
Subject: [PATCH] Statically initialize struct pid for swapper
Posted by [Sukadev Bhattiprolu](#) on Sat, 20 Jan 2007 04:00:07 GMT
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From: Sukadev Bhattiprolu <sukadev@us.ibm.com>
Subject: [PATCH] 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.

Signed-off-by: Sukadev Bhattiprolu <sukadev@us.ibm.com>
Cc: Cedric Le Goater <clg@fr.ibm.com>
Cc: Dave Hansen <haveblue@us.ibm.com>
Cc: Serge Hallyn <serue@us.ibm.com>
Cc: Eric Biederman <ebiederm@xmission.com>
Cc: containers@lists.osdl.org

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

Index: lx26-20-rc4-mm1/include/linux/init_task.h

=====
--- lx26-20-rc4-mm1.orig/include/linux/init_task.h 2007-01-19 19:13:35.161859112 -0800
+++ lx26-20-rc4-mm1/include/linux/init_task.h 2007-01-19 19:15:05.893065872 -0800
@@ -90,6 +90,28 @@ extern struct nsproxy init_nsproxy;

extern struct group_info init_groups;

```
+#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=0x1ffff (=2MB)
@@ -141,6 +163,11 @@ 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-rc4-mm1/kernel/pid.c

```
=====
```

```
--- lx26-20-rc4-mm1.orig/kernel/pid.c 2007-01-19 19:13:35.162858960 -0800
```

```
+++ lx26-20-rc4-mm1/kernel/pid.c 2007-01-19 19:13:38.925286984 -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_cachep;
```

```
+struct pid init_struct_pid = INIT_STRUCT_PID;
```

```
int pid_max = PID_MAX_DEFAULT;
```

Index: lx26-20-rc4-mm1/include/linux/pid.h

```
=====
```

```
--- lx26-20-rc4-mm1.orig/include/linux/pid.h 2007-01-19 19:13:35.161859112 -0800
```

```
+++ lx26-20-rc4-mm1/include/linux/pid.h 2007-01-19 19:13:38.925286984 -0800
```

```
@@ -51,6 +51,8 @@ struct pid
```

```
struct rcu_head rcu;
```

```
};
```

```
+extern struct pid init_struct_pid;
```

```
+  
struct pid_link  
{  
    struct hlist_node node;  
}
```

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