Subject: [-mm PATCH 5/9] Memory controller task migration (v5)
Posted by Balbir Singh on Mon, 13 Aug 2007 17:44:08 GMT
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Allow tasks to migrate from one container to the other. We migrate
mm_struct's mem_container only when the thread group id migrates.

Signed-off-by: <balbir@linux.vnet.ibm.com>
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 mm/memcontrol.c | 35 ++++++++++++++++++++++++++++++++++
 1 file changed, 35 insertions(+)

diff -puN mm/memcontrol.c~mem-control-task-migration mm/memcontrol.c
--- linux-2.6.23-rc1-mm1/mm/memcontrol.c~mem-control-task-migration 2007-08-13
23:06:12.000000000 +0530
+++ linux-2.6.23-rc1-mm1-balbir/mm/memcontrol.c 2007-08-13 23:06:12.000000000 +0530
@@ -325,11 +325,46 @@ static int mem_container_populate(struct
 ARRAY_SIZE(mem_container_files));
 }

+static void mem_container_move_task(struct container_subsys *ss,
+ struct container *cont,
+ struct container *old_cont,
+ struct task_struct *p)
+{
+ struct mm_struct *mm;
+ struct mem_container *mem, *old_mem;
+
+ mm = get_task_mm(p);
+ if (mm == NULL)
+ return;
+
+ mem = mem_container_from_cont(cont);
+ old_mem = mem_container_from_cont(old_cont);
+
+ if (mem == old_mem)
+ goto out;
+
+ /*
+ * Only thread group leaders are allowed to migrate, the mm_struct is
+ * in effect owned by the leader
+ */
+ if (p->tgid != p->pid)
+ goto out;
+
+ css_get(&mem->css);

```
+ rcu_assign_pointer(mm->mem_container, mem);
+ css_put(&old_mem->css);
+
+out:
+ mmput(mm);
+ return;
+}
+
 struct container_subsys mem_container_subsys = {
  .name = "memory",
  .subsys_id = mem_container_subsys_id,
  .create = mem_container_create,
  .destroy = mem_container_destroy,
  .populate = mem_container_populate,
+ .attach = mem_container_move_task,
  .early_init = 1,
 };
_

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 Warm Regards,
 Balbir Singh
 Linux Technology Center
 IBM, ISTL
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