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

Posted by [Jesper Juhl](#) on Mon, 01 Nov 2010 19:59:13 GMT

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On Mon, 1 Nov 2010, Johannes Weiner wrote:

> On Mon, Nov 01, 2010 at 08:40:56PM +0100, Jesper Juhl wrote:
> > Hi (please CC me on replies),
> >
> >
> > Apologies to those who receive this multiple times. I screwed up the To:
> > field in my original mail :-(
> >
> >
> > In mem_cgroup_alloc() we currently do either kcalloc() or vmalloc() then
> > followed by memset() to zero the memory. This can be more efficiently
> > achieved by using kcalloc() and vcalloc().
> >
> >
> > Signed-off-by: Jesper Juhl <jj@chaosbits.net>
>
> Looks good to me, but there is also the memset after kcalloc in
> alloc_mem_cgroup_per_zone_info().

Dang, I missed that one. Thanks for pointing it out.

Hmm, I'm wondering if we should perhaps add kcalloc_node()/vcalloc_node()
just like kcalloc() and vcalloc()..

> Can you switch that over as well in
> this patch? You can pass __GFP_ZERO to kcalloc_node() for zeroing.
>

Sure thing.

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..bc32ffe 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 = kmalloc_node(sizeof(*pn), GFP_KERNEL|__GFP_ZERO, 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)

```

--
Jesper Juhl <jj@chaosbits.net> <http://www.chaosbits.net/>
Plain text mails only, please <http://www.expita.com/nomime.html>
Don't top-post <http://www.catb.org/~esr/jargon/html/T/top-post.html>

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

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

Posted by [Johannes Weiner](#) on Mon, 01 Nov 2010 20:01:22 GMT

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On Mon, Nov 01, 2010 at 08:40:56PM +0100, Jesper Juhl wrote:

> Hi (please CC me on replies),

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>

> 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()`.

>

>

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

Looks good to me, but there is also the `memset` after `kmalloc` in
`alloc_mem_cgroup_per_zone_info()`. Can you switch that over as well in
this patch? You can pass `__GFP_ZERO` to `kmalloc_node()` for zeroing.

Thanks!

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