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Subject: [PATCH 1/3] Introduce the dummy\_pid  
Posted by [Pavel Emelianov](#) on Wed, 03 Oct 2007 14:19:01 GMT  
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This is a pid which is attached to tasks when they detach their pids. This is done in detach\_pid() and transfer\_pid(). The pid\_alive() check is changed to reflect this fact.

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```
diff --git a/include/linux/sched.h b/include/linux/sched.h
index 4f21af1..e17b8f8 100644
--- a/include/linux/sched.h
+++ b/include/linux/sched.h
@@ -1286,9 +1286,11 @@ static inline pid_t task_ppid_nr_ns(stru
 * If pid_alive fails, then pointers within the task structure
 * can be stale and must not be dereferenced.
 */
+extern struct pid dummy_pid;
+
static inline int pid_alive(struct task_struct *p)
{
- return p->pids[PIDTYPE_PID].pid != NULL;
+ return p->pids[PIDTYPE_PID].pid != &dummy_pid;
}
```

```
/**
diff --git a/kernel/pid.c b/kernel/pid.c
index d7388d7..b7a11cf 100644
--- a/kernel/pid.c
+++ b/kernel/pid.c
@@ -81,6 +81,17 @@ struct pid_namespace init_pid_ns = {
};
EXPORT_SYMBOL_GPL(init_pid_ns);

+struct pid dummy_pid = {
+ .count = ATOMIC_INIT(1),
+ .numbers = { {
+ .nr = 0, /* this is what pid_nr will return
+ * for tasks with no pids
+ */
+ .ns = &init_pid_ns,
+ }, }
+};
+EXPORT_SYMBOL(dummy_pid);
+
```

```

int is_cgroup_init(struct task_struct *tsk)
{
    int ret = 0;
@@ -339,7 +350,7 @@ void fastcall detach_pid(struct task_str
    pid = link->pid;

    hlist_del_rcu(&link->node);
- link->pid = NULL;
+ link->pid = &dummy_pid;

    for (tmp = PIDTYPE_MAX; --tmp >= 0; )
        if (!hlist_empty(&pid->tasks[tmp]))
@@ -354,7 +365,7 @@ void fastcall transfer_pid(struct task_s
    {
        new->pids[type].pid = old->pids[type].pid;
        hlist_replace_rcu(&old->pids[type].node, &new->pids[type].node);
- old->pids[type].pid = NULL;
+ old->pids[type].pid = &dummy_pid;
    }

    struct task_struct * fastcall pid_task(struct pid *pid, enum pid_type type)

```

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