

HCMC University Of Technology
Faculty of Computer Science & Engineering



OPERATING SYSTEMS

Assignment #1 - System Call

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1 Prepare Linux Kenel

1.1 QUESTION: Why we need to install kernel-package?

kernel-package is utility for building Linux kernel related Debian packages. The package automate the routine steps required to compile and install a custom kernel.

For more advantages, see <http://man.he.net/man5/kernel-package>

1.2 QUESTION: Why we have to use another kernel source from the server such as <http://www.kernel.org>, can we compile the original kernel (the local kernel on the running OS) directly?

2 System Call - procsched

2.1 QUESTION: What is the meaning of other parts, i.e. i386, procsched, and sys procsched?

Each system call is declared in one row with following information: number, ABI, name, entry point and compat entry point.

2.2 QUESTION: What is the meaning of each line added in file `include/linux/syscalls.h`?

3 Compiling Linux Kernel

3.1 QUESTION: What is the meaning of these two stages, namely “make” and “make modules”?

3.2 QUESTION: Why this program could indicate whether our system works or not?

4 Wrapper

4.1 QUESTION: Why we have to re-define proc segs struct while we have already defined it inside the kernel?

4.2 QUESTION: Why root privilege (e.g. adding sudo before the cp command) is required to copy the header file to `/usr/include`?

4.3 QUESTION: Why we must put `-share` and `-fpic` option into gcc command?