
Subject: [PATCH -RSS 2/2] Fix limit check after reclaim
Posted by [Balbir Singh](#) on Mon, 04 Jun 2007 15:33:04 GMT
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This patch modifies the reclaim behaviour such that before calling the container out of memory routine, it checks if as a result of the reclaim (even though pages might not be fully reclaimed), the resident set size of the container decreased before declaring the container as out of memory

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

```
include/linux/res_counter.h | 23 ++++++
mm/rss_container.c          | 11 ++++++
2 files changed, 34 insertions(+)
```

```
diff -puN mm/rss_container.c~rss-fix-limit-check-after-reclaim mm/rss_container.c
--- linux-2.6.22-rc2-mm1/mm/rss_container.c~rss-fix-limit-check-after-reclaim 2007-06-04
20:13:40.000000000 +0530
+++ linux-2.6.22-rc2-mm1-balbir/mm/rss_container.c 2007-06-04 20:13:40.000000000 +0530
@@ -114,6 +114,17 @@ int container_rss_prepare(struct page *p
    continue;
}
```

```
+ /*
+  * try_to_free_pages() might not give us a full picture
+  * of reclaim. Some pages are reclaimed and might be moved
+  * to swap cache or just unmapped from the container.
+  * Check the limit again to see if the reclaim reduced the
+  * current usage of the container before calling the
+  * container OOM routine
+  */
+ if (res_counter_check_under_limit(&rss->res))
+   continue;
```

```
+
+   container_out_of_memory(rss);
+   if (test_thread_flag(TIF_MEMDIE))
+     goto out_charge;
```

```
diff -puN include/linux/res_counter.h~rss-fix-limit-check-after-reclaim include/linux/res_counter.h
--- linux-2.6.22-rc2-mm1/include/linux/res_counter.h~rss-fix-limit-check-after-reclaim 2007-06-04
20:13:40.000000000 +0530
+++ linux-2.6.22-rc2-mm1-balbir/include/linux/res_counter.h 2007-06-04 20:15:46.000000000
+0530
@@ -99,4 +99,27 @@ int res_counter_charge(struct res_counte
void res_counter_uncharge_locked(struct res_counter *cnt, unsigned long val);
void res_counter_uncharge(struct res_counter *cnt, unsigned long val);
```

```
+static inline bool res_counter_limit_check_locked(struct res_counter *cnt)
```

```

+{
+ if (cnt->usage < cnt->limit)
+ return true;
+
+ return false;
+}
+
+/*
+ * Helper function to detect if the container is within it's limit or
+ * not. It's currently called from container_rss_prepare()
+ */
+static inline bool res_counter_check_under_limit(struct res_counter *cnt)
+{
+ bool ret;
+ unsigned long flags;
+
+ spin_lock_irqsave(&cnt->lock, flags);
+ ret = res_counter_limit_check_locked(cnt);
+ spin_unlock_irqrestore(&cnt->lock, flags);
+ return ret;
+}
+
+#endif
diff -puN mm/vmscan.c~rss-fix-limit-check-after-reclaim mm/vmscan.c

```

Warm Regards,
 Balbir Singh
 Linux Technology Center
 IBM, ISTL

Containers mailing list
Containers@lists.linux-foundation.org
<https://lists.linux-foundation.org/mailman/listinfo/containers>
