CSE 30341: Home Work Project 5

Assigned: Apr 10, 2006

Due: May 1, 10:40AM

Late submissions will not be accepted

Group effort

In this project, we will report on the OS mechanisms implemented in a typical machine. For this project, choose one of the expsys-* machines (including the Itanium2) and report back on how this particular machine implements/uses the various constructs that we studied/analyzed so far. For each aspect, you will report at least one observation and at least one supporting documentation and/or more proof to show why your observation is correct. Use the Linux text book to its fullest advantage for this project. Note that, you are free to use your own laptop/desktop if they run Linux or FreeBSD or Mac OSX. If your target machine runs Windows OS, please talk with me before you proceed. Without access to the source code, some of the aspects of this project are harder on a Windows machine. For example, on a recently rebooted machine, 'dmesg' will report all the boot messages (for example, this can show you the number of disk sectors), 'lspci' will show all the PCI devices etc.

You will report on the following (or report why you couldn't find this information and what commands you tried in vain):

1. Boot procedure (e.g., BIOS, EFI, OpenFirmware)
2. Process support
    a. Process priorities
    b. Process states
    c. Etc.
3. Thread support
4. Process synchronization support

5. Memory management (including how much main memory, how are they allocated currently, how does the swapping mechanism work)
6. Storage management (including the hard disk drive size and parameters, file system parameters etc.)
7. Security and Protection

Your grades will depend on the number of components that you report and the thoroughness of your observation.