

Relationships among Protocols

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What's with all these
protocols?

PPP

ICMP

TCP

IP

Ethernet

...ETC

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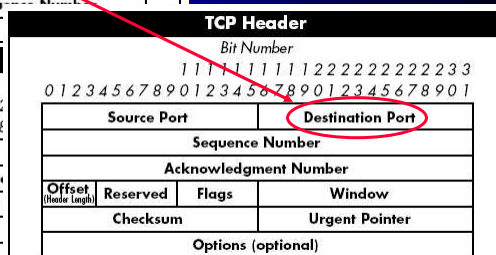
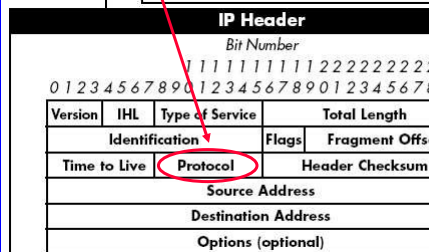
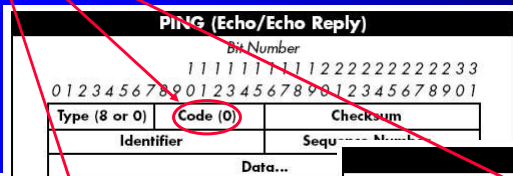
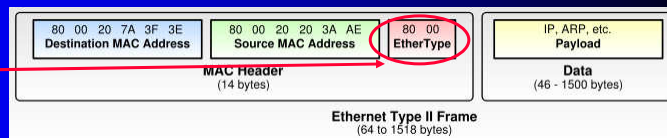
Protocols

- have published, characteristic packet structure
 - “payload” section to hold data carried
 - “overhead” section (header and/or trailer)
- header usually holds indicator of payload
 - number or
 - type or
 - port or
 - code

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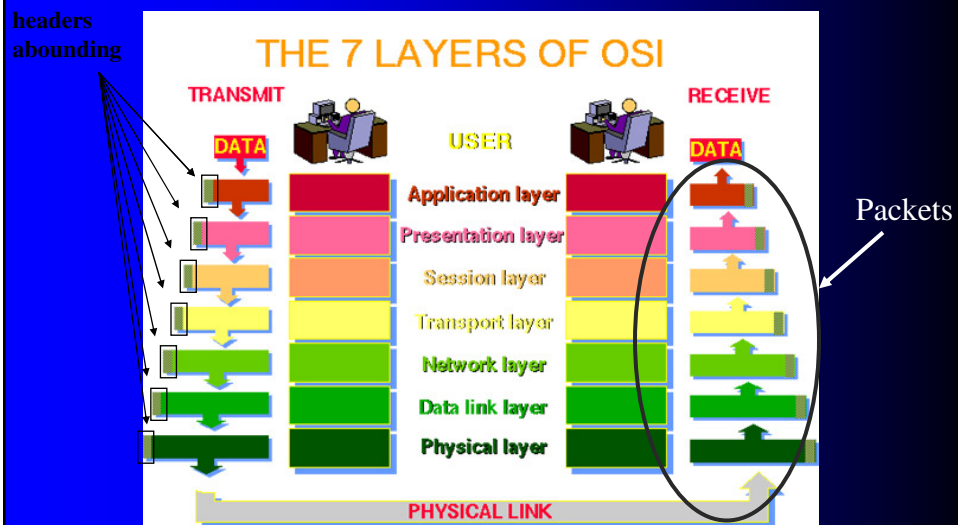
Packets have detailed header structure

payload/content indicators in headers



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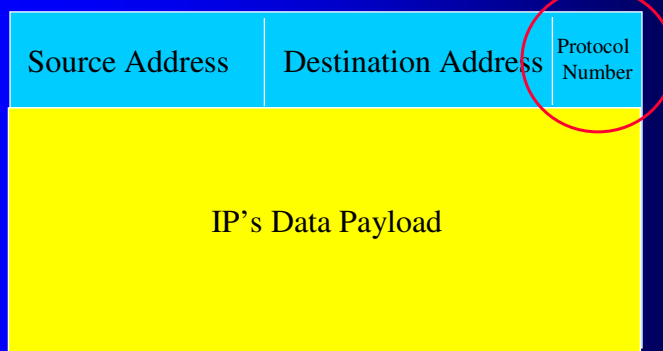
Here's where headers fit in*



* You can see why they're called "headers"

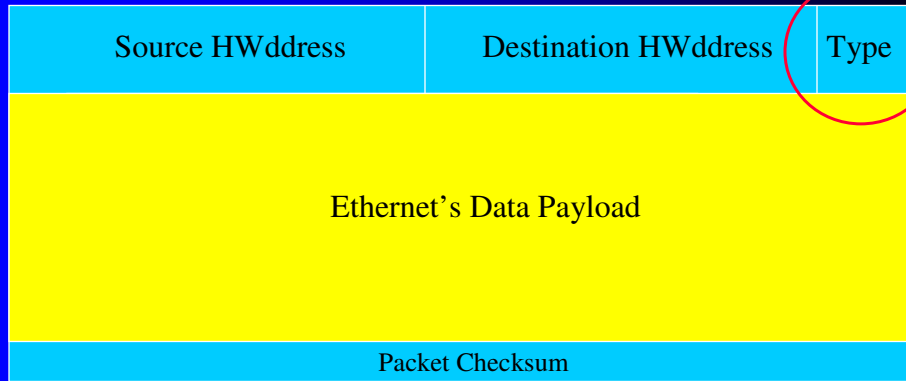
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IP packet structure



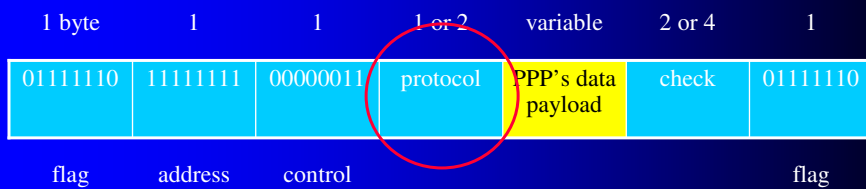
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Ethernet frame structure



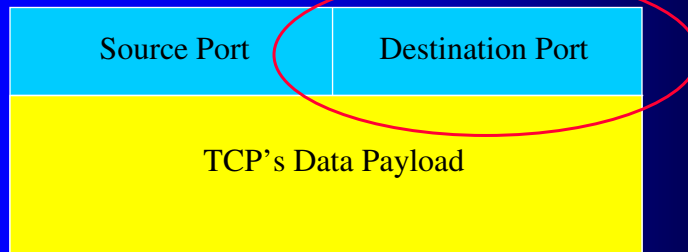
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PPP frame structure



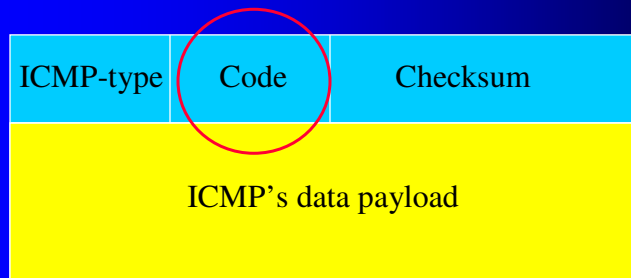
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TCP segment structure



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ICMP packet structure



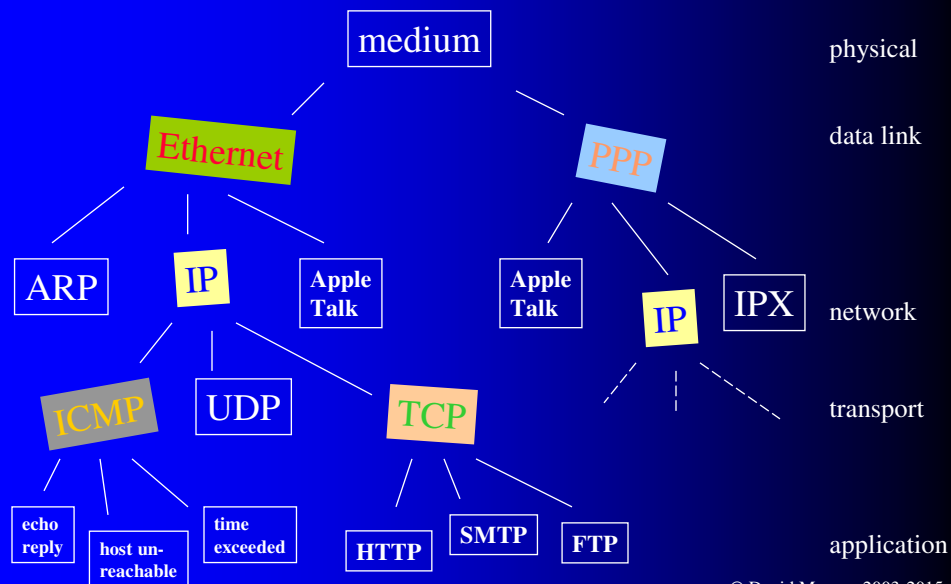
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Q: So how do protocols relate?



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A: their payloads are each other



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Example exchanges (following)

- browsing a website using a modem
- pinging another host on a common LAN
- making a DNS query using a modem

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