
Subject: [PATCH v2] cgroup: prefer [kv]zalloc[_node] over [kv]malloc+memset in memory controller code.

Posted by [Jesper Juhl](#) on Thu, 04 Nov 2010 20:17:27 GMT

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Hi,

In `mem_cgroup_alloc()` we currently do either `kmalloc()` or `vmalloc()` then followed by `memset()` to zero the memory. This can be more efficiently achieved by using `kzalloc()` and `vzalloc()`.

There's also one situation where we can use `kzalloc_node()` - this is what's new in this version of the patch.

The original patch was:

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Here's version 2. I'd appreciate it if someone could merge it, but I don't know who that someone would be.

Signed-off-by: Jesper Juhl <jj@chaosbits.net>

memcontrol.c | 9 +++-----

1 file changed, 3 insertions(+), 6 deletions(-)

diff --git a/mm/memcontrol.c b/mm/memcontrol.c

index 9a99cfa..4f4e676 100644

--- a/mm/memcontrol.c

+++ b/mm/memcontrol.c

@@ -4169,13 +4169,11 @@ static int alloc_mem_cgroup_per_zone_info(struct mem_cgroup *mem, int node)

*/

if (!node_state(node, N_NORMAL_MEMORY))

tmp = -1;

- pn = kmalloc_node(sizeof(*pn), GFP_KERNEL, tmp);

+ pn = kzalloc_node(sizeof(*pn), GFP_KERNEL, tmp);

if (!pn)

return 1;

mem->info.nodeinfo[node] = pn;

- memset(pn, 0, sizeof(*pn));

-

for (zone = 0; zone < MAX_NR_ZONES; zone++) {

mz = &pn->zoneinfo[zone];

```

    for_each_lru(l)
@@ -4199,14 +4197,13 @@ static struct mem_cgroup *mem_cgroup_alloc(void)

    /* Can be very big if MAX_NUMNODES is very big */
    if (size < PAGE_SIZE)
-   mem = kmalloc(size, GFP_KERNEL);
+   mem = kzalloc(size, GFP_KERNEL);
    else
-   mem = vmalloc(size);
+   mem = vzalloc(size);

    if (!mem)
        return NULL;

-   memset(mem, 0, size);
    mem->stat = alloc_percpu(struct mem_cgroup_stat_cpu);
    if (!mem->stat) {
        if (size < PAGE_SIZE)

```

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