Subject: [RFC][PATCH] memory controller per zone patches take 2 [5/10] calculate active/inactive balance for
Posted by KAMEZAWA Hiroyuki on Fri, 16 Nov 2007 10:21:49 GMT
View Forum Message <> Reply to Message

Define function for determining active/inactive balance in memory
cgroup.
 * just use res.usage as total value and assumes total = active + inactive.
 * and yes, we can use mem_cgroup_get_all_zonestat(mem, MEM_CGROUP_ZSTAT_ACTIVE)

Signed-off-by: KAMEZAWA Hiroyuki <kamezawa.hiroyu@jp.fujitsu.com>

 include/linux/memcontrol.h | 8 ++++++++
 mm/memcontrol.c | 16 ++++++++++++++++
 2 files changed, 24 insertions(+)

Index: linux-2.6.24-rc2-mm1/mm/memcontrol.c
===
--- linux-2.6.24-rc2-mm1.orig/mm/memcontrol.c
+++ linux-2.6.24-rc2-mm1/mm/memcontrol.c
@@ -435,6 +435,22 @@ int mem_cgroup_calc_mapped_ratio(struct
  rss = mem_cgroup_read_stat(&mem->stat, MEM_CGROUP_STAT_RSS);
  return (rss * 100) / total;
 }
+/*
+ * Uses mem_cgroup's imbalance instead of zone's lru imbalance.
+ * This will be used for determining whether page out routine try to free
+ * mapped pages or not.
+ */
+int mem_cgroup_reclaim_imbalance(struct mem_cgroup *mem)
+{
+ s64 total, active, inactive;
+
+ /* usage is recorded in bytes */
+ total = mem->res.usage >> PAGE_SHIFT;
+ inactive = mem_cgroup_get_all_zonestat(mem, MEM_CGROUP_ZSTAT_INACTIVE);
+ active = total - inactive;
+
+ return active / (inactive + 1);
+}

 unsigned long mem_cgroup_isolate_pages(unsigned long nr_to_scan,
      struct list_head *dst,
Index: linux-2.6.24-rc2-mm1/include/linux/memcontrol.h
===
--- linux-2.6.24-rc2-mm1.orig/include/linux/memcontrol.h
+++ linux-2.6.24-rc2-mm1/include/linux/memcontrol.h
@@ -65,6 +65,8 @@ extern void mem_cgroup_page_migration(st

```
  * For memory reclaim.
  */
 extern int mem_cgroup_calc_mapped_ratio(struct mem_cgroup *mem);
+extern int mem_cgroup_reclaim_imbalance(struct mem_cgroup *mem);
+


 #else /* CONFIG_CGROUP_MEM_CONT */
@@ -142,6 +144,12 @@ static inline int mem_cgroup_calc_mapped
 {
  return 0;
 }
+
+static inline int mem_cgroup_reclaim_imbalance(struct mem_cgroup *mem)
+{
+ return 0;
+}
+
 #endif /* CONFIG_CGROUP_MEM_CONT */

 #endif /* _LINUX_MEMCONTROL_H */
```
