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Subject: [PATCH 26/33] memory controller task migration v7  
Posted by [Paul Menage](#) on Mon, 17 Sep 2007 21:03:33 GMT  
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From: Balbir Singh <balbir@linux.vnet.ibm.com>  
(container->cgroup renaming by Paul Menage <menage@google.com>)

Allow tasks to migrate from one cgroup to the other. We migrate  
mm\_struct's mem\_cgroup only when the thread group id migrates.

Signed-off-by: Balbir Singh <balbir@linux.vnet.ibm.com>

Signed-off-by: Paul Menage <menage@google.com>

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mm/memcontrol.c | 35 ++++++++++++++++++++++++++++++++++++++  
1 files changed, 35 insertions(+)

diff -puN mm/memcontrol.c~memory-controller-task-migration-v7 mm/memcontrol.c

--- a/mm/memcontrol.c~memory-controller-task-migration-v7

+++ a/mm/memcontrol.c

@@ -326,11 +326,46 @@ static int mem\_cgroup\_populate(struct  
ARRAY\_SIZE(mem\_cgroup\_files));  
}

+static void mem\_cgroup\_move\_task(struct cgroup\_subsys \*ss,  
+ struct cgroup \*cont,  
+ struct cgroup \*old\_cont,  
+ struct task\_struct \*p)  
+{  
+ struct mm\_struct \*mm;  
+ struct mem\_cgroup \*mem, \*old\_mem;  
+  
+ mm = get\_task\_mm(p);  
+ if (mm == NULL)  
+ return;  
+  
+ mem = mem\_cgroup\_from\_cont(cont);  
+ old\_mem = mem\_cgroup\_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_cgroup, mem);
+ css_put(&old_mem->css);
+
+out:
+ mmput(mm);
+ return;
+}
+
+struct cgroup_subsys mem_cgroup_subsys = {
+    .name = "memory",
+    .subsys_id = mem_cgroup_subsys_id,
+    .create = mem_cgroup_create,
+    .destroy = mem_cgroup_destroy,
+    .populate = mem_cgroup_populate,
+    .attach = mem_cgroup_move_task,
+    .early_init = 1,
+};
```

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