

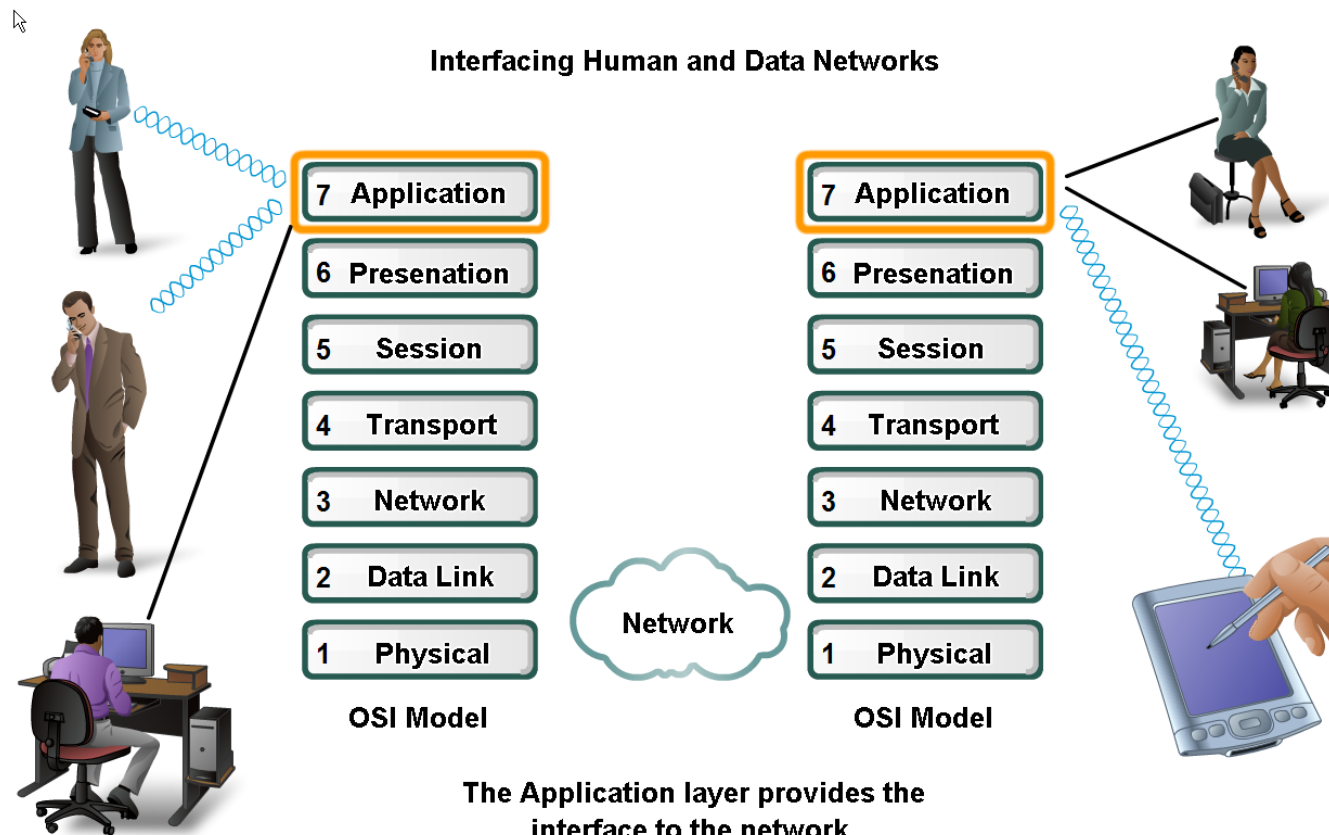
# Application Layer Functionality and Protocols



## Network Fundamentals

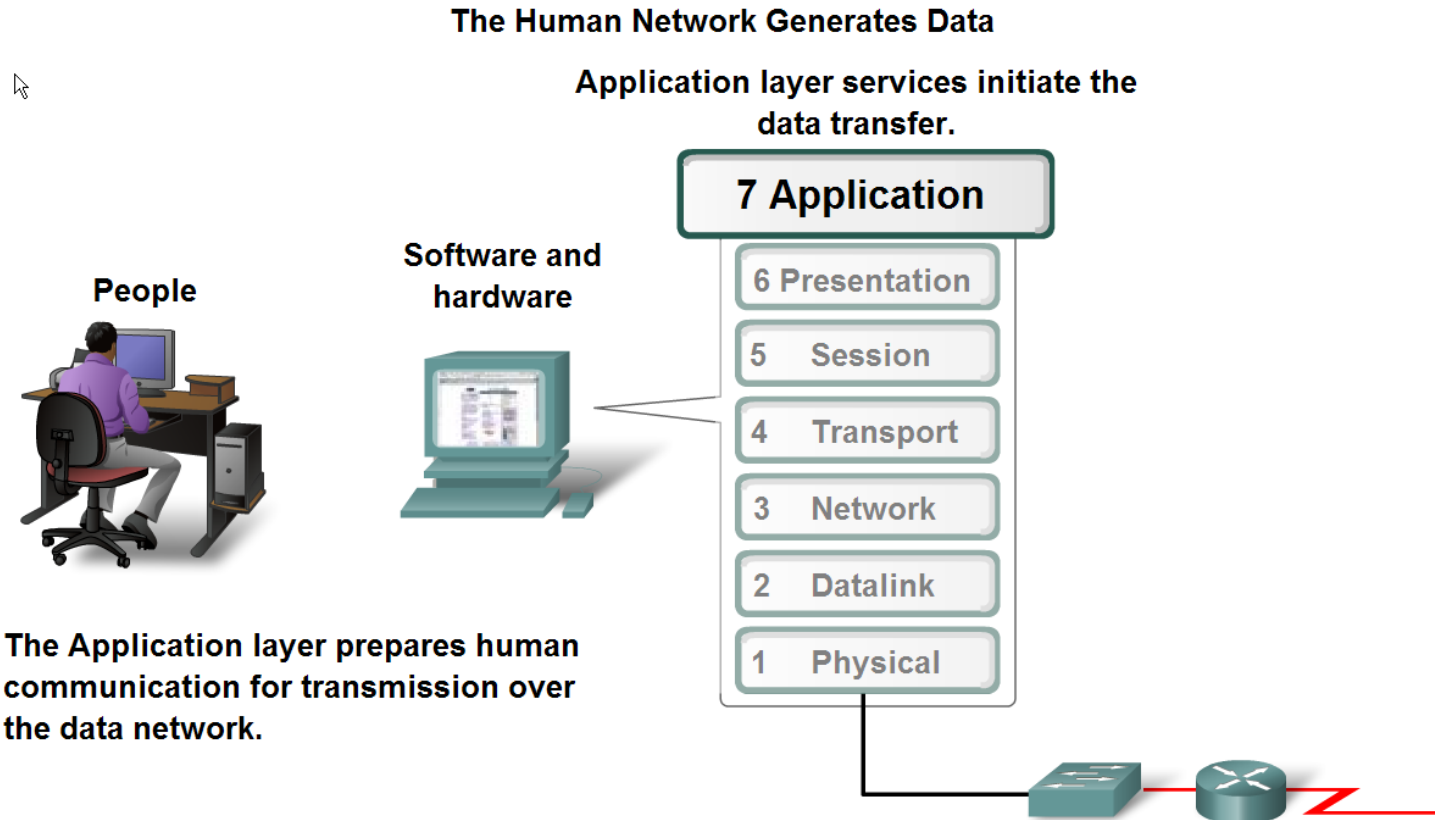
# Applications – The Interface Between Human and Data Networks

- Explain that applications provide the means for generating and receiving data that can be transported on the network



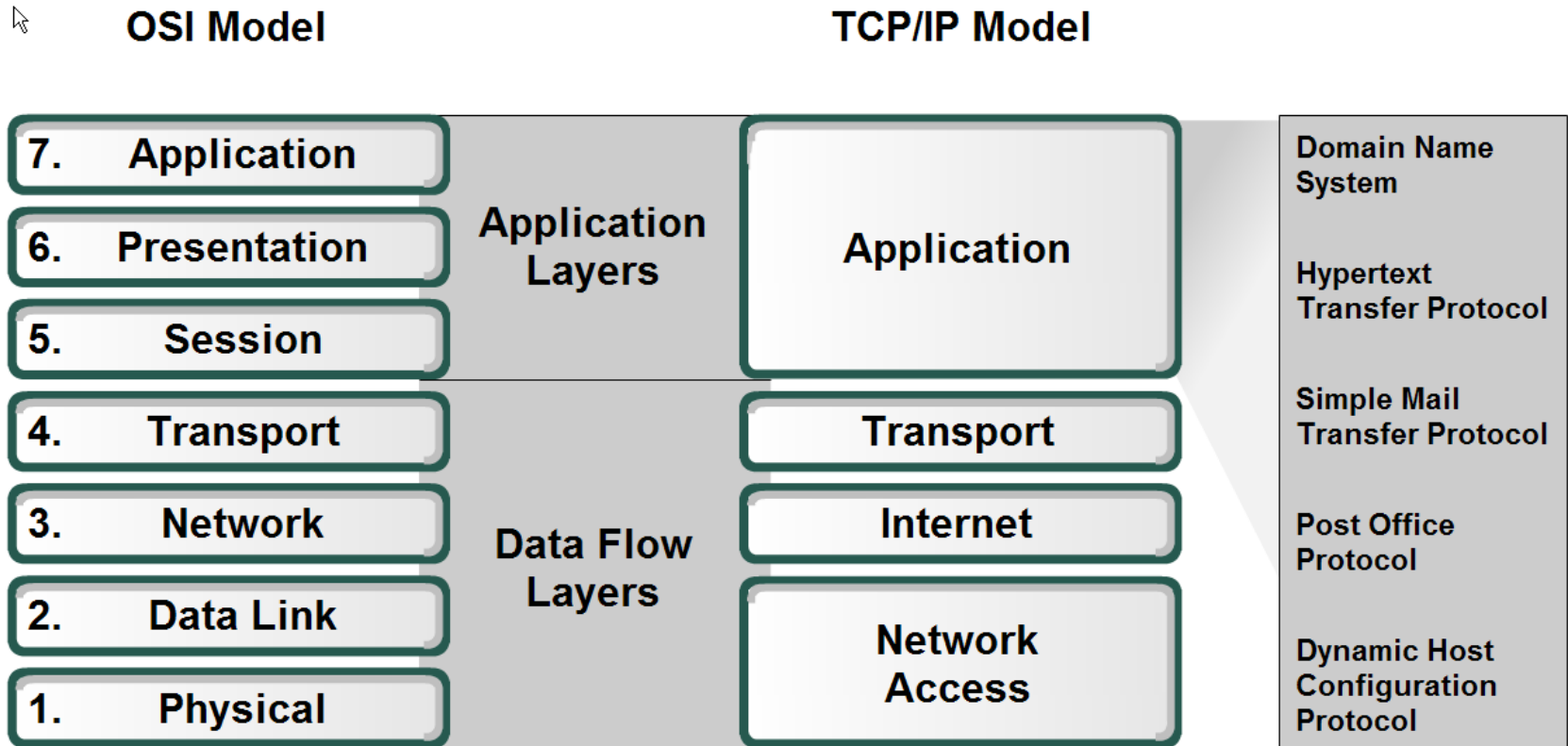
# Applications – The Interface Between Human and Data Networks

- Explain the role of applications, services and protocols in converting communication to data that can be transferred across the data network



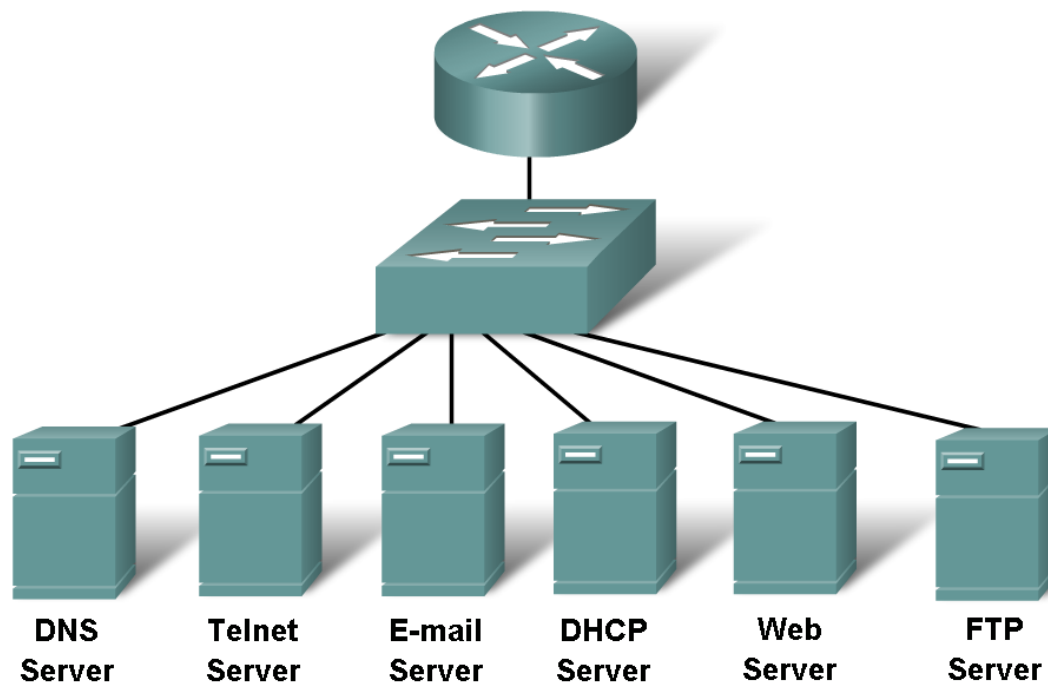
# Applications – The Interface Between Human and Data Networks

- Define the separate roles applications, services and protocols play in transporting data through networks



# Applications – The Interface Between Human and Data Networks

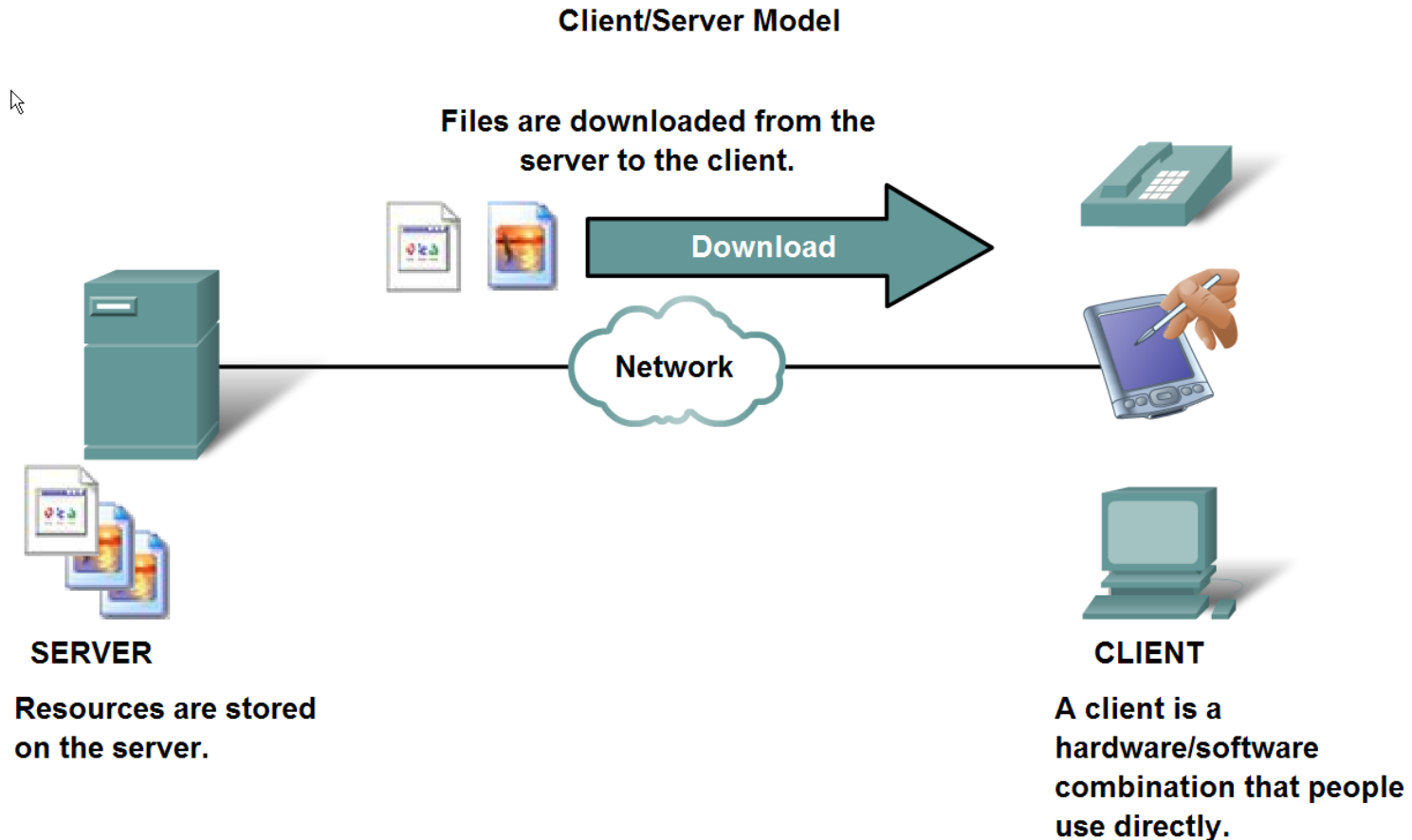
- Describe the role protocols play in networking and be able to identify several message properties that can be defined by a protocol



**Server Farm**

# The Role of Protocols in Supporting Communication

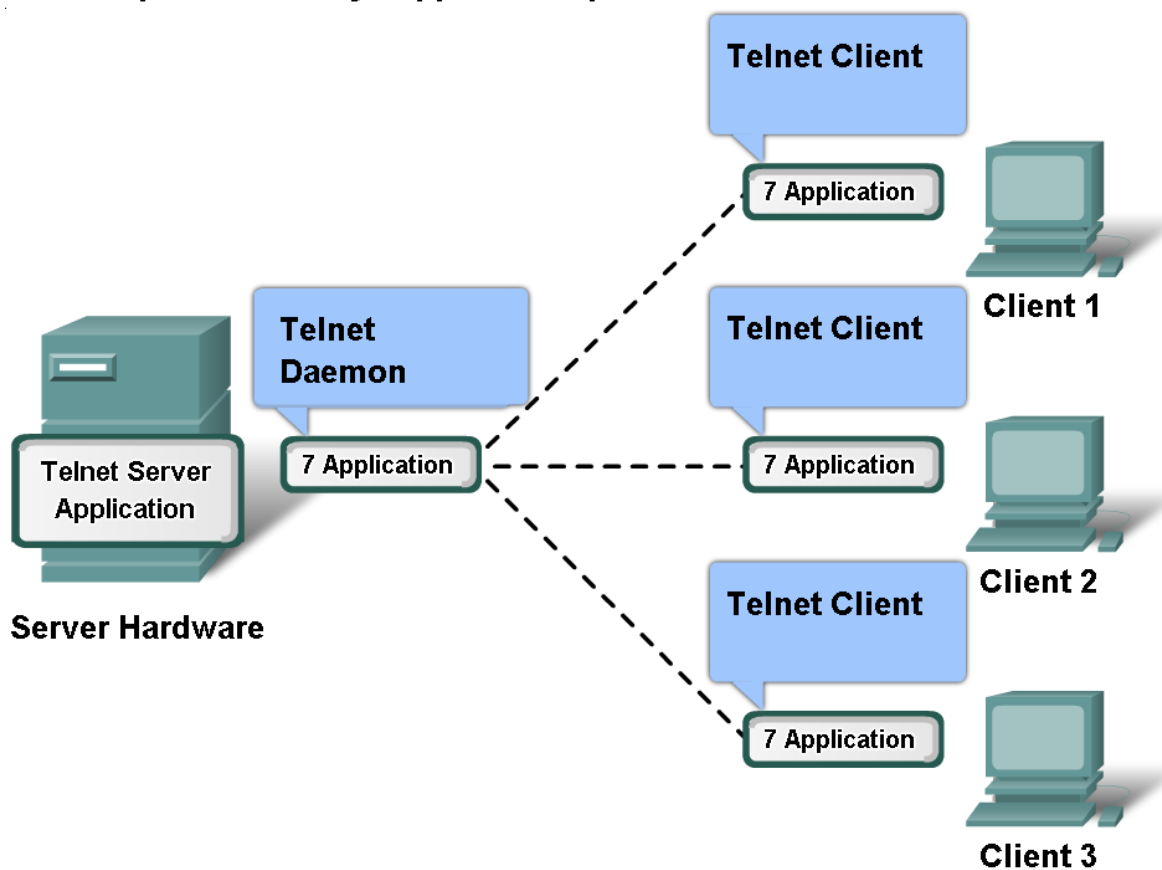
- Describe the roles of client and server processes in data networks



# The Role of Protocols in Supporting Communication

- List common Application Layers services and protocols

Server processes may support multiple clients.

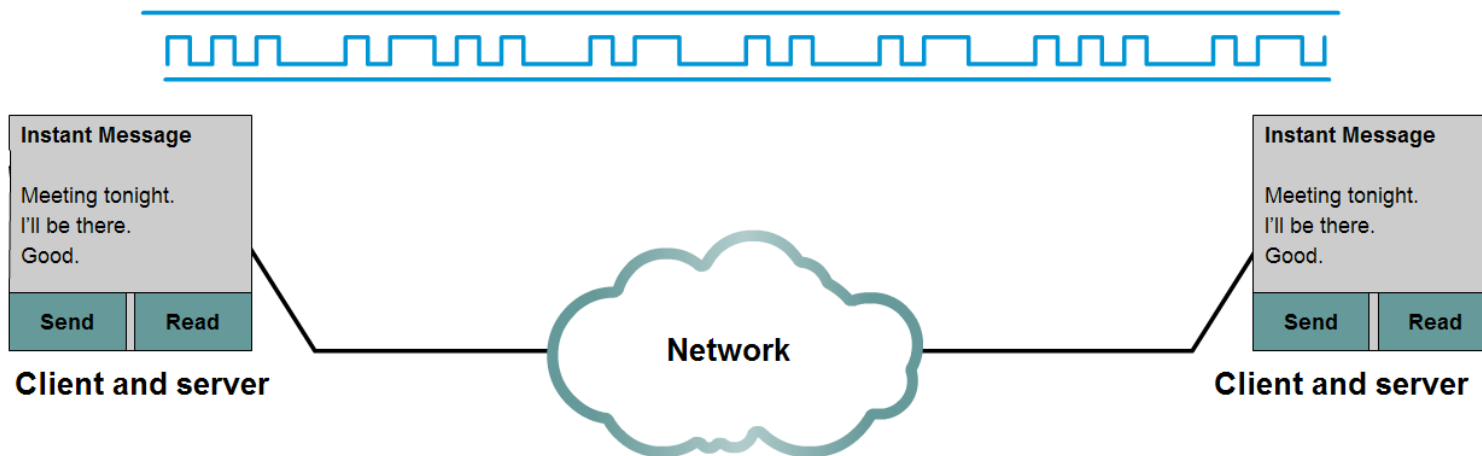


# The Role of Protocols in Supporting Communication

- Compare and contrast client server networking with peer-to-peer networking and peer-to-peer applications

## Peer-to-Peer Applications

Client and server in the same communication



### Both clients:

- Initiate a message
- Receive a message

### Both clients simultaneously:

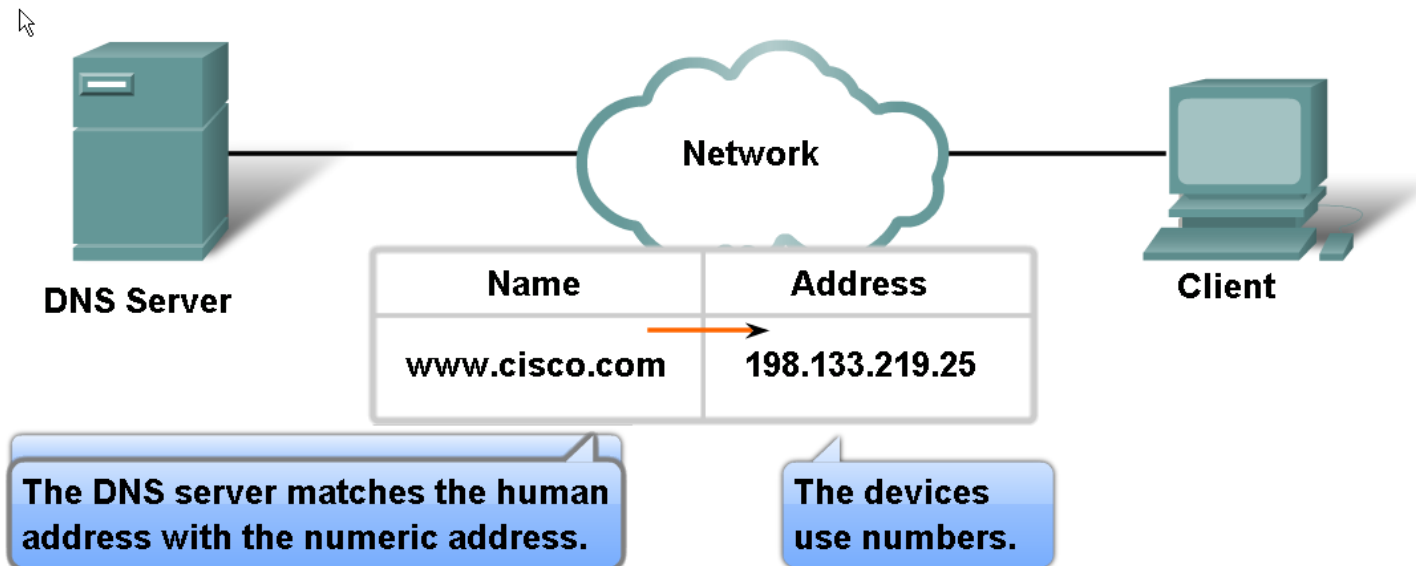
- Send
- Receive



# Features, Operation, and Use of TCP/IP Application Layer Services

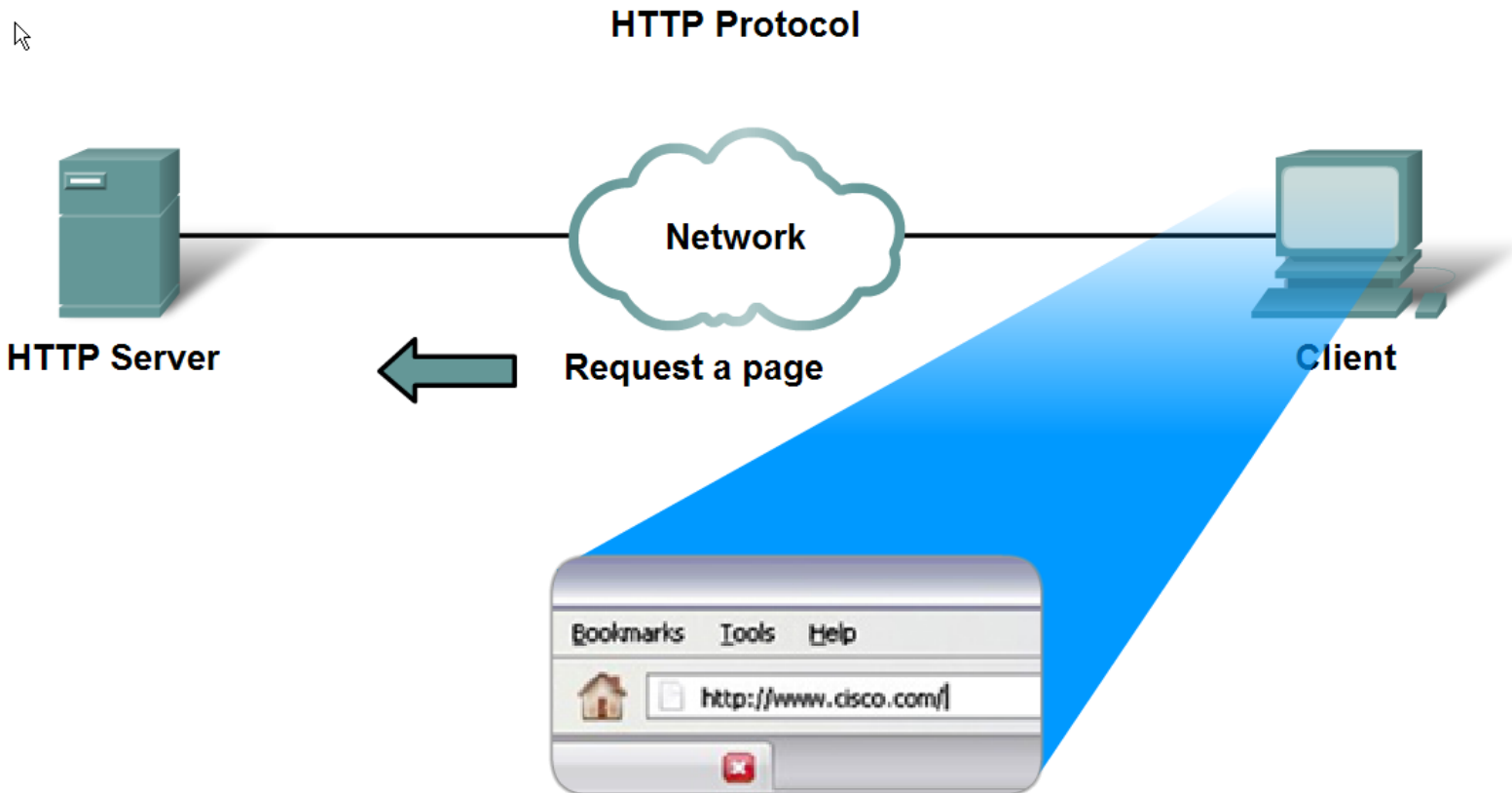
- Describe the features of the DNS protocol and how this protocol supports DNS services

## Resolving DNS Addresses



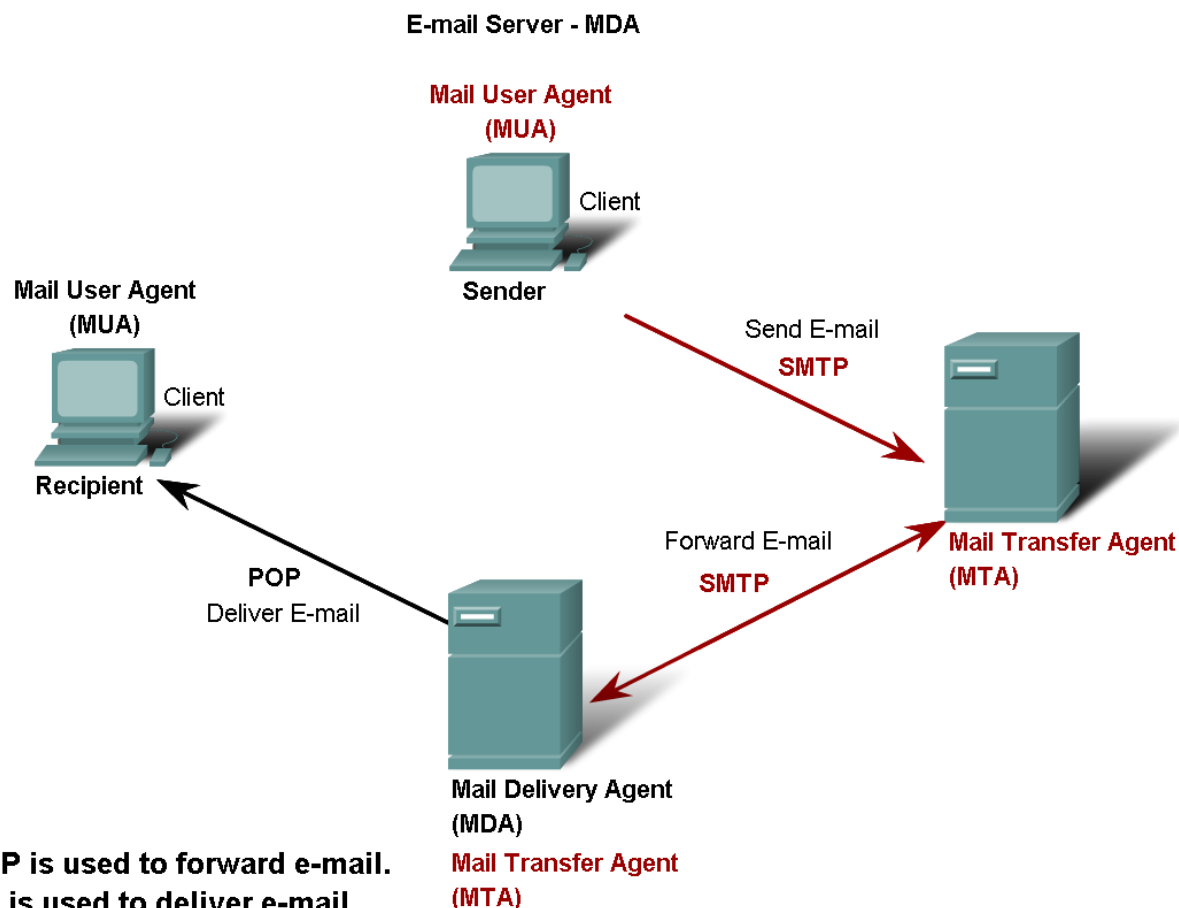
# Features, Operation, and Use of TCP/IP Application Layer Services

- Describe the features of the HTTP protocol and how this protocol supports the delivery of web pages to the client



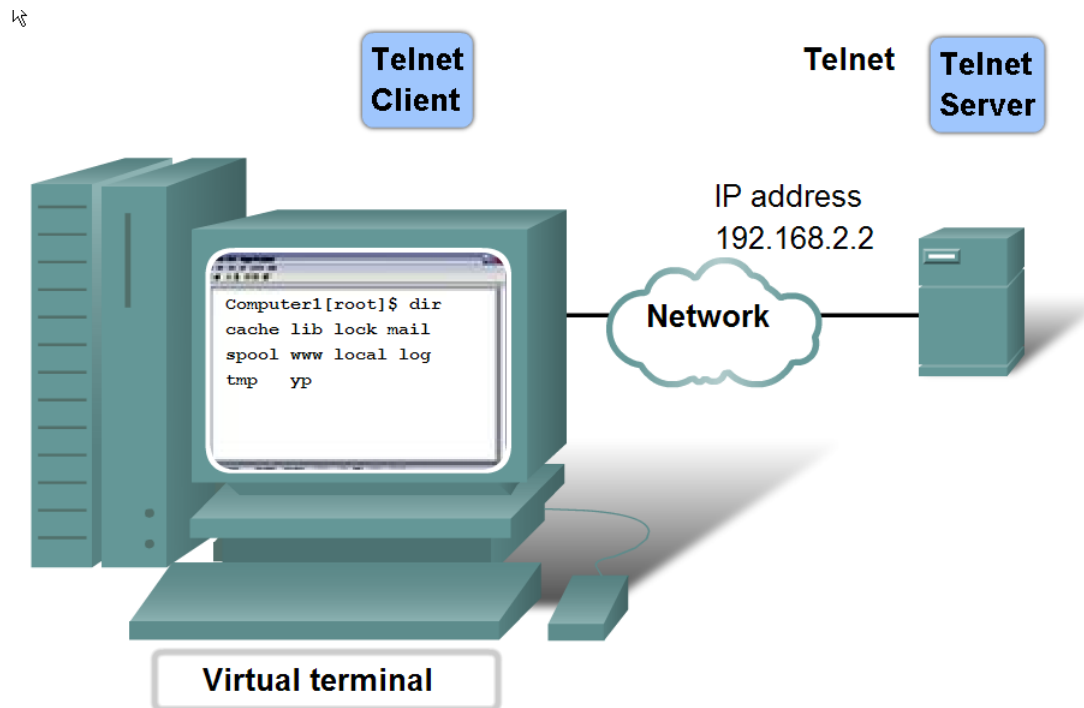
# Features, Operation, and Use of TCP/IP Application Layer Services

- Describe the features of the POP and SMTP protocols, and how these protocols support e-mail services



# Features, Operation, and Use of TCP/IP Application Layer Services

- Describe the features of the Telnet protocol and identify several of its uses in examining and managing networks

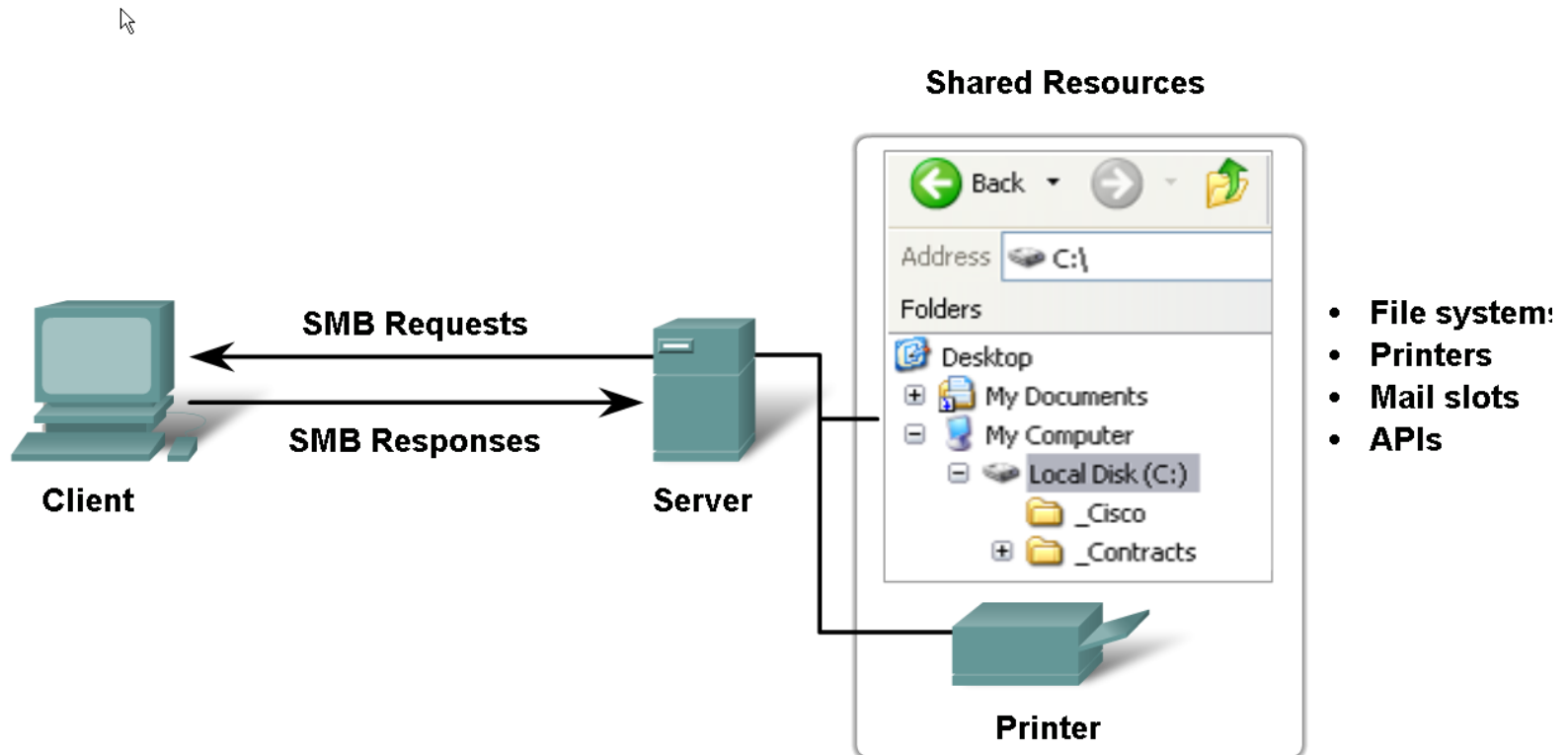


**Telnet provides a way to use a computer, connected via the network, to access a network device as if the keyboard and monitor were directly connected to the device.**

# Features, Operation, and Use of TCP/IP Application Layer Services

- Describe the features of the SMB protocol and the role it plays in supporting file sharing in Microsoft-based networks

## File Sharing Using the SMB Protocol

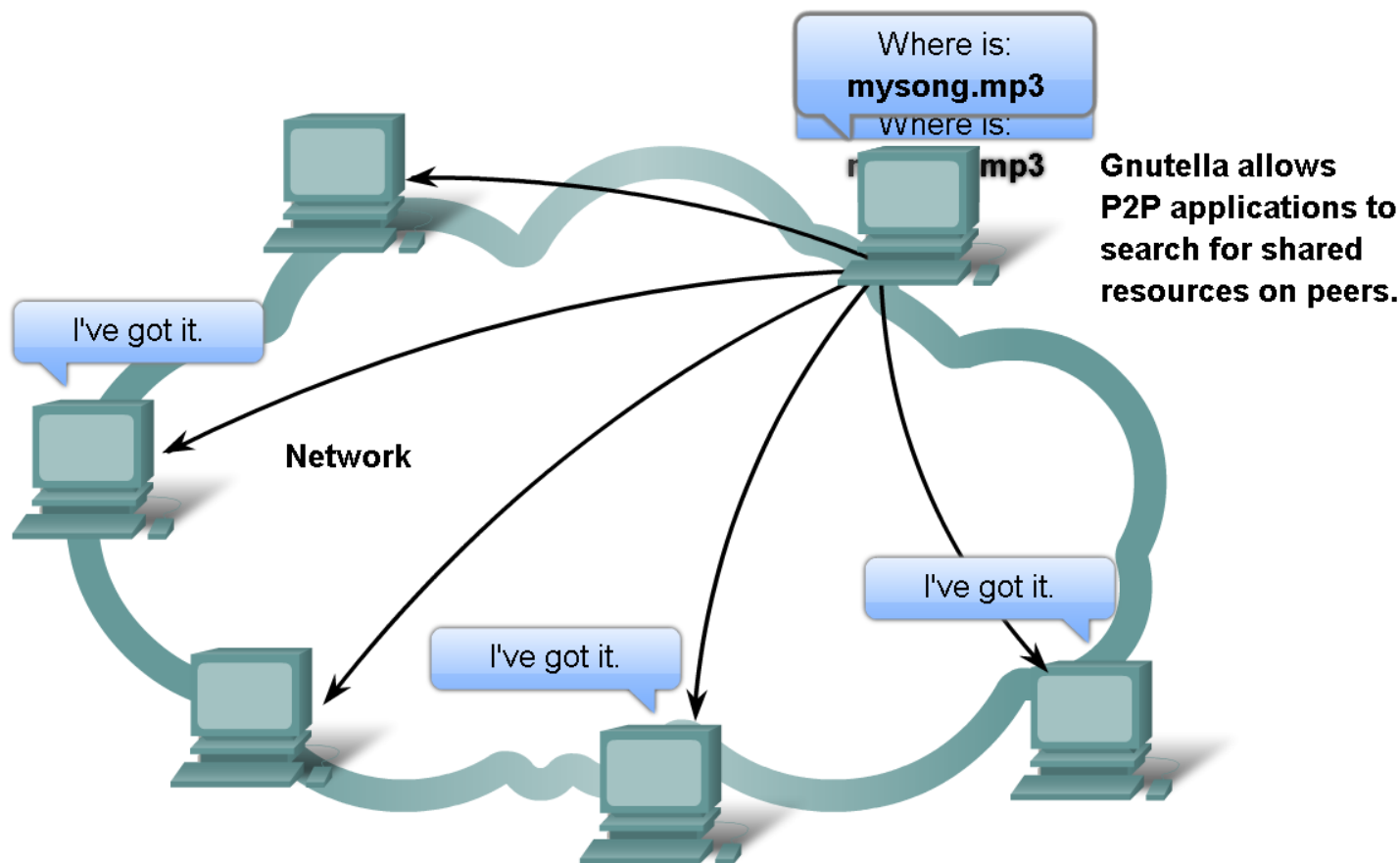


**SMB is a client-server, request-response protocol. Servers can make their resources available to clients on the network.**

# Features, Operation, and Use of TCP/IP Application Layer Services

- Describe the features of the Gnutella protocol and the role it plays in supporting P2P services

Gnutella Supports P2P Applications



# Thank You