

Address Spaces and Translation(Ch 13 & 15)

Discussion Questions

- What is an address space?
- What has an address space?
- What protections does the OS provide for an address space?
- What is the difference between a virtual address and physical address?
 - who translates one to the other?
- Why do we need memory virtualization?
 - compiler creates constant addresses
 - allows multiprocessing
- Why should memory virtualization be transparent?
- “ “ efficient?
- “ “ provide protection?
- What is isolation?

- How does address translation provide protection and isolation?
- What is interposition?
 - How is it used by the OS in virtualizing memory?
- What are the base and bounds registers?
 - how do they interact with the hardware?
- Why is modifying the base and bounds registers a privileged instruction?
- Why does the hardware provide address translation?
- How does static relocation differ from dynamic relocation?
 - what is are the drawbacks of static relocation?
- What is internal fragmentation?