专题8-Linux系统调用

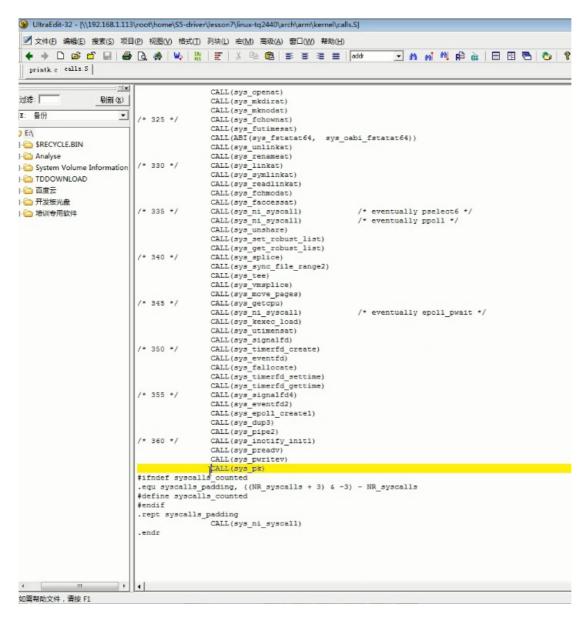
- 一、作用介绍 实现体在内核空间,提供给用户空间应用使用。
- 二、工作流程分析 系统调用编号(ARM通常储存在R7)
- 三、实现新的系统调用

3.1、在内核printk.c中实现一个打印函数sys_pk(): ♦ → 🗅 🗃 🖆 🔒 📵 🐧 🐠 🕠 🐫 🚆 🐰 🖦 📵 🗉 🗉 🗏 🗐 odd printk. c #ifdef CONFIG_A11Y_BRAILLE_CONSOLE

if (console->flags & CON_BRL)

return braille_unregister_console(console); 过滤:厂 **刷新(8)** E: 备份 #endif) E:\ acquire_console_sem();
if (console_drivers == console) { - \$RECYCLE.BIN - Analyse console_drivers=console->next; res = 0; 1- System Volume Information } else if (console_drivers) {
 for (a=console_drivers->next, b=console_drivers ;
 a; b=a, a=b->next) {
 if (a == console) { - TDDOWNLOAD → 百度云 一 开发板光盘 · 🗀 培训专用软件 b->next = a->next; res = 0; break; * If this isn't the last console and it has CON_CONSDEV set, we \star need to set it on the next preferred console. release_console_sem(); return res; EXPORT_SYMBOL (unregister_console): static int __init disable_boot_consoles(void) if (console_drivers != NULL) (if (console_drivers->flags & CON_BOOT) (return unregister_console(console_drivers); late_initcall(disable_boot_consoles); #if defined CONFIG_PRINTK

3.2、在calls.S中最后加入系统调用,并记下编号



3.3、在unistd.h(包含系统调用编号)中对应系统编号添加系统调用

```
UltraEdit-32 - [\\192.168.1.113\root\home\S5-driver\lesson7\linux-tq2440\arch\arm\kernel\calls.S]
     ♦ → 🗅 😅 🖆 🗐 🙆 👰 🙌 🐫 🚆 📝 🖟 🛍 🕮 🛎 🗷 🗮 🗐 odd
                                                                                                                                                                                                                                                                               printk.c calls.S
                                                                                                                                           CALL(sys_openat)
 过滤: 「
                                                          刷新(8)
                                                                                                                                          CALL(sys_mkdirat)
CALL(sys_mknodat)
CALL(sys_fchownat)
CALL(sys_futimesat)
E: 备份
                                                                         •
                                                                                       /* 325 */
) E:\
                                                                                                                                         CALL(ABI(sys_fstatat64, sys_oabi_fstatat64))
- $RECYCLE.BIN
- Analyse
                                                                                     /* 330 */
3- System Volume Information
- TDDOWNLOAD
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/* eventually pselect6 */
/* eventually ppoll */
                                                                                      /* 335 */
· 培训专用软件
                                                                                                                                        CALL (sys_spice)
CALL (sys_spice)
CALL (sys_spice)
CALL (sys_tee)
CALL (sys_tee)
CALL (sys_move_pages)
CALL (sys_move_pages)
CALL (sys_getopu)
CALL (sys_move_pages)
CALL (sys_spice)
CALL (sys_s
                                                                                       /* 340 */
                                                                                      /* 345 */
                                                                                                                                                                                                                                                   /* eventually epoll_pwait */
                                                                                      /* 350 */
                                                                                      /* 355 */
                                                                                      /* 360 */
                                                                                                                                          CALL(sys_inotify_init1)
CALL(sys_preadv)
                                                                                                                                          CALL(sys pwritev)
CALL(sys pk)
                                                                                      #ifndef syscalls counted
                                                                                      -equ syscalls padding, ((NR_syscalls + 3) & -3) - NR_syscalls #define syscalls_counted
                                                                                      #endif
                                                                                       rept syscalls_padding
CALL(sys ni syscall)
                                                                                       .endr
 如喬帮助文件,请按 F1
```

3.4、重新编译内核

3.5、用户空间使用函数调用系统函数

```
void pk()
{
    _asm_ (
      "Idr r7,=363 \n"
      "swi \n"
      :
      :"memory");
}
void main()
{
    pk();
```