

---

Subject: [RFC PATCH 1/5] memcg VM overcommit documentation  
Posted by [Andrea Righi](#) on Mon, 09 Jun 2008 23:32:59 GMT  
[View Forum Message](#) <> [Reply to Message](#)

---

Documentation of the VM overcommit memory controller included in the generic memory controller documentation: basic description and usage.

Signed-off-by: Andrea Righi <[righi.andrea@gmail.com](mailto:righi.andrea@gmail.com)>

---

Documentation/controllers/memory.txt | 29 +++++  
1 files changed, 29 insertions(+), 0 deletions(-)

diff --git a/Documentation/controllers/memory.txt b/Documentation/controllers/memory.txt

index 866b9cd..e984bfb 100644

--- a/Documentation/controllers/memory.txt

+++ b/Documentation/controllers/memory.txt

@@ -12,6 +12,7 @@ c. Provides \*zero overhead\* for non memory controller users

d. Provides a double LRU: global memory pressure causes reclaim from the  
global LRU; a cgroup on hitting a limit, reclaims from the per  
cgroup LRU

+e. Provide distinct cgroup VM overcommit accounting and handling

NOTE: Swap Cache (unmapped) is not accounted now.

@@ -142,6 +143,31 @@ The reclaim algorithm has not been modified for cgroups, except that  
pages that are selected for reclaiming come from the per cgroup LRU  
list.

+2.5 VM overcommit accounting and handling

+

+The concept of committed VM is replicated within each cgroup as well as global  
+committed memory concept. Each cgroup can set its own overcommit policy using  
+the files:

+

+memory.overcommit\_memory

+memory.overcommit\_ratio

+

+These settings override the system sysctl settings (`vm.overcommit\_memory` and  
+`vm.overcommit\_ratio`) and they apply locally to the cgroup they refer.

+

+Global sysctl settings are initially used by the root level cgroups. Child  
+cgroups initially inherit the parent's settings. Each cgroup can change its own  
+overcommit parameters at any time simply modifying the files  
+`memory.overcommit\_memory` and/or `memory.overcommit\_ratio`.

+

+Statistics about the current committed space and limit are reported in  
+`memory.overcommit\_as` for each cgroup.

+

+Per-cgroup overcommit limit depends of the local cgroup overcommit settings and  
+memory limit (RSS + cache) imposed by the memory controller.  
+  
+See "Documentation/vm/overcommit-accounting" for additional details.

+  
2. Locking

The memory controller uses the following hierarchy  
@@ -230,6 +256,9 @@ carried forward. The pages allocated from the original cgroup still  
remain charged to it, the charge is dropped when the page is freed or  
reclaimed.

+The amount of the task's committed VM, instead, is uncharged from the old  
+cgroup and accounted to the newer.

+  
4.3 Removing a cgroup

A cgroup can be removed by rmdir, but as discussed in sections 4.1 and 4.2, a

--  
1.5.4.3

---

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

---