

OSI Layers

Layers



- Partitions network tasks into groups of closely related networking functions

Physical Layer

Standards and protocols addressing how to transform a network packet into a signal

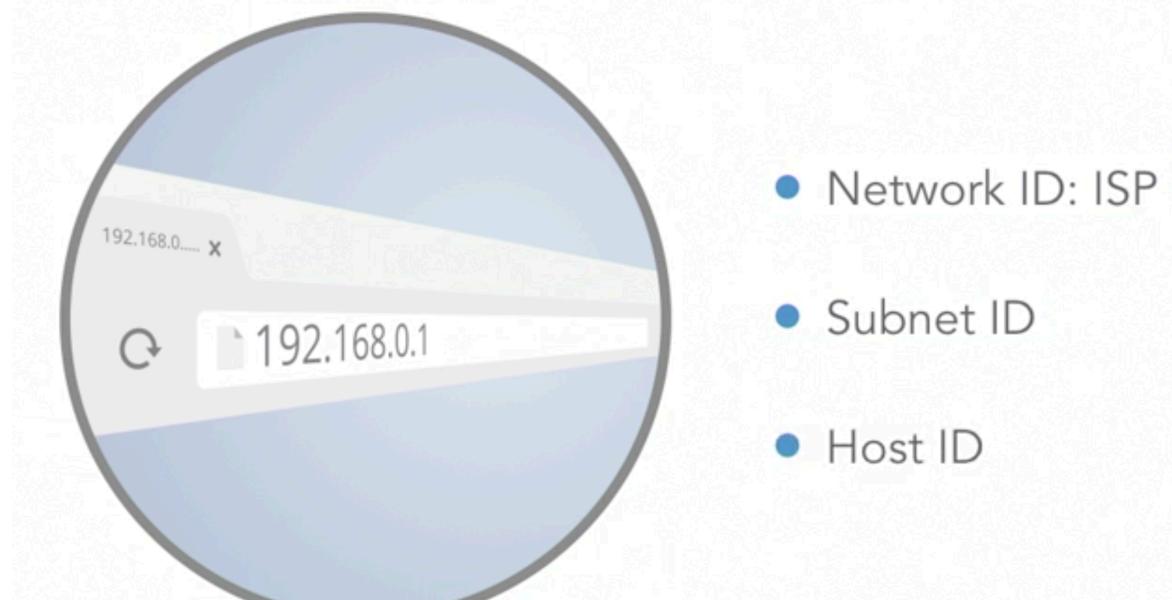
Layer	Name	Role	Protocols	PDU	Address
7	Application	Initiates contact with the network	HTTP, FTP, SMTP	Data	
6	Presentation	Formats data, optional compression, and encryption		Data	
5	Session	Initiates, maintains, and tears down session		Data	
4	Transport	Transports data	TCP, UDP	Segment	Port
3	Network	Addressing, routing	IP, ICMP	Packet	IP
2	Data Link	Frame formation	Ethernet II	Frame	MAC
1	Physical	Data is transmitted on the media		Bits	

Various devices implement different types of LAYERs

Devices and Layers

- Operating System (OS) – stack
- Switches – physical and data link (MAC addresses)
- Routers – physical, data link, and network (IP addresses)
- Hosts – transport layer (port numbers)
- Network applications – application layer (application protocols: HTTP)

IP Address Components



64.233.160.1



Network ID



Subnet ID



Host ID