Subject: Re: containers (was Re: -mm merge plans for 2.6.23)
Posted by Srivatsa Vaddagiri on Wed, 11 Jul 2007 13:14:05 GMT
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On Wed, Jul 11, 2007 at 01:30:40PM +0200, Peter Zijlstra wrote:
> > One thing to think on though, we cannot have per process,uid,gid,pgrp
> > scheduling for one release only. So we'd have to manage interaction with
> > process containers. It might be that a simple weight multiplication
> > scheme is good enough:
> >
> > weight = uid_weight * pgrp_weight * container_weight

We would need something like this to flatten hierarchy, so that for
example it is possible to do fair-container scheduling +
fair-user/process scheduling inside a container using a hierarchy depth of
just 1 (containers) that core scheduler understands. We discussed this a bit at
http://marc.info/?l=linux-kernel&m=118054481416140&w=2 and is very much
on my todo list to experiment with.

> > Of course, if we'd only have a single level group scheduler (as was
> > proposed IIRC) it'd have to create intersection sets (as there might be
> > non trivial overlaps) based on these various weights and schedule these
> > resulting sets instead of the initial groupings.
>
> Lets illustrate with some ASCII art:
>
> so we have this dual level weight grouping (uid, container)
>
> uid: a a a a a b b b b b c c c c c
> container: A A A A A A A B B B B B B B B
>
> set: 1 1 1 1 1 2 2 3 3 3 4 4 4 4 4
>
> resulting in schedule sets 1,2,3,4

Wouldn't it be simpler if admin created these sets as containers
directly? i.e:

uid: a a a a a b b b b b c c c c c
container: 1 1 1 1 1 2 2 3 3 3 4 4 4 4 4

That way scheduler will not have to "guess" such intersecting schedulable
sets/groups. It seems much simpler to me this way.

Surely there is some policy which is driving some tasks of userid
'b' to be in container A and some to be in B. It should be trivial
enough to hook onto that policy making script and create separate

containers like above.

> so that (for instance) weight_2 = weight_b * weight_A

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Regards,
vatsa

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