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Subject: [PATCH 3/20] Move checking for init's death in do\_exit()  
Posted by [Pavel Emelianov](#) on Tue, 07 Aug 2007 09:29:40 GMT  
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From: Oleg Nesterov <[oleg@tv-sign.ru](mailto:oleg@tv-sign.ru)>

If some system uses multi-threaded init the kernel panics when the main thread exits. Perhaps this is just a "quality of implementation" question. sys\_exit() from the main thread should be OK, why /sbin/init should be special? That said, I personally do not think that multi-threaded init is terribly useful.

So I think the patch below makes sense for now. Note that it removes the games with pid\_ns->child\_reaper: this doesn't work currently, and this has to be modified when we actually support pid namespaces anyway.

Signed-off-by: Oleg Nesterov <[oleg@tv-sign.ru](mailto:oleg@tv-sign.ru)>  
Acked-by: Pavel Emelyanov <[xemul@openvz.org](mailto:xemul@openvz.org)>

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exit.c | 17 ++++++++-----  
1 files changed, 9 insertions(+), 8 deletions(-)

```
--- ./kernel/exit.c.ve3 2007-08-06 12:14:53.000000000 +0400
+++ ./kernel/exit.c 2007-08-06 12:15:19.000000000 +0400
@@ -895,6 +895,14 @@ static void check_stack_usage(void)
 static inline void check_stack_usage(void) {}
 #endif

+static inline void exit_child_reaper(struct task_struct *tsk)
+{
+ if (likely(tsk->group_leader != task_child_reaper(tsk)))
+ return;
+
+ panic("Attempted to kill init!");
+}
+
fastcall NORET_TYPE void do_exit(long code)
{
 struct task_struct *tsk = current;
@@ -908,14 +916,6 @@fastcall NORET_TYPE void do_exit(long co
 panic("Aiee, killing interrupt handler!");
 if (unlikely(!tsk->pid))
 panic("Attempted to kill the idle task!");
- if (unlikely(tsk == task_child_reaper(tsk))) {
- if (task_active_pid_ns(tsk) != &init_pid_ns)
- task_active_pid_ns(tsk)->child_reaper =
```

```

-   init_pid_ns.child_reaper;
-   else
-   panic("Attempted to kill init!");
- }
-

```

```

    if (unlikely(current->ptrace & PT_TRACE_EXIT)) {
        current->ptrace_message = code;
@@ -965,6 +965,7 @@ fastcall NORET_TYPE void do_exit(long co
    }
    group_dead = atomic_dec_and_test(&tsk->signal->live);
    if (group_dead) {
+   exit_child_reaper(tsk);
        hrtimer_cancel(&tsk->signal->real_timer);
        exit_itimers(tsk->signal);
    }

```

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