

CSE 506 Operating System Project Proposal

Name: Dongli ZHANG

ID: 107738950

Project Idea: Migration of Process

In this project, I will modify the kernel code of JOS to enable the migration of process from one JOS to another one. I have two methods to implement this feature.

1. I will first pause the process and then migrate all contents (page table, pages and related files) to the new JOS. I will finally invoke the process on the new JOS.
2. I will not pause the process during migration. I will only migrate the essential part of process (Env structure and page tables) to the new JOS. Then the process will access the pages with the help of page fault handler, copy-on-write and network.

Milestones:

1. Implement a 'ps' command to display information for all processes.
2. Based on the requirement, add new members to Env structure.
3. Implement the migration of process that only involves with memory.
4. Implement some functions to pause the process to store it on the disk and then resume it.
5. Implement the migration of process that also involves with other resources, like file.

Demonstration:

I will create some simple user space processes.

1. By running 'ps' command we will have information of all processes on JOS-A.
2. By 'ps' we will have information of all processes on JOS-B.
3. We then migrate process-1 from JOS-A to JOS-B by a new command, such as migrate.
4. By 'ps' we can now check process-1 is on JOS-B instead of JOS-A.