearly distinguishes between services, interfaces & protocols.
- Network layer provides both connectionless and connection-oriented services.
- Transport layer provides only connection-oriented services.

TCP/IP model

- It is four layered model.
- TCP / IP supports internet working.
- This model fails to distinguish between services, interfaces & protocols.

The internet layer provides connectionless services.

Transport layer provides both connection-oriented & connectionless services.

8. Diff b/w client server network & peer to peer network

Client Server

- Client server provides resources & services to multiple clients, which depend on this server for operations.

Peer to peer

- All nodes (peers) in network have equal status & can act as both clients & servers.

- Servers manage resources & handle client request & use the services provided by them.

- Resources & services are distributed among all peers with each node potentially.

→ Security is easier to manage & enforce due to central control point

Sharing its own resources

Security can be more complicated due to lack of central authority requiring cooperation among peers for security measures.

Q. What are 7 layers of OSI model, function of each layer

(3) The 7 layers of OSI model are.

1. Physical layer

→ function: deals with physical connection between nodes including the transmission of raw bitstreams over physical medium. It defines hardware elements such as cables, switches & NICs.

(2) Data Link layer.

→ provides node to node data transfer, error detection correction & flow control. It manages the link between the directly connected nodes & frames data.

(3)

Network layer :-
→ handles routing & forwarding of data packets.
→ "hop" mode on different networks. It determines
the best path for data transfer & manages logical
addressing (IP addresses).

(4)

Transport layer
→ ensures reliable data transfer between end system
including error recovery & flow control. It provides
end to end communication services & manages data
segmentation & reassembly.

(5)

Session layer.
manages user connections between application
It establishes maintains & terminates session
ensure orderly data exchange & synchronisation.

(6)

Presentation layer
- Translates data between the application
layer & network It handles data encryption,
compression & translation of data formats e.g.
from EBCDIC to ASCII.

(7)

Application layer.
→ provides network services directly to end-use
applications. It includes protocols for specific
data communications' services on a network
such as HTTP for web browsing, FTP for

File transfer & SMTP for email.

- (1) What are principles behind OSI model
- OSI is based on several key principles.
- (2) layered Approach
- The model is divided into seven distinct layers, each with specific function to reduce complexity by isolating different network tasks.
- (3) Interoperability: Ensures the various hardware & software from different vendors can work together by adhering to standardized protocols.
- (4) modularity:
- Each layer operates independently so change in one layer typically do not affect others, allowing for easier updates & enhancements.
- (5) Decoupling: Separates network architecture into layers