**Info**

* A program that acts as an intermediary between a user of a computer

and the computer hardware

* Execute user programs and make solving user problems easier
* Make the computer system convenient to use
* Use computer hardware in an efficient manner
* I/O devices and the CPU can execute concurrently
* Each device controller is in charge of a particular device type
* Each device controller has a local buffer
* CPU moves data from/to main memory to/from local buffers
* I/O is from the device to the local buffer of controller
* Device controller informs CPU that it has finished its operation by

causing an interrupt

* Used for high-speed I/O devices able to transmit information

at close to memory speeds

* Device controller transfers blocks of data from buffer storage

directly to main memory without CPU intervention

* Only one interrupt is generated per block, rather than the one

interrupt per byte

* Usually sharing storage via a storage-area network (SAN).
* Some clusters are for high-performance computing (HPC)
* Some have distributed lock manager (DLM) to avoid conflicting operations