

Protection

- Operating System must protect itself from user programs
 - Reliability: compromising the operating system generally causes it to crash
 - Security: limit the scope of what processes can do
 - Privacy: limit each process to the data it is permitted to access
 - Fairness: each should be limited to its appropriate share
- It must protect User programs from one another
- Primary Mechanism: limit the translation from program address space to physical memory space
 - Can only touch what is mapped in
- Additional Mechanisms:
 - Privileged instructions, in/out instructions, special registers
 - syscall processing, subsystem implementation
 - » (e.g., file access rights, etc)