Computer Networks: Transport Layer and Protocols

By,

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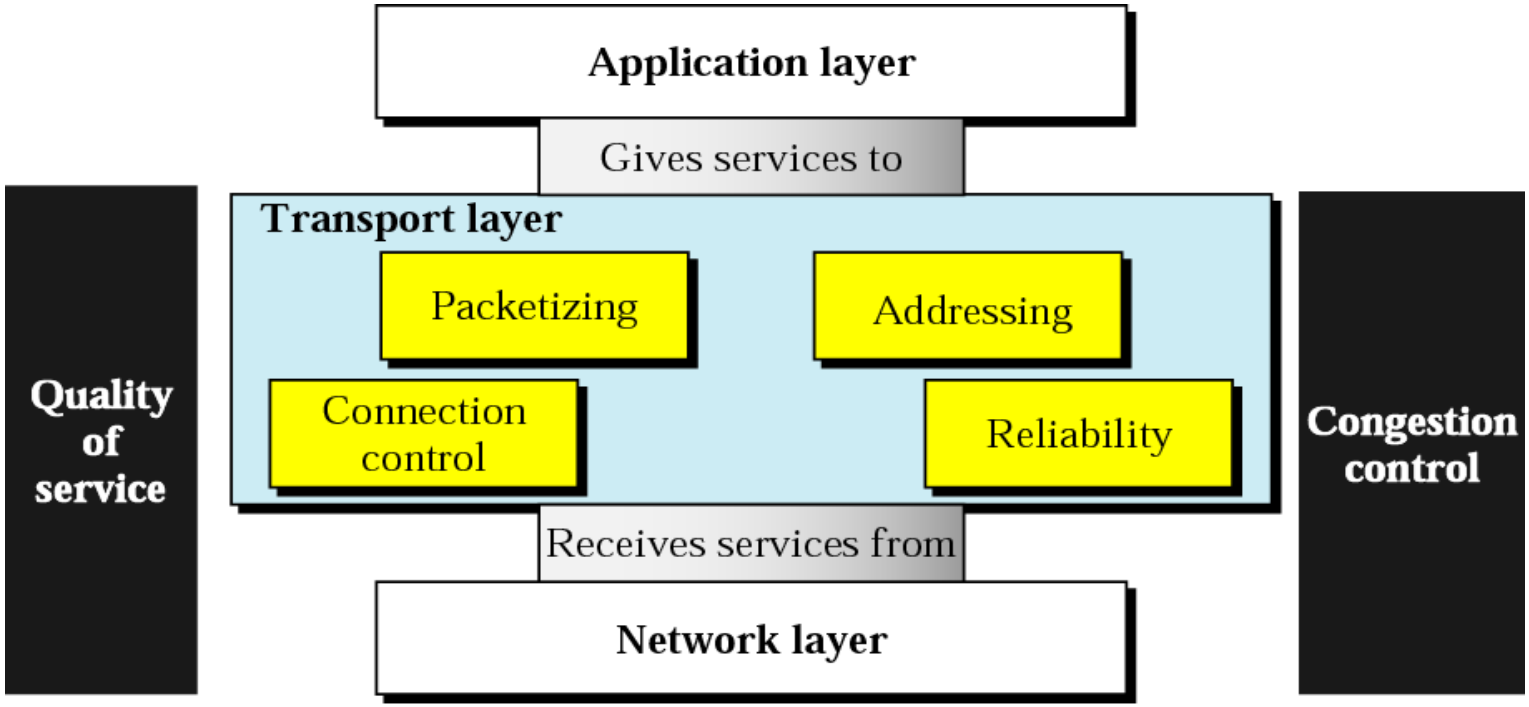
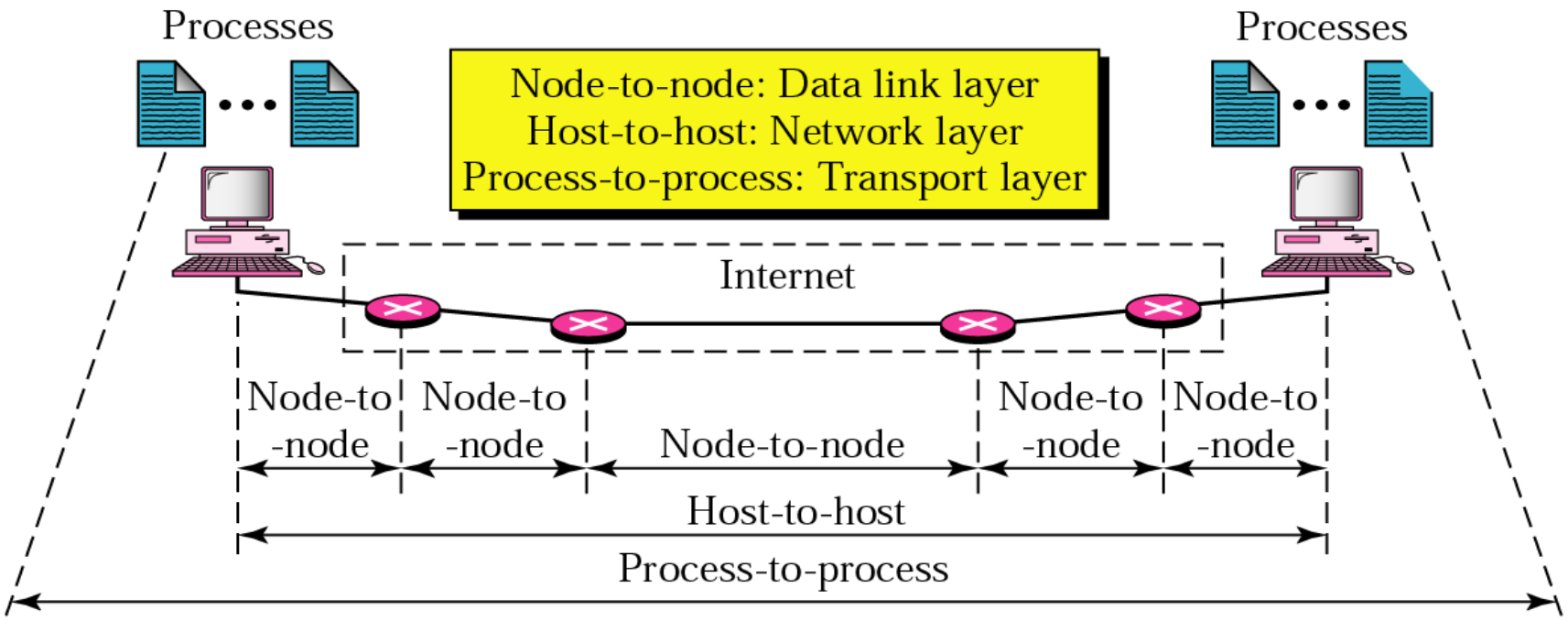
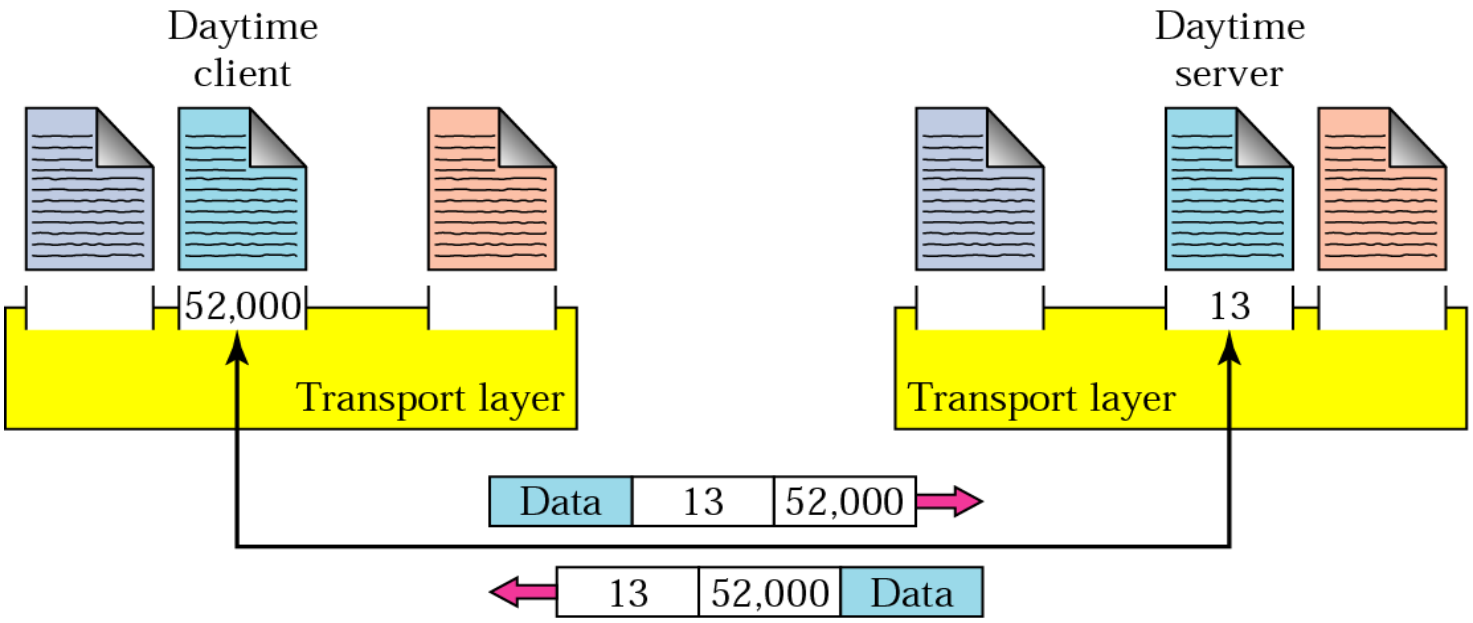
Transport Layer : Duties ??



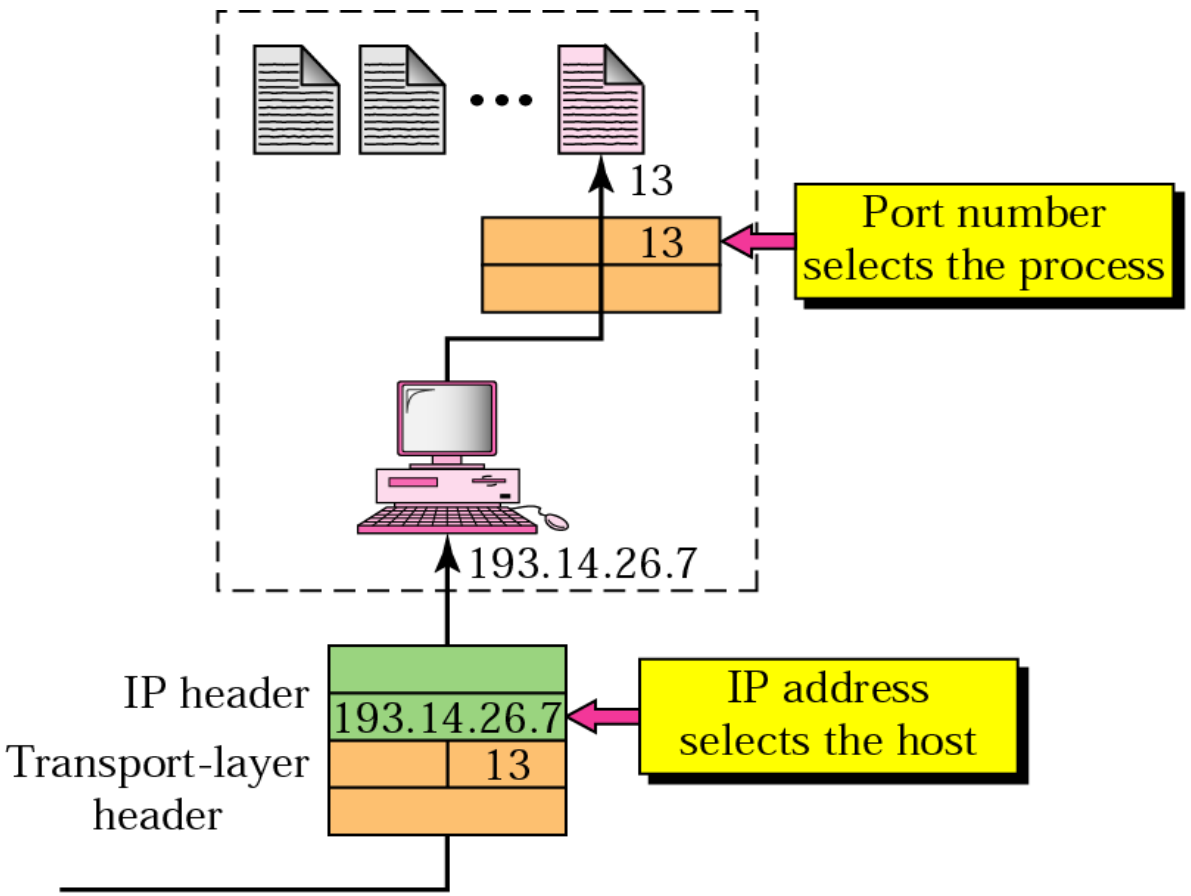
Transport Layer : Type of Data Deliveries



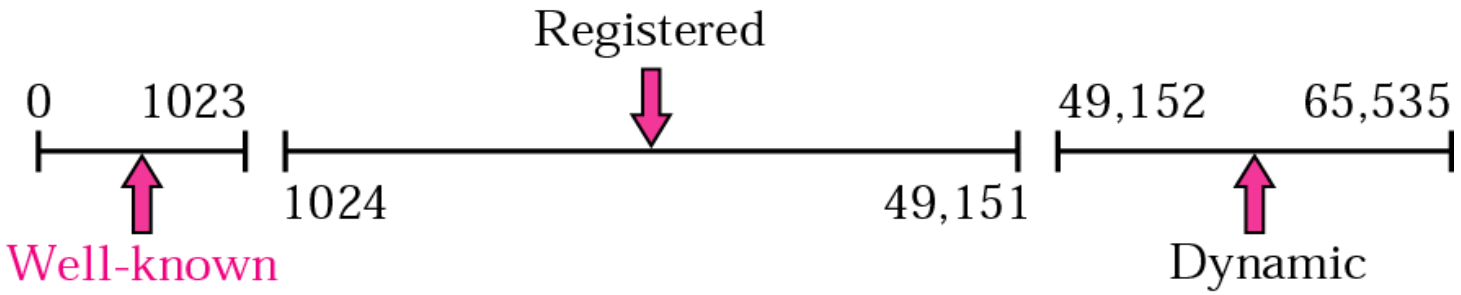
Transport Layer : Port Numbers



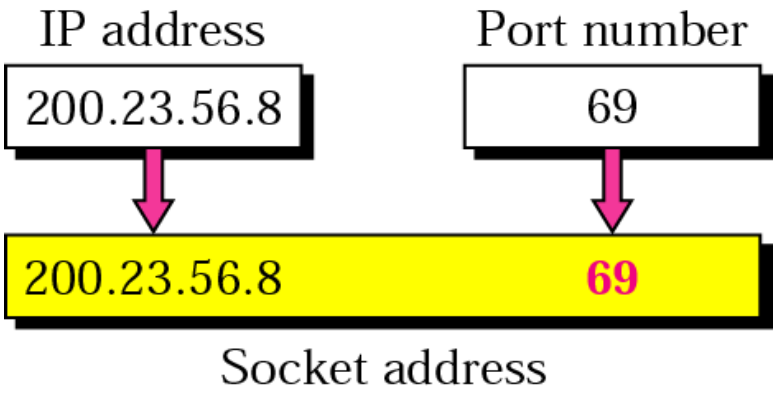
Transport Layer : IP VS Port Numbers



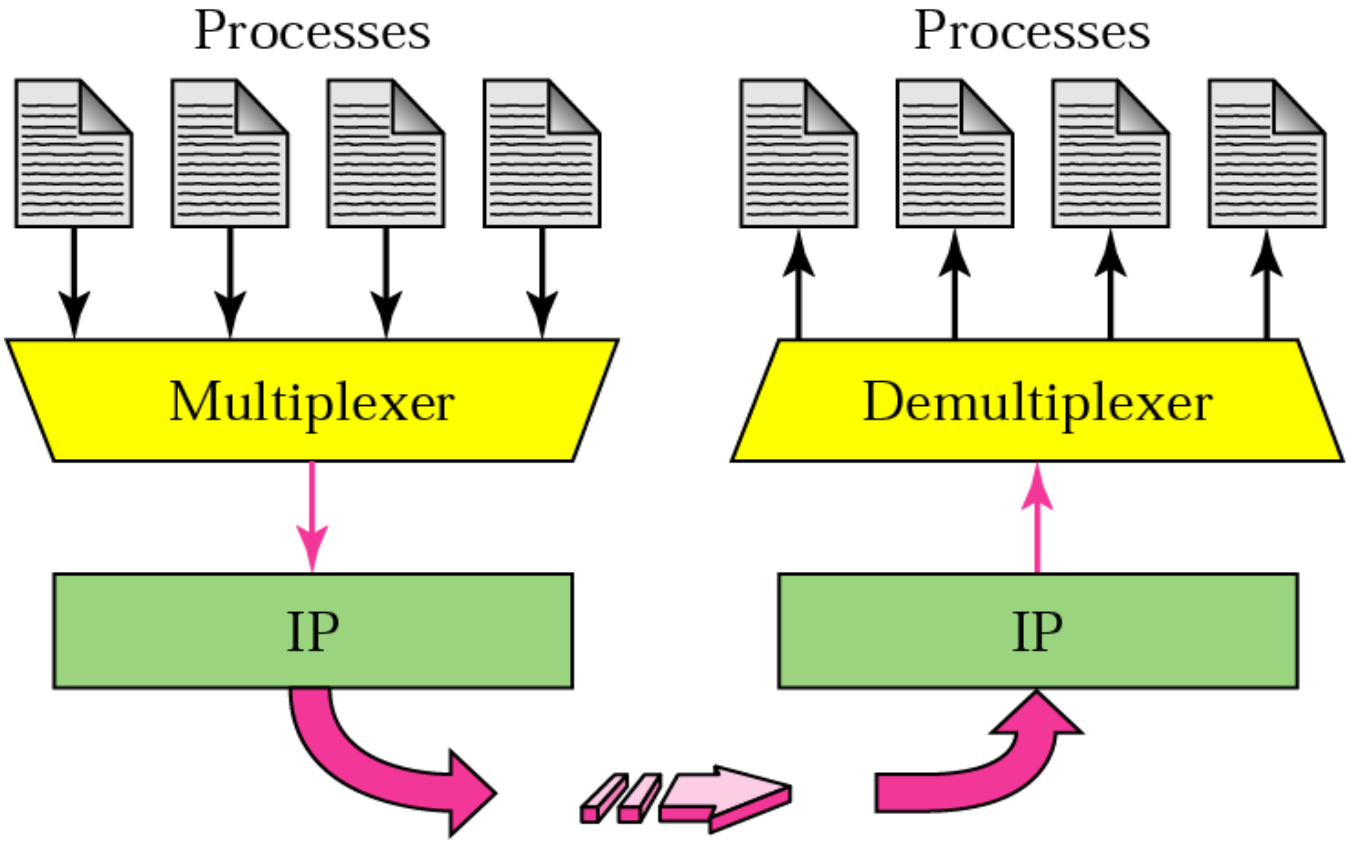
Transport Layer : Port Numbers (IANA Range)



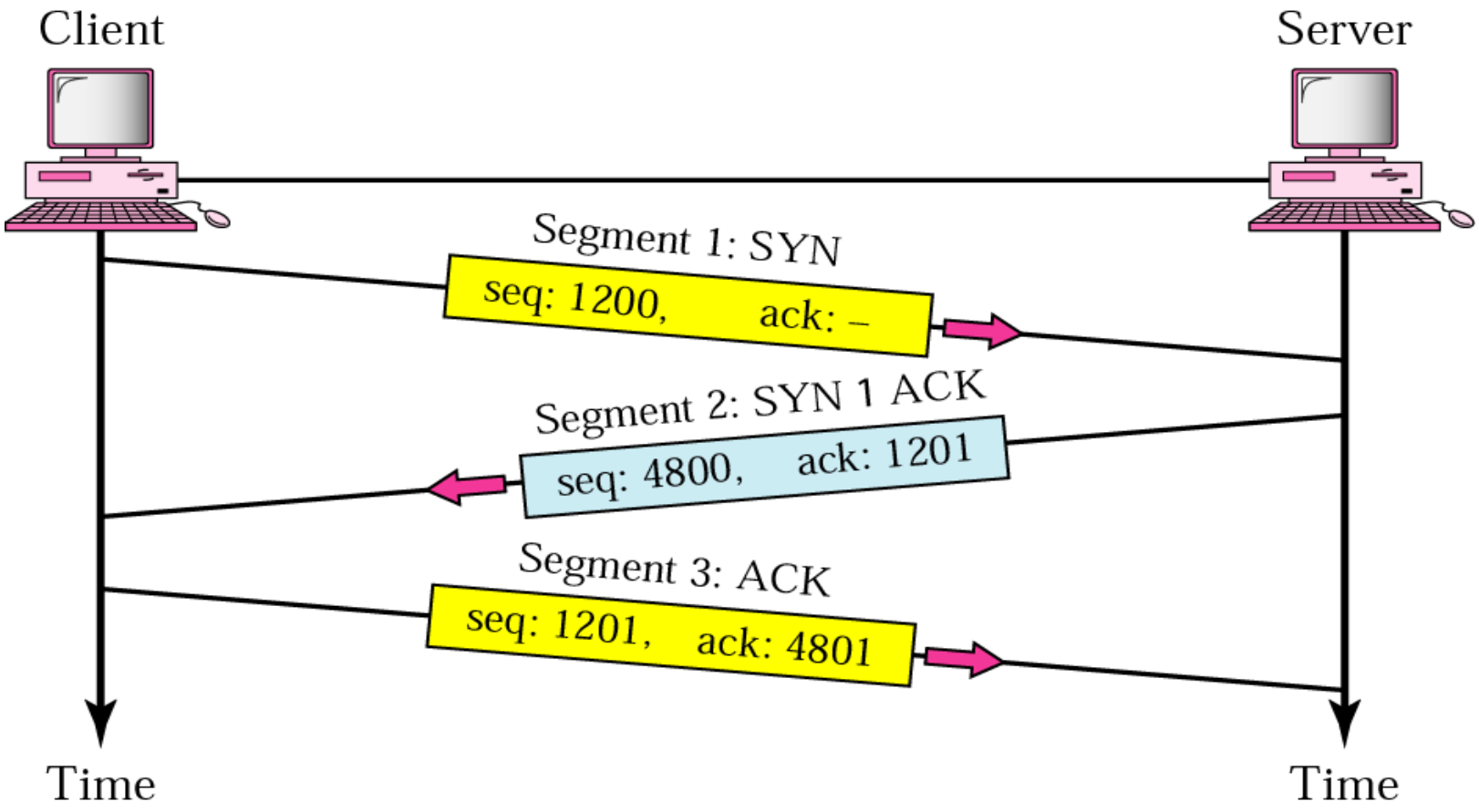
Transport Layer : Socket Address



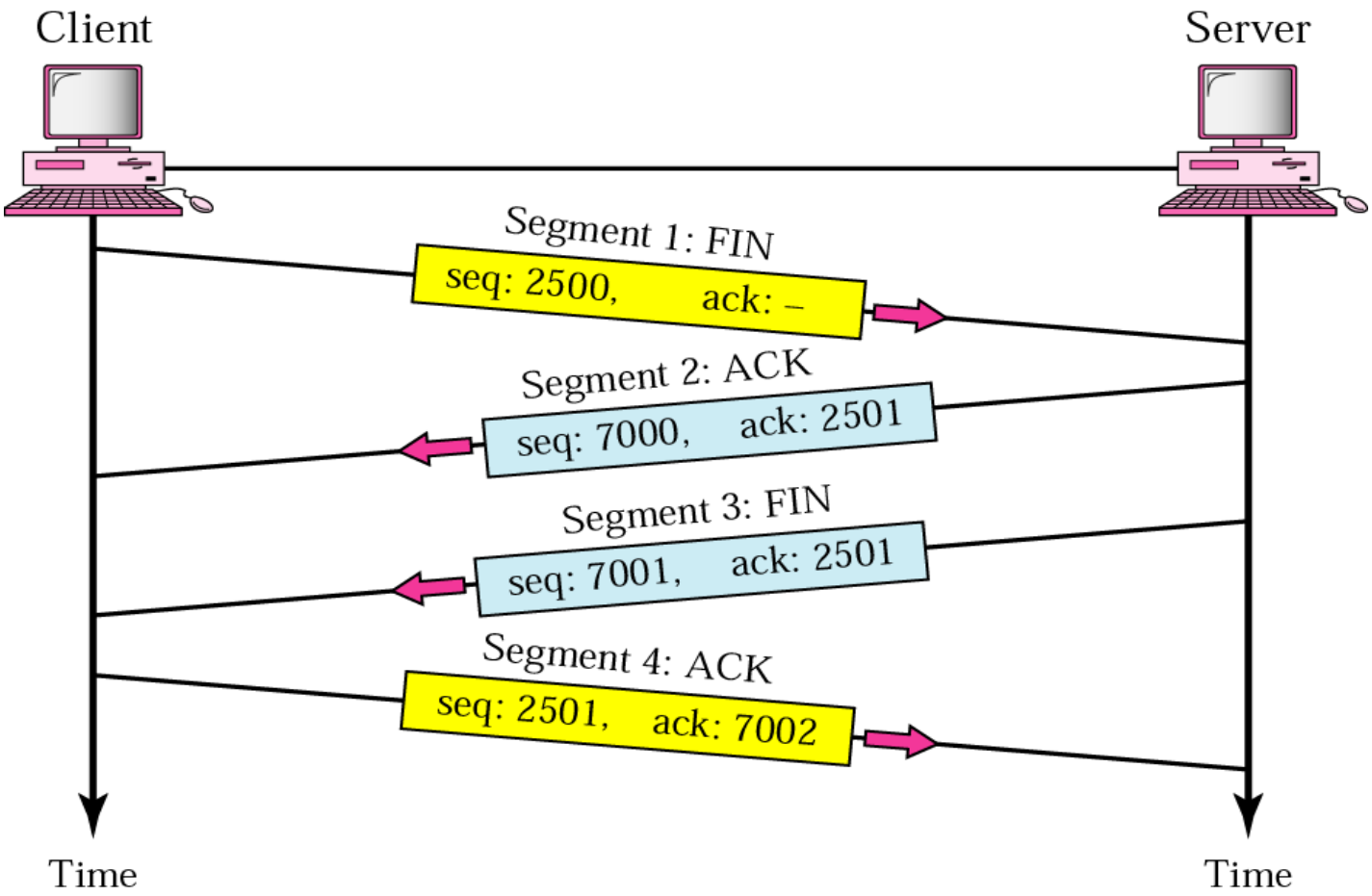
Transport Layer : Multiplexing and Demultiplexing



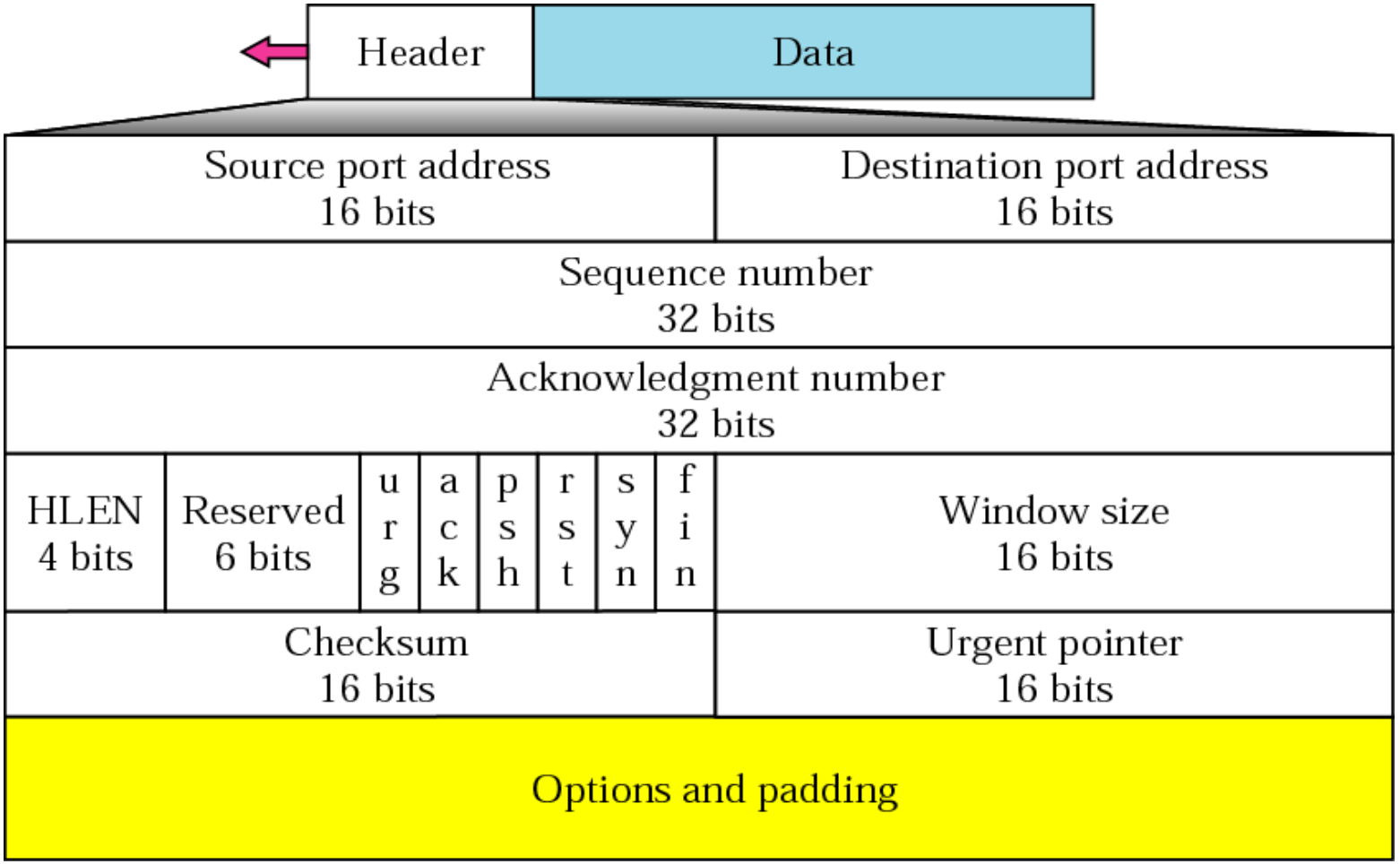
Transport Layer : Three Step Connection Establishment



Transport Layer : Four Step Connection Termination

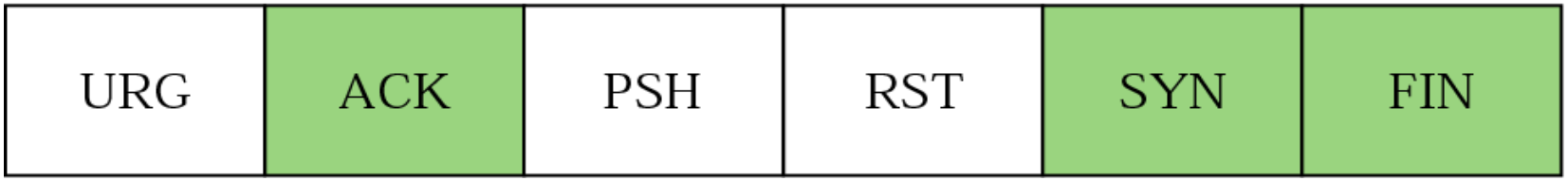


Transport Layer : TCP Segment Format

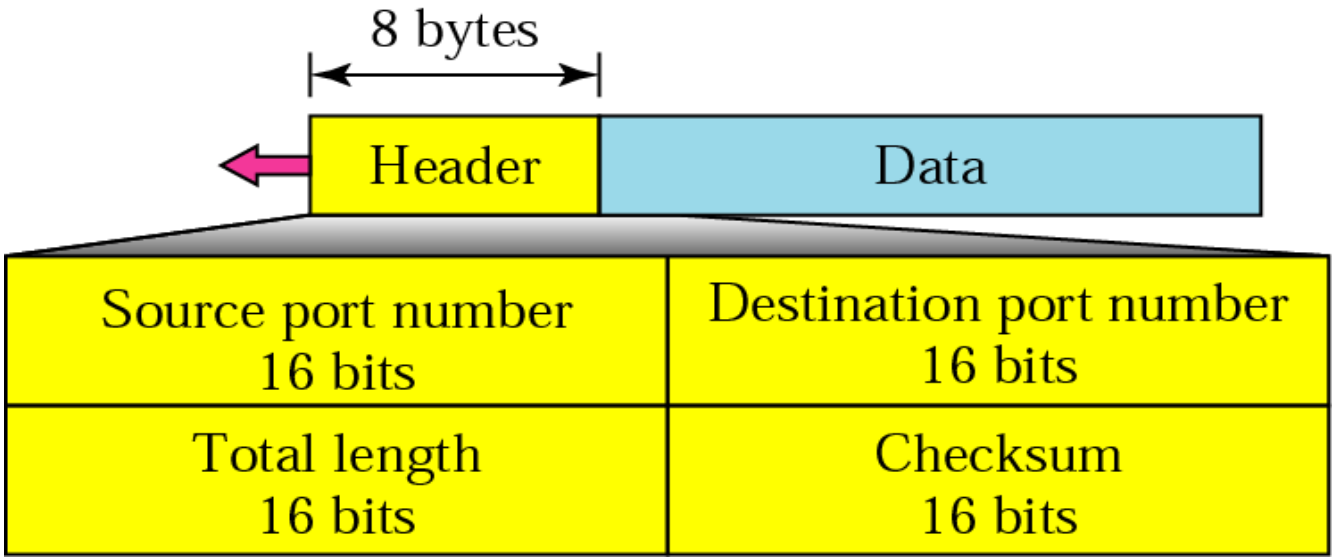


Transport Layer : TCP Segment Format (Control Fields)

URG: Urgent pointer is valid
ACK: Acknowledgment is valid
PSH: Request for push
RST: Reset the connection
SYN: Synchronize sequence numbers
FIN: Terminate the connection



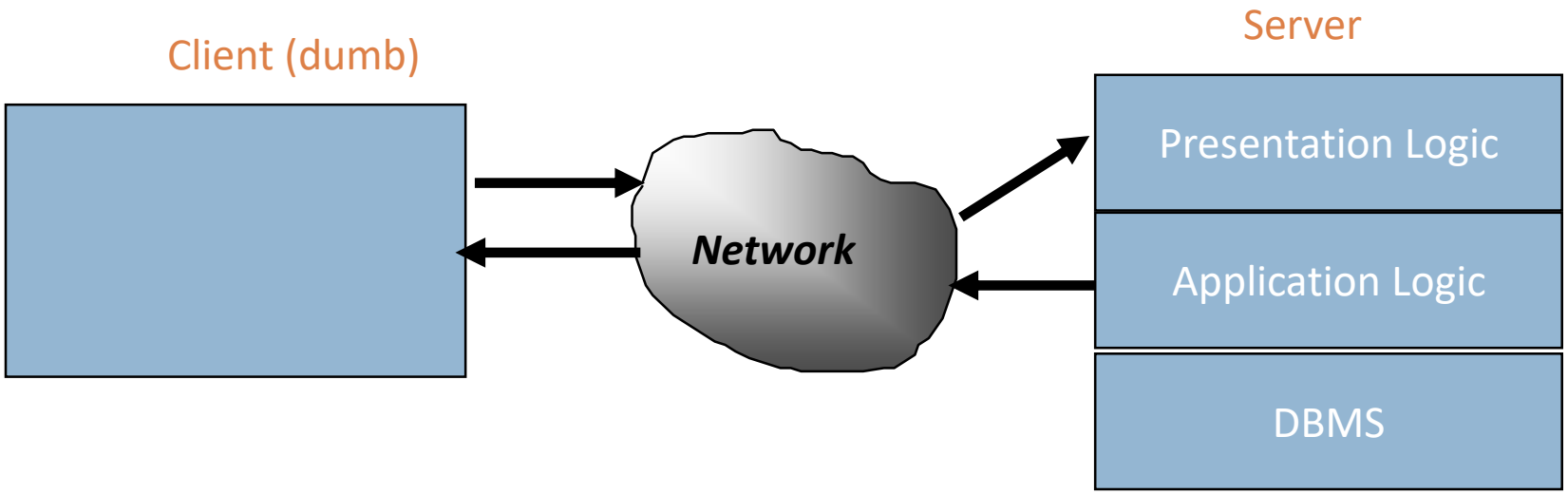
Transport Layer : UDP Segment Format



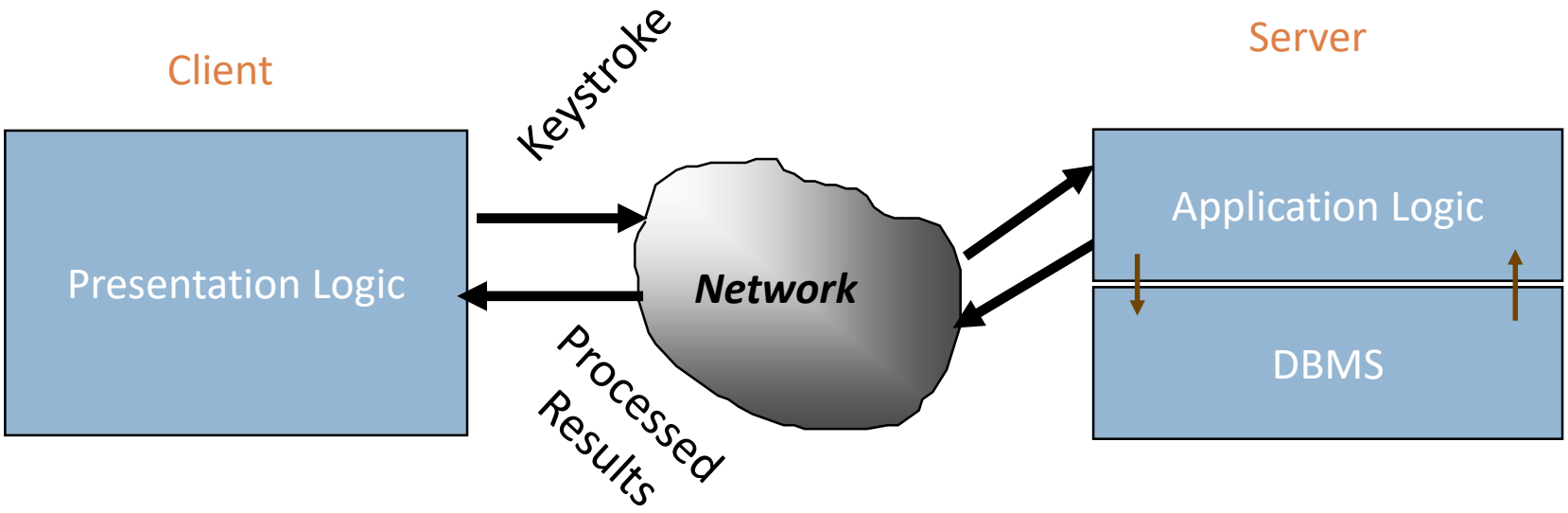
Client Server Computing: What it is ??

- It is a logical extension of Modular Programming.
- Modular Programming => Concept of separation of Modules.
- Client Server Computing => New Idea !!
- Modules can be separated in different Machines.
- Calling Modules => Clients
- Called Modules => Server

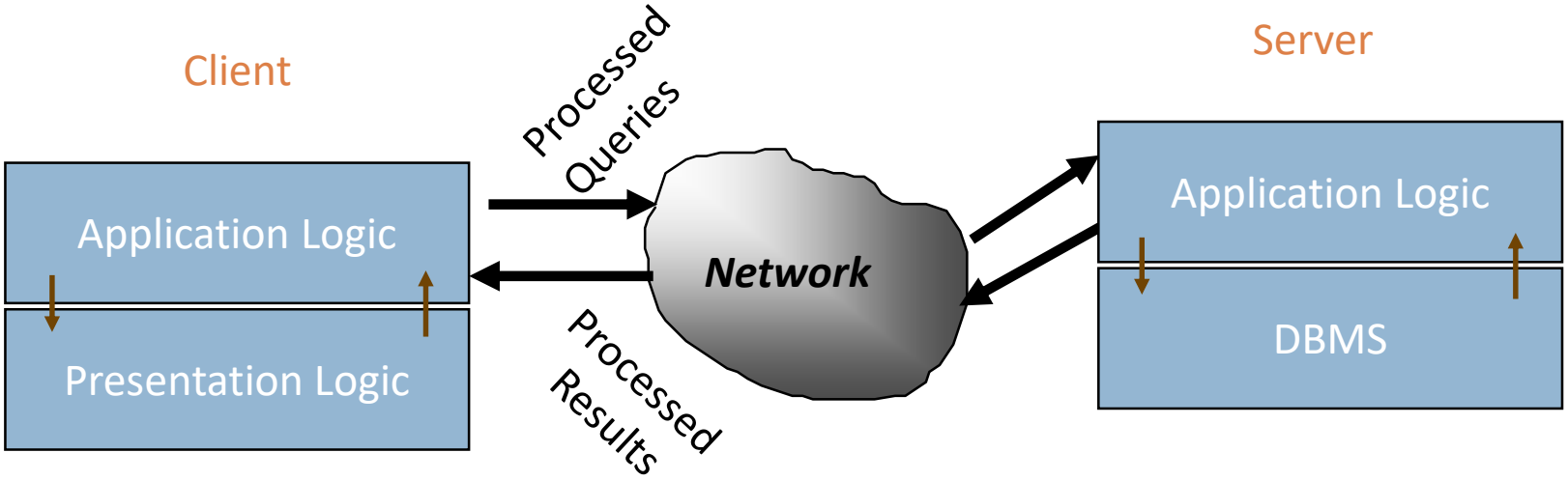
Client Server Model: Traditional Model



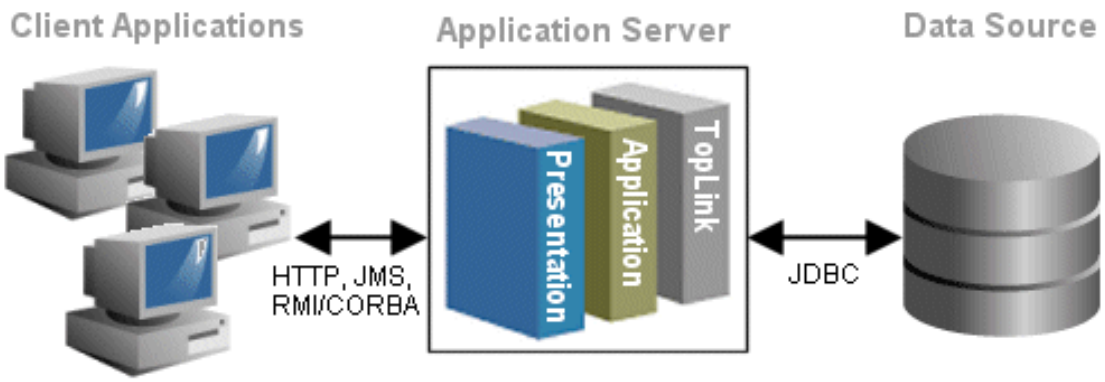
True Client Server Model



Distributed Client Server Model

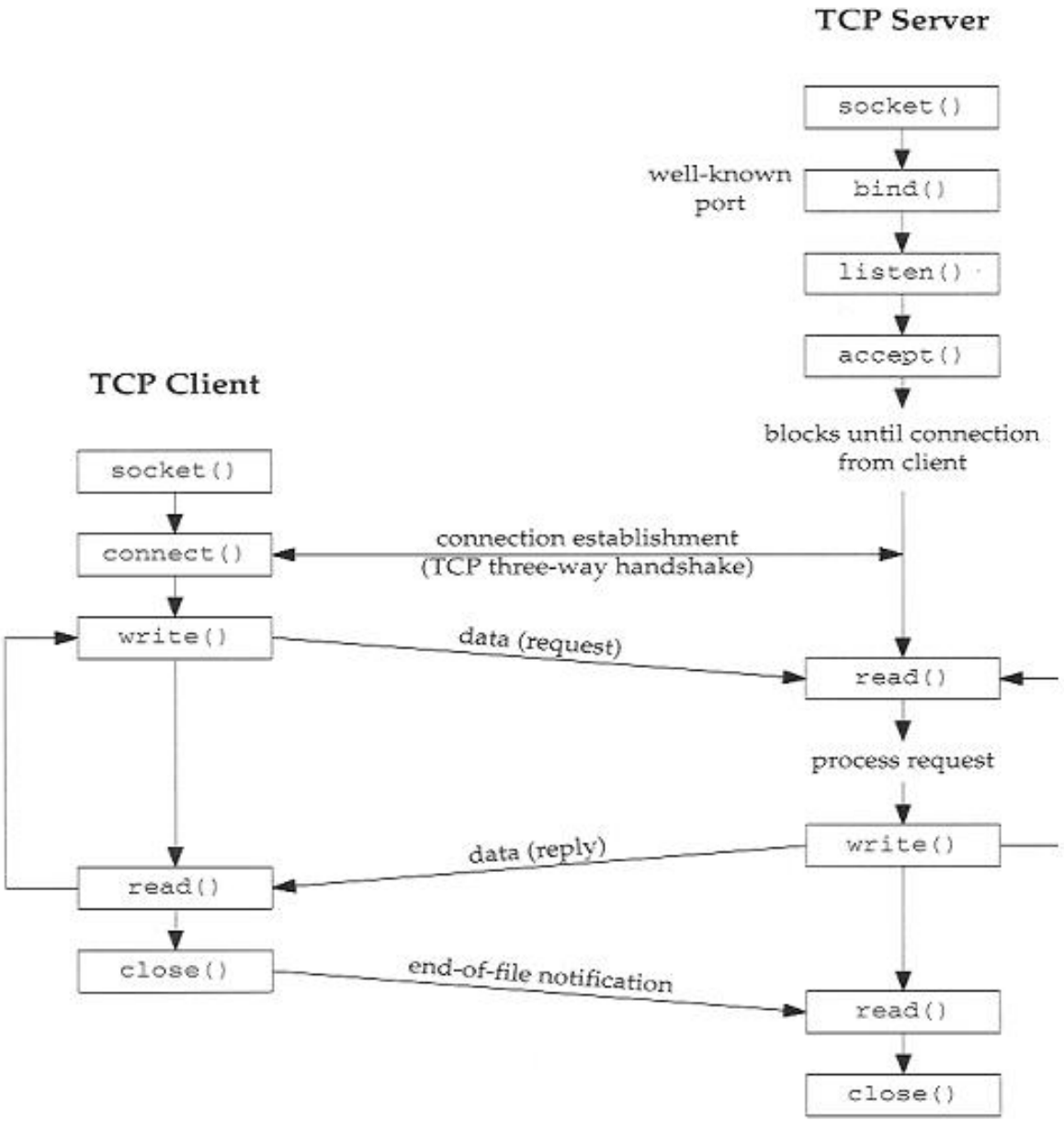


Distributed Applications: Three-Tier Architecture



Socket Programming-01

(Client/Server Interaction with TCP Sockets)


TCP Server
socket()
well-known port
bind()
listen()
accept()
blocks until connection from client
TCP Client
socket()
connect()
connection establishment (TCP three-way handshake)
write()
data (request)
read()
process request
write()
data (reply)
read()
close()
end-of-file notification
read()
close()

Socket Programming-02
Java Socket Programming

Thank You