

Outline for October 16, 2008

1. External priority methods (continued)
 - a. Fair share scheduling
2. Kernel-Level I/O Routines
 - a. Device drivers and transparency
 - b. How processes view devices (for example, virtual devices)
3. Issues
 - a. Goals; what should a good process/device interface do?
 - b. Device hardware; what does a device look like?
 - c. Device interface; how are the devices connected to the computer?
 - d. Device drivers; what do the kernel modules interacting with devices look like?
 - e. Process interface; how do the processes access devices?
4. Goals
 - a. Character code independence
 - b. Device independence
 - c. Efficiency
 - d. Uniform treatment of devices
5. Device Hardware
 - a. Disks: platters, tracks, cylinders, sectors, heads, arms; seek, rotational, and transfer latencies
 - b. Drums: one head per track; use
 - c. Magnetic tapes: nine-track tapes, frames, tape density, records, inter-record gaps, labels, headers, trailers; winding, transfer latencies
 - d. CDs
 - e. Communication lines: simplex, half-duplex, full duplex; baud; protocols; bit stuffing, character stuffing (escapes)