
Subject: [RFC][PATCH 3/4] IPC: use the target ID specified in procfs
Posted by [Nadia Derby](#) on Mon, 10 Mar 2008 13:50:57 GMT
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[PATCH 03/04]

This patch makes use of the target id specified by a previous write into /proc/self/next_ipcid as the id to use to allocate the next IPC object.

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ipc/util.c | 39 ++++++-----
1 file changed, 31 insertions(+), 8 deletions(-)

Index: linux-2.6.25-rc3-mm1/ipc/util.c

```
=====
--- linux-2.6.25-rc3-mm1.orig/ipc/util.c 2008-03-10 13:10:33.000000000 +0100
+++ linux-2.6.25-rc3-mm1/ipc/util.c 2008-03-10 13:11:24.000000000 +0100
@@ -35,6 +35,7 @@
#include <linux/rwsem.h>
#include <linux/memory.h>
#include <linux/ipc_namespace.h>
+#include <linux/sysids.h>

#include <asm/unistd.h>

@@ -267,20 +268,42 @@ int ipc_addid(struct ipc_ids* ids, struc
if (ids->in_use >= size)
return -ENOSPC;

- err = idr_get_new(&ids->ipcs_idr, new, &id);
- if (err)
- return err;
+ /* If there is a target id specified, try to use it */
+ if (current->next_id && (current->next_id->flag & SYS_ID_IPC)) {
+ int new_id = current->next_id->ipc_id;
+ int new_lid = new_id % SEQ_MULTIPLIER;
+
+ if (new_id !=
+ (new_lid + (new_id / SEQ_MULTIPLIER) * SEQ_MULTIPLIER))
+ return -EINVAL;
+
+ err = idr_get_new_above(&ids->ipcs_idr, new, new_lid, &id);
+ if (err)
+ return err;
+ if (id != new_lid) {
+ idr_remove(&ids->ipcs_idr, id);
```

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+ return -EBUSY;
+ }
+
+ new->id = new_id;
+ new->seq = new_id / SEQ_MULTIPLIER;
+ current->next_id->flag &= ~SYS_ID_IPC;
+ } else {
+ err = idr_get_new(&ids->ipcs_idr, new, &id);
+ if (err)
+ return err;
+
+ new->seq = ids->seq++;
+ if (ids->seq > ids->seq_max)
+ ids->seq = 0;
+ new->id = ipc_buildid(id, new->seq);
+ }

```

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ids->in_use++;
```

```
new->cuid = new->uid = current->euid;
new->gid = new->cgid = current->egid;
```

```

- new->seq = ids->seq++;
- if(ids->seq > ids->seq_max)
- ids->seq = 0;
-
- new->id = ipc_buildid(id, new->seq);
  spin_lock_init(&new->lock);
  new->deleted = 0;
  rcu_read_lock();

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