Since Kame expressed the wish to see a context-based method to skip accounting for caches, I came up with the following proposal for your appreciation.

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However:

* It touches task_struct
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Let me know what you think of it.

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CC: Christoph Lameter <cl@linux.com>
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CC: Johannes Weiner <hannes@cmpxchg.org>
CC: Suleiman Souhlal <suleiman@google.com>
---

diff --git a/include/linux/sched.h b/include/linux/sched.h
index 81a173c..516a9fe 100644
--- a/include/linux/sched.h
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@@ -1613,6 +1613,7 @@ struct task_struct {
     unsigned long nr_pages; /* uncharged usage */
 };
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} memcg_batch;
+int memcg_kmem_skip_account;
#endif
#endif CONFIG_HAVE_HW_BREAKPOINT
atomic_t ptrace_bp_refcnt;

diff --git a/mm/memcontrol.c b/mm/memcontrol.c
index 8c7c404..833f4cd 100644
--- a/mm/memcontrol.c
+++ b/mm/memcontrol.c
@@ -479,6 +479,33 @@ struct cg_proto *tcp_proto_cgroup(struct mem_cgroup *memcg)
 EXPORT_SYMBOL(tcp_proto_cgroup);
 #endif /* CONFIG_INET */

+static void memcg_stop_kmem_account(void)
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+return;
+ +
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+return;
+ +
+p = rcu_dereference(current->mm->owner);
+if (p) {
+p->memcg_kmem_skip_account = false;
+task_unlock(p);
+}
+
+char *mem_cgroup_cache_name(struct mem_cgroup *memcg, struct kmem_cache *cachep)
{
 char *name;
@@ -541,7 +568,9 @@ static struct kmem_cache *memcg_create_kmem_cache(struct mem_cgroup *memcg,
 if (new_cachep)
goto out;
Subject: Re: [RFC] alternative mechanism to skip memcg kmem allocations  
Posted by Suleiman Souhlal on Tue, 08 May 2012 20:47:02 GMT

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On Mon, May 7, 2012 at 8:37 PM, Glauber Costa <glommer@parallels.com> wrote:
> Since Kame expressed the wish to see a context-based method to skip
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I like this idea a lot.

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> ---
> include/linux/sched.h | 1 +
> mm/memcontrol.c | 34 ++++++++++++++++++++++++++++++++++
> 2 files changed, 35 insertions(+), 0 deletions(-)
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This doesn't seem right. The flag has to be set on current, not on another task, or weird things will happen (like the flag getting lost).

Also, we might want to make it a count instead of a boolean, so that it's possible to nest it.

-- Suleiman

---

Subject: Re: [RFC] alternative mechanism to skip memcg kmem allocations
Posted by Glauber Costa on Tue, 08 May 2012 20:48:08 GMT

On 05/08/2012 05:47 PM, Suleiman Souhlal wrote:
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    p->memcg_kmem_skip_account = true;
}

This doesn't seem right. The flag has to be set on current, not on
another task, or weird things will happen (like the flag getting
lost).

Won't get lost if changed to a counter, as you suggested.

As for another task, in follow up patches I will make cache selection
based on charges based on mm->owner, instead of current. That's why I
did it based on mm->owner.

But thinking again, here, it is somewhat different, who are we charging
too doesn't matter that much: what really matters is in which piece of
code we're in, so current makes more sense...

will update it.

Also, we might want to make it a count instead of a boolean, so that
it's possible to nest it.
but do we want to nest it?