Subject: [PATCH 0/4] kmem memcg proposed core changes
Posted by Glauber Costa on Fri, 08 Jun 2012 09:43:17 GMT
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Hello all,

So after thinking a lot about the last round of kmem memcg patches, this
is what I managed to come up with. I am not sending the whole series for two
reasons:

1) It still have a nasty destruction bug, and a slab heisenbug (slub seems to be
   working as flawlessly as before), and I'd like to gather your comments early
   on this approach

2) The rest of the series doesn't change *that* much. Most patches are to some
   extent touched, but it's mainly to adapt to those four, which I consider to
   the the core changes between last series. So you can focus on these, and not
   be distracted by the surrounding churn.

The main difference here is that as suggested by Cristoph, I am hooking at the
page allocator. It is, indeed looser than before. But I still keep objects from
the same cgroup in the same page most of the time. I guarantee that by using the
same dispatch mechanism as before to select a particular per-memcg cache, but I
now assume the process doing the dispatch will be the same doing the page
allocation.

The only situation this does not hold true, is when a task moves cgroup
between those two events. So first of all, this is fixable. One can have a
reaper, a check while moving, a match check after the page is allocated. But
also, this is the kind of loose accounting I don't care too much about, since
this is expected to be a rare event, one I particularly don't care about, and
more importantly, it won't break anything.

Let me know what you people think of this approach. In terms of meddling with
the internals of the caches, it is way less invasive than before.

Glauber Costa (4):
  memcg: kmem controller dispatch infrastructure
  Add a __GFP_SLABMEMCG flag
  don't do __ClearPageSlab before freeing slab page.
  mm: Allocate kernel pages to the right memcg

 include/linux/gfp.h | 4 +-
 include/linux/memcontrol.h | 72 +++++++++
 include/linux/page-flags.h | 2 +-
 include/linux/slub_def.h | 15 +-
 init/Kconfig | 2 +-
 mm/memcontrol.c | 358 ++-

```
 mm/page_alloc.c          |   16 +-
 mm/slab.c                |    9 +-
 mm/slob.c                |    1 -
 mm/slub.c                |    2 +-
 10 files changed, 464 insertions(+), 17 deletions(-)

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1.7.10.2
```
