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Subject: [PATCH 1/5] statically initialize struct pid for swapper  
Posted by [Sukadev Bhattiprolu](#) on Tue, 13 Mar 2007 04:42:12 GMT  
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From: Sukadev Bhattiprolu <sukadev@us.ibm.com>  
Subject: [PATCH 1/5] statically initialize struct pid for swapper

Statically initialize a struct pid for the swapper process (pid\_t == 0) and attach it to init\_task. This is needed so task\_pid(), task\_pgrp() and task\_session() interfaces work on the swapper process also.

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```
include/linux/init_task.h | 27 ++++++
include/linux/pid.h       |  2 ++
kernel/pid.c              |  2 ++
3 files changed, 31 insertions(+)
```

Index: lx26-20-mm2c/include/linux/init\_task.h

```
=====
--- lx26-20-mm2c.orig/include/linux/init_task.h 2007-02-28 15:47:44.000000000 -0800
+++ lx26-20-mm2c/include/linux/init_task.h 2007-02-28 15:48:07.000000000 -0800
@@ -96,6 +96,28 @@ extern struct group_info init_groups;
#define INIT_PREEMPT_RCU
#endif

+#define INIT_STRUCT_PID { \
+ .count = ATOMIC_INIT(1), \
+ .nr = 0, \
+ /* Don't put this struct pid in pid_hash */ \
+ .pid_chain = { .next = NULL, .pprev = NULL }, \
+ .tasks = { \
+ { .first = &init_task.pids[PIDTYPE_PID].node }, \
+ { .first = &init_task.pids[PIDTYPE_PGID].node }, \
+ { .first = &init_task.pids[PIDTYPE_SID].node }, \
+ }, \
+ .rcu = RCU_HEAD_INIT, \
+ }
+
+#define INIT_PID_LINK(type) \
```

```

+{      \
+ .node = {      \
+ .next = NULL,      \
+ .pprev = &init_struct_pid.tasks[type].first, \
+ },      \
+ .pid = &init_struct_pid,      \
+}
+
/*
 * INIT_TASK is used to set up the first task table, touch at
 * your own risk!. Base=0, limit=0x1fffff (=2MB)
@@ -145,6 +167,11 @@ extern struct group_info init_groups;
 .cpu_timers = INIT_CPU_TIMERS(tsk.cpu_timers), \
 .fs_excl = ATOMIC_INIT(0),      \
 .pi_lock = SPIN_LOCK_UNLOCKED,      \
+ .pids = {      \
+ [PIDTYPE_PID] = INIT_PID_LINK(PIDTYPE_PID), \
+ [PIDTYPE_PGID] = INIT_PID_LINK(PIDTYPE_PGID), \
+ [PIDTYPE_SID] = INIT_PID_LINK(PIDTYPE_SID), \
+ },      \
 INIT_TRACE_IRQFLAGS      \
 INIT_LOCKDEP      \
}

```

Index: lx26-20-mm2c/include/linux/pid.h

```

=====
--- lx26-20-mm2c.orig/include/linux/pid.h 2007-02-28 15:48:07.000000000 -0800
+++ lx26-20-mm2c/include/linux/pid.h 2007-02-28 15:48:07.000000000 -0800
@@ -51,6 +51,8 @@ struct pid
 struct rcu_head rcu;
};

```

```

+extern struct pid init_struct_pid;
+
struct pid_link
{

```

```

struct hlist_node node;
Index: lx26-20-mm2c/kernel/pid.c

```

```

=====
--- lx26-20-mm2c.orig/kernel/pid.c 2007-02-28 15:48:07.000000000 -0800
+++ lx26-20-mm2c/kernel/pid.c 2007-02-28 15:48:07.000000000 -0800
@@ -27,11 +27,13 @@
#include <linux/bootmem.h>
#include <linux/hash.h>
#include <linux/pid_namespace.h>
+#include <linux/init_task.h>

```

```

#define pid_hashfn(nr) hash_long((unsigned long)nr, pidhash_shift)
static struct hlist_head *pid_hash;

```

```
static int pidhash_shift;  
static struct kmem_cache *pid_cache;  
+struct pid init_struct_pid = INIT_STRUCT_PID;  
  
int pid_max = PID_MAX_DEFAULT;
```

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Containers mailing list  
Containers@lists.osdl.org  
<https://lists.osdl.org/mailman/listinfo/containers>

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