Subject: Re: [PATCH 04/10] memcg: Introduce __GFP_NOACCOUNT.
Posted by KAMEZAWA Hiroyuki on Thu, 01 Mar 2012 00:10:44 GMT
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On Wed, 29 Feb 2012 11:09:50 -0800
Suleiman Souhlal <suleiman@google.com> wrote:

> On Tue, Feb 28, 2012 at 10:00 PM, KAMEZAWA Hiroyuki
> <kamezawa.hiroyu@jp.fujitsu.com> wrote:
> > On Mon, 27 Feb 2012 14:58:47 -0800
> > Suleiman Souhlal <ssouhlal@FreeBSD.org> wrote:
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For example, tcp buffer limiting has another logic for buffer size controling.
AND, most of kernel pages are not reclaimable at all.
I think you should start from reclaimable caches as dcache, icache etc.

If you want to use this wider, you can discuss

+ #define GFP_KERNEL (.....| ___GFP_ACCOUNT)

in future. I'd like to see small start because memory allocation failure
is always terrible and make the system unstable. Even if you notify
"Ah, kernel memory allocation failed because of memory.limit? and
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The user can't do anything because he can't create any new task because of OOM.

The system will be being unstable until an admin, who is not under any limit,
tweaks something or reboot the system.

Please do small start until you provide Eco-System to avoid a case that
the admin cannot login and what he can do was only reboot.

Thanks,
-Kame

Subject: Re: [PATCH 04/10] memcg: Introduce __GFP_NOACCOUNT.
Posted by Glauber Costa on Thu, 01 Mar 2012 00:24:11 GMT
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On 02/29/2012 09:10 PM, KAMEZAWA Hiroyuki wrote:
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Having the root cgroup to be always unlimited should already take care
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Subject: Re: [PATCH 04/10] memcg: Introduce __GFP_NOACCOUNT.
Posted by KAMEZAWA Hiroyuki on Thu, 01 Mar 2012 06:05:37 GMT
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On Wed, 29 Feb 2012 21:24:11 -0300
Glauber Costa <glommer@parallels.com> wrote:

> On 02/29/2012 09:10 PM, KAMEZAWA Hiroyuki wrote:
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Subject: Re: [PATCH 04/10] memcg: Introduce __GFP_NOACCOUNT.
Posted by Glauber Costa on Sat, 03 Mar 2012 14:22:08 GMT
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On 03/01/2012 03:05 AM, KAMEZAWA Hiroyuki wrote:
> On Wed, 29 Feb 2012 21:24:11 -0300
> Glauber Costa<glommer@parallels.com> wrote:
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>> On 02/29/2012 09:10 PM, KAMEZAWA Hiroyuki wrote:
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To be fair, I think this may be unavoidable. Even if we are only dealing with reclaimable slabs, having reclaimable slabs doesn't mean they are always reclaimable. Unlike user memory, that we can swap at will (unless mlock'd, but that is a different issue), we can have so many objects locked, that reclaim is effectively impossible. And with the right pattern, that may not even need to be that many: all one needs to do, is figure out a way to pin one object per slab page, and that's it: you'll never get rid of them.

So although obviously being nice making sure we did everything we could to recover from oom scenarios, once we start tracking kernel memory, this may not be possible. So the whole point for me, is guaranteeing that one container cannot destroy the others - which is the reality if one of them can go an grab all kmem =p

That said, I gave this an extra thought. GFP flags are in theory targeted at a single allocation. So I think this is wrong. We either track or not a cache, not an allocation. Once we decided that a cache should be tracked, it should be tracked and end of story.

So how about using a SLAB flag instead?

Subject: Re: [PATCH 04/10] memcg: Introduce __GFP_NOACCOUNT.
Posted by Suleiman Souhlal on Sat, 03 Mar 2012 16:38:06 GMT
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On Sat, Mar 3, 2012 at 6:22 AM, Glauber Costa <glommer@parallels.com> wrote:
> On 03/01/2012 03:05 AM, KAMEZAWA Hiroyuki wrote:
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The reason I had to make it a GFP flag in the first place is that
there are some allocations that we really do not want to track that
are in slabs we generally want accounted: We have to do some slab
allocations while we are in the slab accounting code (for the cache
name or when enqueuing a memcg kmem_cache to be created, both of which
are just regular kmallocs, I think).
Another possible example might be the skb data, which are just kmalloc
and are already accounted by your TCP accounting changes, so we might
not want to account them a second time.

-- Suleiman
