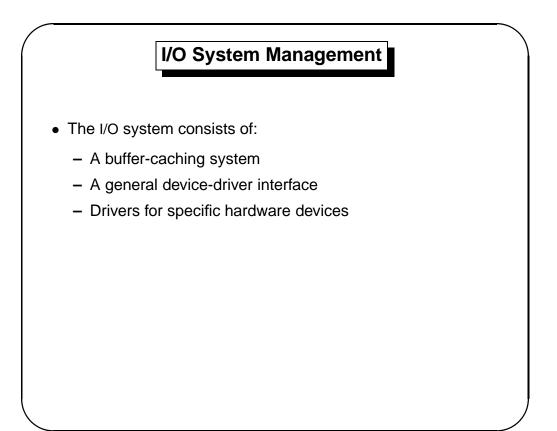
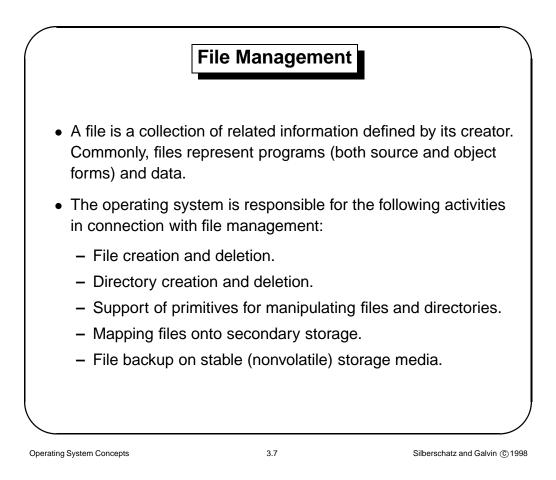


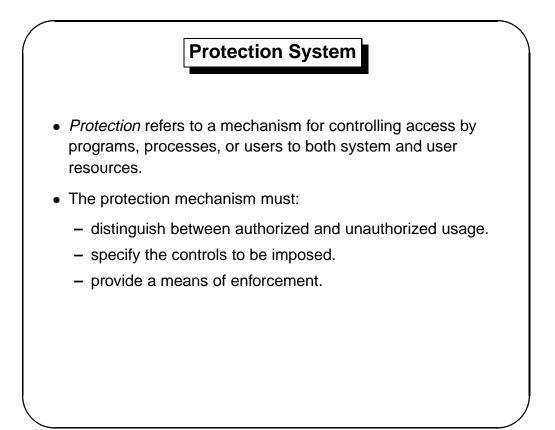
Operating System Concepts

3.5

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Networking (Distributed Systems)

- A *distributed* system is a collection of processors that do not share memory or a clock. Each processor has its own local memory.
- The processors in the system are connected through a *communication network.*
- A distributed system provides user access to various system resources.
- Access to a shared resource allows:
 - Computation speed-up
 - Increased data availability
 - Enhanced reliability

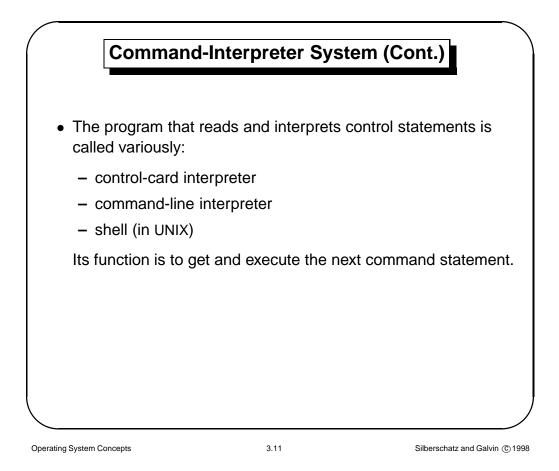
Operating System Concepts

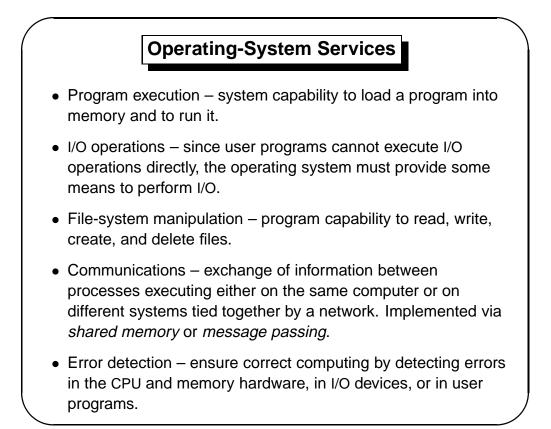
3.9

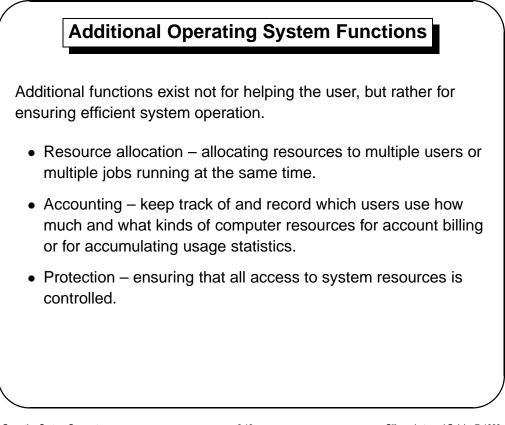
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Command-Interpreter System

- Many commands are given to the operating system by *control statements* which deal with:
 - process creation and management
 - I/O handling
 - secondary-storage management
 - main-memory management
 - file-system access
 - protection
 - networking



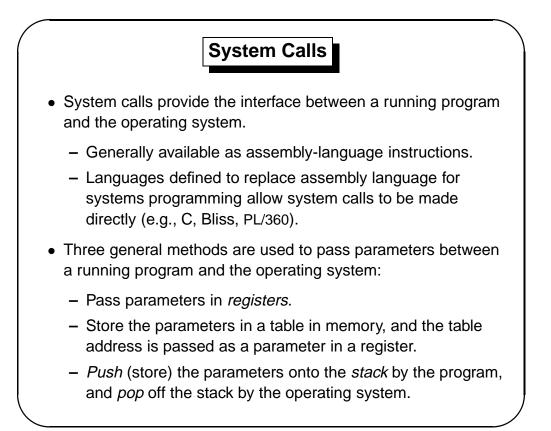


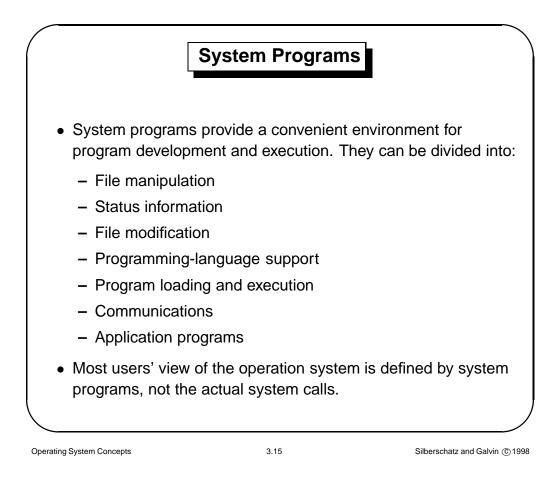


Operating System Concepts

3.13

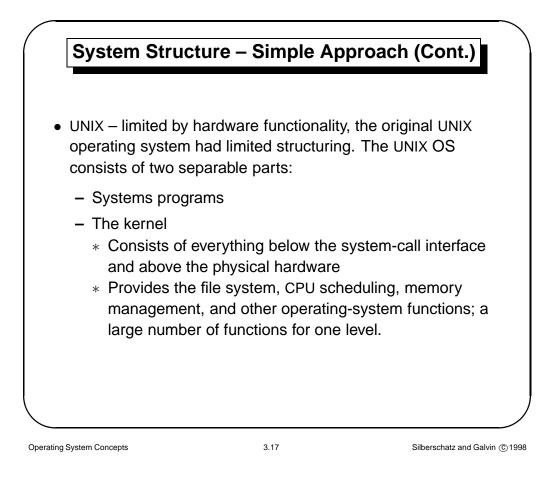
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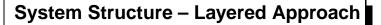




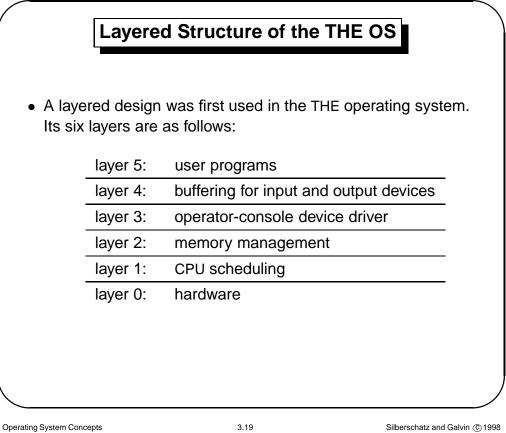


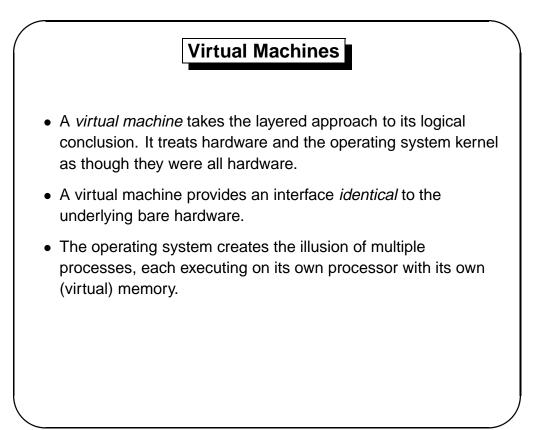
- MS-DOS written to provide the most functionality in the least space
 - not divided into modules
 - Although MS-DOS has some structure, its interfaces and levels of functionality are not well separated

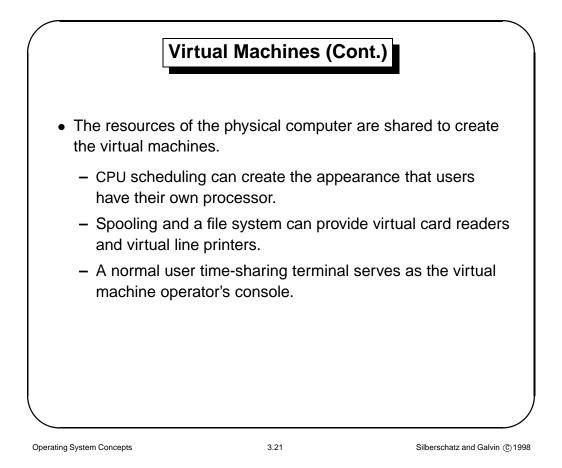


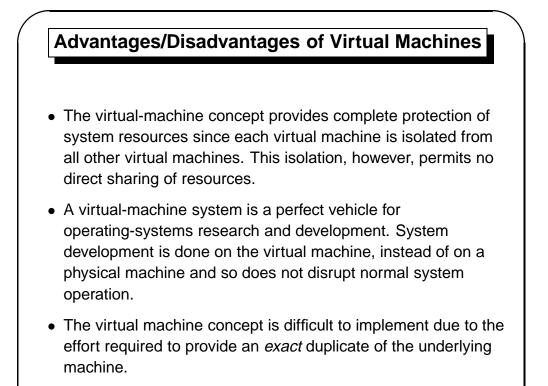


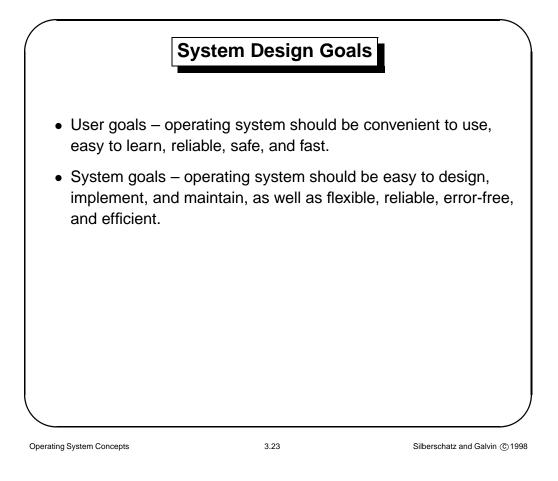
- The operating system is divided into a number of layers (levels), each built on top of lower layers. The bottom layer (layer 0) is the hardware; the highest (layer N) is the user interface.
- With modularity, layers are selected such that each uses functions (operations) and services of only lower-level layers.

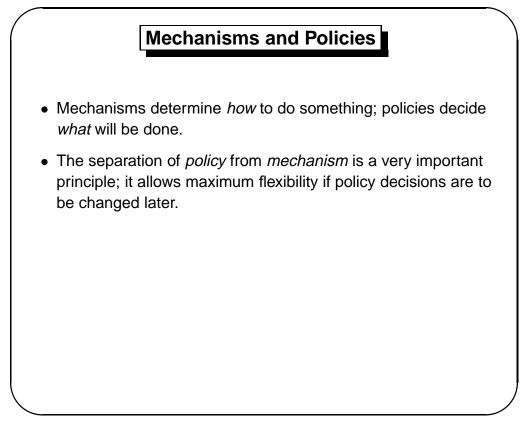


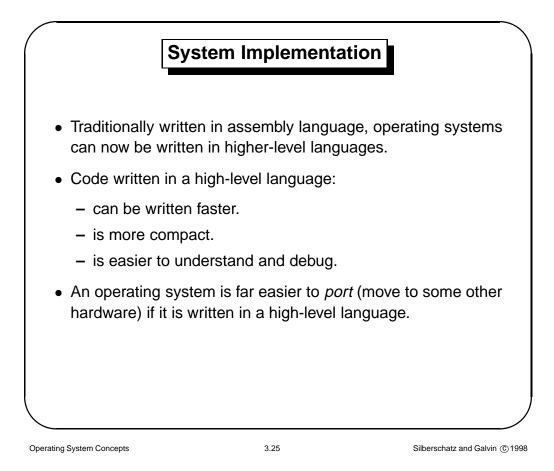














- Operating systems are designed to run on any of a class of machines; the system must be configured for each specific computer site.
- SYSGEN program obtains information concerning the specific configuration of the hardware system.
- Booting starting a computer by loading the kernel.
- *Bootstrap program* code stored in ROM that is able to locate the kernel, load it into memory, and start its execution.