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Subject: [PATCH 1/1] signal: Introduce kill\_pid\_ns\_info  
Posted by [Daniel Hokka Zakrisso](#) on Thu, 17 Jul 2008 19:37:36 GMT  
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Implement the basic helper function that walks all of the processes in a pid namespace and sends them all a signal.

Both locations that could use this functions are also updated to use this function.

I use find\_ge\_pid instead of for\_each\_process because it has a chance of not touching every process in the system.

[[daniel@hozac.com](mailto:daniel@hozac.com): Optimize away nr <= 1 check, against latest Linus tree]  
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Signed-off-by: Daniel Hokka Zakrisson <[daniel@hozac.com](mailto:daniel@hozac.com)>

```
diff --git a/include/linux/sched.h b/include/linux/sched.h
index ba2f859..83597f8 100644
--- a/include/linux/sched.h
+++ b/include/linux/sched.h
@@ -1778,6 +1778,8 @@ extern void release_task(struct task_struct * p);
extern int send_sig_info(int, struct siginfo *, struct task_struct *);
extern int force_sigsegv(int, struct task_struct *);
extern int force_sig_info(int, struct siginfo *, struct task_struct *);
+extern int __kill_pid_ns_info(int sig, struct siginfo *info, struct
pid_namespace *ns);
+extern int kill_pid_ns_info(int sig, struct siginfo *info, struct
pid_namespace *ns);
extern int __kill_pgrp_info(int sig, struct siginfo *info, struct pid
*pgrp);
extern int kill_pid_info(int sig, struct siginfo *info, struct pid *pid);
extern int kill_pid_info_as_uid(int, struct siginfo *, struct pid *,
uid_t, uid_t, u32);
diff --git a/kernel/pid_namespace.c b/kernel/pid_namespace.c
index 98702b4..9226423 100644
--- a/kernel/pid_namespace.c
+++ b/kernel/pid_namespace.c
@@ -153,29 +153,14 @@ void free_pid_ns(struct kref *kref)

void zap_pid_ns_processes(struct pid_namespace *pid_ns)
{
- int nr;
  int rc;

  /*
```

\* The last thread in the cgroup-init thread group is terminating. \*  
Find remaining pid\_ts in the namespace, signal and wait for them \* to  
exit.

```
- *  
- * Note: This signals each threads in the namespace - even those that  
- * belong to the same thread group, To avoid this, we would have - *  
- * to walk the entire tasklist looking a processes in this  
- * namespace, but that could be unnecessarily expensive if the - *  
- * pid namespace has just a few processes. Or we need to  
- * maintain a tasklist for each pid namespace.  
- *  
*/
```

```
- read_lock(&tasklist_lock);  
- nr = next_pidmap(pid_ns, 1);  
- while (nr > 0) {  
- kill_proc_info(SIGKILL, SEND_SIG_PRIV, nr);  
- nr = next_pidmap(pid_ns, nr);  
- }  
- read_unlock(&tasklist_lock);  
+ kill_pid_ns_info(SIGKILL, SEND_SIG_PRIV, pid_ns);
```

```
do {  
    clear_thread_flag(TIF_SIGPENDING);  
diff --git a/kernel/signal.c b/kernel/signal.c  
index 6c0958e..fc42428 100644  
--- a/kernel/signal.c  
+++ b/kernel/signal.c  
@@ -1118,6 +1118,45 @@ out_unlock:  
}  
EXPORT_SYMBOL_GPL(kill_pid_info_as_uid);
```

```
+int __kill_pid_ns_info(int sig, struct siginfo *info, struct  
pid_namespace *ns)  
+{  
+ int retval = 0, count = 0;  
+ struct task_struct *p;  
+ struct pid *pid;  
+ int nr;  
+  
+ /* Since there isn't a pid namespace list of tasks use the closest + *  
+ approximation we have: find_ge_pid.  
+ */  
+ nr = 1;  
+ while ((pid = find_ge_pid(nr + 1, ns))) {  
+ int err;  
+  
+ nr = pid_nr_ns(pid, ns);  
+ p = pid_task(pid, PIDTYPE_PID);
```

```

+ if (!p || (nr <= 1) || !thread_group_leader(p) ||
+   same_thread_group(p, current))
+   continue;
+
+ err = group_send_sig_info(sig, info, p);
+ ++count;
+ if (err != -EPERM)
+   retval = err;
+ }
+ return count ? retval : -ESRCH;
+}
+
+int kill_pid_ns_info(int sig, struct siginfo *info, struct pid_namespace
+ns)
+{
+ int retval;
+
+ read_lock(&tasklist_lock);
+ retval = __kill_pid_ns_info(sig, info, ns);
+ read_unlock(&tasklist_lock);
+
+ return retval;
+}
+
+/*
+ * kill_something_info() interprets pid in interesting ways just like
+ kill(2).
+ */
@@ -1141,18 +1180,7 @@ static int kill_something_info(int sig, struct
siginfo *info, int pid)
    ret = __kill_pgrp_info(sig, info,
        pid ? find_vpid(-pid) : task_pgrp(current));
    } else {
- int retval = 0, count = 0;
- struct task_struct * p;
-
- for_each_process(p) {
- if (p->pid > 1 && !same_thread_group(p, current)) {
- int err = group_send_sig_info(sig, info, p);
- ++count;
- if (err != -EPERM)
-   retval = err;
- }
- }
- ret = count ? retval : -ESRCH;
+ ret = __kill_pid_ns_info(sig, info, task_active_pid_ns(current));
    }
    read_unlock(&tasklist_lock);

```

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1.5.5.1

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

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