
Subject: [PATCH 04/17] Pid-NS(V3) Use pid_to_nr() in process info functions
Posted by [Sukadev Bhattiprolu](#) on Sat, 16 Jun 2007 22:59:52 GMT
[View Forum Message](#) <> [Reply to Message](#)

From: Sukadev Bhattiprolu <sukadev@us.ibm.com>

Use pid_to_nr() function in getppid(), getpgid() and getsid() functions so they return the correct pid_t for processes in multiple pid namespaces.

Note: We don't need pid_to_nr() in getpid() because the process always "sees itself" as being in its active pid namespace. Using pid_to_nr() in getpid() would unnecessarily hurt its performance.

Signed-off-by: Sukadev Bhattiprolu <sukadev@us.ibm.com>

include/linux/sched.h | 24 ++++++
kernel/sys.c | 10 +++++
kernel/timer.c | 2 +-
3 files changed, 30 insertions(+), 6 deletions(-)

Index: lx26-22-rc4-mm2/include/linux/sched.h

```
=====
--- lx26-22-rc4-mm2.orig/include/linux/sched.h 2007-06-13 16:42:12.000000000 -0700
+++ lx26-22-rc4-mm2/include/linux/sched.h 2007-06-14 11:43:19.000000000 -0700
@@ -1183,6 +1183,30 @@ static inline struct pid *task_tgid(stru
     return task->group_leader->pids[PIDTYPE_PID].pid;
 }

+/* NOTE: Caller must hold rcu_readlock() */
+static inline struct pid *task_parent_tgid(struct task_struct *task)
+{
+    return task_tgid(rcu_dereference(task->real_parent));
+}
+
+/* NOTE: Caller must hold rcu_readlock() */
+static inline struct pid *task_parent_pid(struct task_struct *task)
+{
+    return task_pid(rcu_dereference(task->real_parent));
+}
+
+/* NOTE: Caller must hold rcu_readlock() */
+static inline struct pid *task_tracer_tgid(struct task_struct *task)
+{
+    return task_tgid(rcu_dereference(task->parent));
+}
+
+/* NOTE: Caller must hold rcu_readlock() */
+static inline struct pid *task_tracer_pid(struct task_struct *task)
```

```

+{
+ return task_pid(rcu_dereference(task->parent));
+}
+
static inline struct pid *task_pgrp(struct task_struct *task)
{
    return task->group_leader->pids[PIDTYPE_PGID].pid;
Index: lx26-22-rc4-mm2/kernel/timer.c
=====
--- lx26-22-rc4-mm2.orig/kernel/timer.c 2007-06-13 16:42:12.000000000 -0700
+++ lx26-22-rc4-mm2/kernel/timer.c 2007-06-13 16:56:03.000000000 -0700
@@ -967,7 +967,7 @@ asmlinkage long sys_getppid(void)
    int pid;

    rcu_read_lock();
- pid = rcu_dereference(current->real_parent)->tgid;
+ pid = pid_to_nr(task_parent_tgid(current));
    rcu_read_unlock();

    return pid;
Index: lx26-22-rc4-mm2/kernel/sys.c
=====
--- lx26-22-rc4-mm2.orig/kernel/sys.c 2007-06-13 16:42:12.000000000 -0700
+++ lx26-22-rc4-mm2/kernel/sys.c 2007-06-13 16:56:03.000000000 -0700
@@ -1501,7 +1501,7 @@ out:
asmlinkage long sys_getpgid(pid_t pid)
{
    if (!pid)
- return process_group(current);
+ return pid_to_nr(task_pgrp(current));
    else {
        int retval;
        struct task_struct *p;
@@ -1513,7 +1513,7 @@ asmlinkage long sys_getpgid(pid_t pid)
    if (p) {
        retval = security_task_getpgid(p);
        if (!retval)
- retval = process_group(p);
+ retval = pid_to_nr(task_pgrp(p));
    }
    read_unlock(&tasklist_lock);
    return retval;
@@ -1525,7 +1525,7 @@ asmlinkage long sys_getpgid(pid_t pid)
asmlinkage long sys_getpgrp(void)
{
    /* SMP - assuming writes are word atomic this is fine */
- return process_group(current);
+ return pid_to_nr(task_pgrp(current));

```

```

}

#endif
@@ -1533,7 +1533,7 @@ asmlinkage long sys_getpgrp(void)
asmlinkage long sys_getsid(pid_t pid)
{
    if (!pid)
-   return process_session(current);
+   return pid_to_nr(task_session(current));
    else {
        int retval;
        struct task_struct *p;
@@ -1545,7 +1545,7 @@ asmlinkage long sys_getsid(pid_t pid)
    if (p) {
        retval = security_task_getsid(p);
        if (!retval)
-       retval = process_session(p);
+       retval = pid_to_nr(task_session(p));
    }
    read_unlock(&tasklist_lock);
    return retval;

--

```

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>
