

Figure 12.1 File System Software Architecture

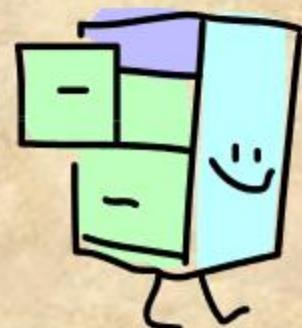
Device Drivers

- Lowest level
- Communicates directly with peripheral devices
- Responsible for starting I/O operations on a device
- Processes the completion of an I/O request
- Considered to be part of the operating system



Basic File System

- Also referred to as the physical I/O level
- Primary interface with the environment outside the computer system
- Deals with blocks of data that are exchanged with disk or tape systems
- Concerned with the placement of blocks on the secondary storage device
- Concerned with buffering blocks in main memory
- Considered part of the operating system

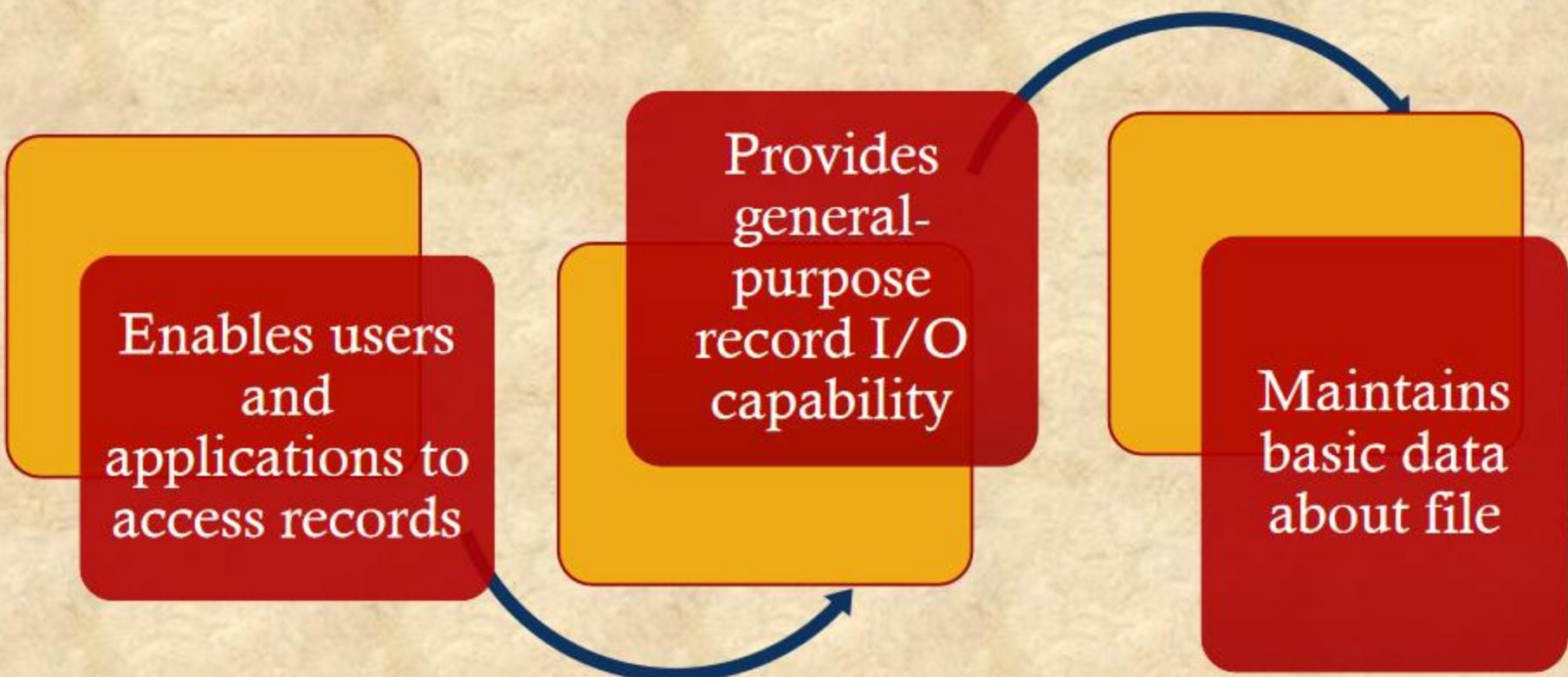




Basic I/O Supervisor

- Responsible for all file I/O initiation and termination
- Control structures that deal with device I/O, scheduling, and file status are maintained
- Selects the device on which I/O is to be performed
- Concerned with scheduling disk and tape accesses to optimize performance
- I/O buffers are assigned and secondary memory is allocated at this level
- Part of the operating system

Logical I/O



Access Method

- Level of the file system closest to the user
- Provides a standard interface between applications and the file systems and devices that hold the data
- Different access methods reflect different file structures and different ways of accessing and processing the data

