
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>

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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