
Subject: Re: [ckrm-tech] [PATCH] BC: resource beancounters (v4) (added user memory)

Posted by [Chandra Seetharaman](#) on Wed, 13 Sep 2006 22:31:04 GMT

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On Wed, 2006-09-13 at 12:06 +0400, Pavel Emelianov wrote:

> Chandra Seetharaman wrote:

> > On Tue, 2006-09-12 at 14:48 +0400, Pavel Emelianov wrote:

> > <snip>

> >

> >>> I do not think it is that simple since

> >>> - there is typically more than one class I want to set guarantee to

> >>> - I will not able to use both limit and guarantee

> >>> - Implementation will not be work-conserving.

> >>>

> >>> Also, How would you configure the following in your model ?

> >>>

> >>> 5 classes: Class A(10, 40), Class B(20, 100), Class C (30, 100), Class D

> >>> (5, 100), Class E(15, 50); (class_name(guarantee, limit))

> >>>

> >>>

> >> What's the total memory amount on the node? Without it it's hard to make

> >> any

> >> guarantee.

> >>

> >

> > I wrote the example treating them as %, so 100 would be the total amount

> > of memory.

> >

> OK. Then limiting must be done this way (unreclaimable limit/total limit)

> A (15/40)

> B (25/100)

> C (35/100)

> D (10/100)

> E (20/50)

> In this case each group will receive it's guarantee for sure.

>

> E.g. even if A, B, E and D will eat all it's unreclaimable memory then

> we'll have

> $100 - 15 - 25 - 20 - 10 = 30\%$ of memory left (maybe after reclaiming) which

> is perfectly enough for C's guarantee.

How did you arrive at the +5 number ?

What if I have 40 containers each with 2% guarantee ? what do we do then ? and many other different combinations (what I gave was not the _only_ scenario).

> >
> >>> "Limit only" approach works for DoS prevention. But for providing QoS
> >>> you would need guarantee.
> >>>
> >>>
> >> You may not provide guarantee on physical resource for a particular group
> >> without limiting its usage by other groups. That's my major idea.
> >>
> >
> > I agree with that, but the other way around (i.e provide guarantee for
> > everyone by imposing limits on everyone) is what I am saying is not
> > possible.
> Then how do you make sure that memory WILL be available when the group needs
> it without limiting the others in a proper way?

You could limit others only if you _know_ somebody is not getting what
they are supposed to get (based on guarantee).

>
> -----
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Chandra Seetharaman | Be careful what you choose....
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