

第 0006 讲 7 设置进程 NICE 值案例分析 2

一、设置某进程的 NICE 值，其 NICE 值的计算是根据进程的静态优先级，直接通过 `set_user_nice()` 函数更改进程的静态优先级。

具体 Linux 内核源码 `set_user_nice()` 函数原型：

```
kernel > sched > core.c > set_user_nice(task_struct *, long)
4498
4499 void set_user_nice(struct task_struct *p, long nice)
4500 {
4501     bool queued, running;
4502     int old_prio;
4503     struct rq_flags rf;
4504     struct rq *rq;
4505
4506     if (task_nice(p) == nice || nice < MIN_NICE || nice > MAX_NICE)
4507         return;
4508     /*
4509      * We have to be careful, if called from sys_setpriority(),
4510      * the task might be in the middle of scheduling on another CPU.
4511      */
4512     rq = task_rq_lock(p, &rf);
4513     update_rq_clock(rq);
```

二、实战案例分析

```
root@ubuntu: /home/vico/Desktop/setusernicedemo
File Edit View Search Terminal Help
om="apparmor_parser"
[ 6.961834] NET: Registered protocol family 40
[ 8.286789] RAPL PMU: API unit is 2^32 Joules, 0 fixed counters, 1073741824
0 ms ovfl timer
[ 8.304839] cryptd: max_cpu_qlen set to 1000
[ 8.335422] AVX2 version of gcm_enc/dec engaged.
[ 8.335423] AES CTR mode by8 optimization enabled
[ 21.903267] rfkill: input handler disabled
[ 5780.126304] setusernicedemo: loading out-of-tree module taints kernel.
[ 5780.126337] setusernicedemo: module verification failed: signature and/or re
quired key missing - tainting kernel
[ 5780.127043] Prompt:***** SetUserNice_InitFunc Start *****
[ 5780.127300] Prompt:New static_prio child thread : 120
[ 5780.127300] Prompt:New nice child thread : 0
[ 5780.127301] Prompt:New prio child thread : 120
[ 5780.127302] Prompt:New value static_prio child thread : 136
[ 5780.127302] Prompt:New value nice child thread : 16
[ 5780.127302] Prompt:New thread PID : 3402
[ 5780.127303] Prompt:***** SetUserNice_InitFunc End *****
[ 5780.128091] Prompt:***** MyFunc_Test Start *****
[ 5780.128093] Prompt:Current PID : 3402
[ 5780.128093] Prompt:Current static_prio : 136
[ 5780.128093] Prompt:Current nice :16
root@ubuntu: /home/vico/Desktop/setusernicedemo# rmmod setusernicedemo.ko
root@ubuntu: /home/vico/Desktop/setusernicedemo# dmesg -c
[ 5780.128094] Prompt:***** MyFunc_Test End *****
[ 5901.036184] Prompt:Normal exit of kernel module.
root@ubuntu: /home/vico/Desktop/setusernicedemo#
```