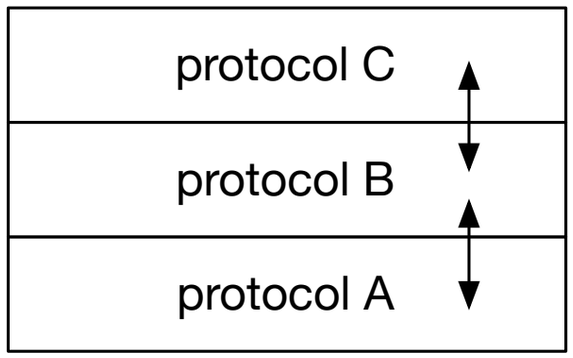
Practice questions

416 2021 W2 (Winter 2022)

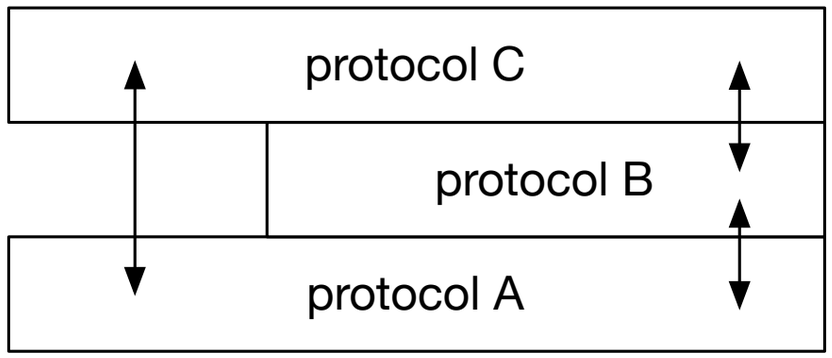
These questions are intended to simulate the final exam. They cover previous lecture/assignment material that is fair game for the final exam.

PQ 1

- You are designing a protocol stack. You have narrowed down your design to two choices. And, you know that the specification for protocol C is likely to change. Which stack design should you use?



(a)



(b)

PQ 1

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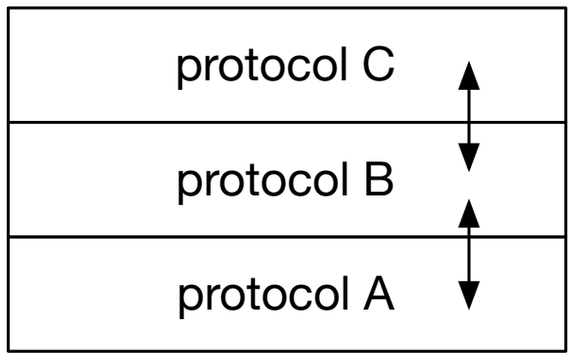
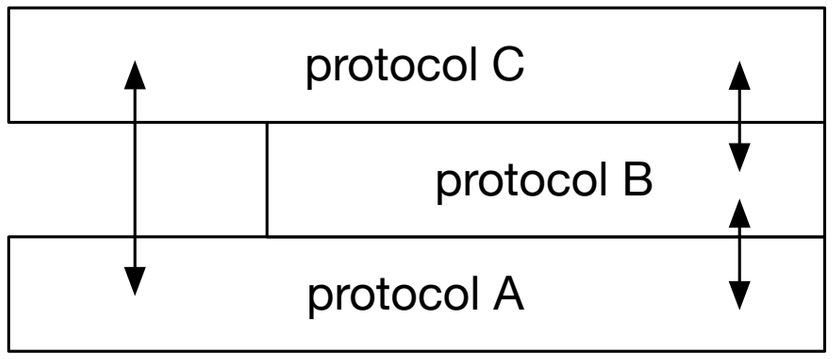


(a)



(b)

- If protocol C changes then only protocol B would need to adapt, and not A

PQ 2

- A network element can inspect any of the protocols present in the packet. So, **why not** build e.g., a switch that is aware of HTTP and have it route packets based on HTTP information that it can extract from the packet?

PQ 2

- A network element can inspect any of the protocols present in the packet. So, **why not** build e.g., a switch that is aware of HTTP and have it route packets based on HTTP information that it can extract from the packet?
- Expensive! Line-rate HTTP processing requires more memory/cpu. Also requires interpreting the protocol below HTTP (e.g., TCP/IP)
- Higher-level protocols change, often more frequently (HTTP 2.0)
- More software can access/manipulate HTTP content (not just your OS TCP/IP stack). *Requires more robustness/more security considerations.*
- But, it's not impossible! See "software middleboxes" or "network function virtualization"