

# Memory Protection: Kernel and User Address Spaces

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# Up to This Point

- Threads provide the illusion of an infinite number of CPUs
  - On a single processor machine
- Memory management provides a different set of illusions
  - Protected memory
  - Infinite amount of memory
  - Transparent sharing

# Physical vs. Virtual Memory

Physical memory	Virtual memory
No protection	Each process isolated from all others and from the OS
Limited size	Illusion of infinite memory
Sharing visible to processes	Each process cannot tell if memory is shared