

Topics in System Software

(subtitle: Virtual Machines)

(Course No: 4541.658 - 002, Electrical Engineering and Computer Science, Fall 2007)

Course Outline

Recently, **virtual machines** (VM) are getting renewed interests and being employed in various application areas. VM does not just enable compatibility between platforms but allows network/mobile/platform-independent software development with advantages in security, performance, and software portability. In this course, we learn various VMs, discuss virtualization technologies common to many of them, and examine their application areas. We also deal with dynamic compilation seriously, which is one of the key technologies in many VMs. VM is a compound topic with compilers, architectures, and operating systems, and we will discuss interactions among them to enable efficient virtualization.

Instructor:

- Prof. Soo-Mook Moon
- Email: smoon@snu.ac.kr
- Office: 301-801 (phone: 880-1814)

Course format:

- Lecture by professor (60%) with discussion sessions
- Presentations by students (30%): twice per student, with a topic related to their research areas
- Lectures from outside speakers (20%)

Class hours and classroom:

- Mon, Wed 2:30 - 3:45 PM (301-821)

Textbook:

- "Virtual Machines" by J.E. Smith and Ravi Nair, Morgan Kaufman
- Research papers (available on-line)

Grading:

- Exam: 30%, Chapter summary: 20%, Discussion participation: 10%, Presentation: 20%, Term paper: 20%