Subject: Assignment 1
Name: Ching Su
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git@github.com:suching/su_cmpe297.git

**Recompile Kernel**

Linux suching-HP 3.5.3-su-hp-23 #1 SMP Sun Sep 23 23:06:46 PDT 2012 x86_64 x86_64 x86_64 GNU/Linux

Sep 26 08:09:46 suching-HP kernel: [ 231.720015] Hello World! suHello World! su
Sep 26 08:09:46 suching-HP kernel: [ 231.720103] Hello World! suHello World! suHello World! su
Sep 26 08:09:46 suching-HP kernel: [ 231.724038] Hello World! suHello World! su
Sep 26 08:09:46 suching-HP kernel: [ 231.774045] Hello World! suHello World! su
Sep 26 08:09:46 suching-HP kernel: [ 231.774105] Hello World! suHello World! su

**Add system_call**

Files that need to watch out:
- Linux/arch
- Linux/mysource/mysyscall/mysyscall.c
- Linux/mysource/mysyscall/Makefile
- Linux/Makefile
- Linux/arch/sh/include/asm/unistd_64.h

1. create Linux/mysource/mysyscall/mysyscall.c ( my_owndir/syscall_function/files for this function)
   include <linux/kernel.h> and <linux/linkage.h>
2. Add Makefile in mysyscall dir to compile C code for this syscall
3. add mysyscalll dir into Linux makefile
4. find cpu bit; use 'uname -a' if see i386 .. it is 32 bits, if _64 then this is 64 bits.
5. Add new entry into syscall table. 3.5 makes it harder for people to add;
   look for
   generated one is in linux/arch/x86/include/generated/asm/unistd_64.h
   in linux/arch/sh/include/asm/unistd_64.h

**Hypercall**

1. create a dir for this hypercall; myhyper/
2. prepare the feature c file for the callback function; implement header file (assembly code)
   This is the function that you like to add-on.
   you need to tell the kernel where is your location so kernel can call you.
3. put the c file ( hypercall.c ) ; include linux/module.h
   This is the hypercall that application going to use

4. add the h file to include asm/hypervisor.h and xen/interface/xen.h
   in h; defined assembly code to push the 'current' system rgy info into stack to initiate
   h is for the 'static assembly code '
   Also tell the kernel where is the 'feature' location to be pushed into the page space.
5. add hypercall 'number'  into xen/include/public/xen.h
   (this is for the interrupt number, similar to system all)
6. Implement 2 functions ;
   one for initiate the call
   one to cleanup the current page info
   whoever calls it will not get the feature result, all it gets will be just the call had been issued
7. prepare the Makefile  to include LINUS_ROOT and XEN_ROOT
   add the function as part of the LOCAL_DRIVER to be included