Subject: Re: [ckrm-tech] Re: [PATCH] BC: resource beancounters (v4) (added user memory)
Posted by Chandra Seetharaman on Tue, 19 Sep 2006 00:02:27 GMT
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On Sat, 2006-09-16 at 01:21 +0400, Kir Kolyshkin wrote:
> Rohit Seth wrote:
> > On Fri, 2006-09-15 at 13:26 +0400, Kirill Korotaev wrote:
> >
> > <...skipped...>
> >
> >> for VMware which can reserve required amount of RAM for VM.
> >>
> >
> > It is much easier to provide guarantees in complete virtual
> > environments. But then you pay the cost in terms of performance.
> >
> "Complete virtual environments" vs. "contaners" is not [only] about
> performance! In the end, given a proper set of dirty and no-so-dirty
> hacks in software and hardware, their performance will be close to native.
>
> Containers vs. other virtualization types is more about utilization,
> density, scalability, portability.
>
> Speaking of guarantees, yes, guarantees is easy, you just reserve such
> amount of RAM for your VM and that is all. But the fact is usually some
> part of that RAM will not be utilized by this particular VM. But since
> it is reserved, it can not be utilized by other VMs -- and we end up
> just wasting some resources. Containers, given a proper resource
> management and configuration, can have some guarantees and still be able
> to utilize all the RAM available in the system. This difference can be
> metaphorically expressed as a house divided into rooms. Dividing walls
> can either be hard or flexible. With flexible walls, room (container)
> owner have a guarantee of minimal space in your room, but if a few
> guests come for a moment, the walls can move to make more space (up to
> the limit). So the flexibility is measured as the delta between a
> guarantee and a limit.
>
> This flexibility leads to higher utilization, and this flexibility is
> one of the reasons for better density (a few times higher than that of a
> paravirtualization solution).
>
> I will not touch scalability and portability topics here to make things
> simpler.
> > I think we should punt on hard guarantees and fractions for the first
> > draft. Keep the implementation simple.
> >
> Do I understand it right that with hard guarantees we loose the

> flexibility I have just described? If this is the case, I do not like it.
>

If I understand your description correctly (describing flexibility to be
the ability to move the resource usage between guarantee and limit),
then NO, you will not loose that flexibility.

> -- -------------
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> _____
> ckrm-tech mailing list
> https://lists.sourceforge.net/lists/listinfo/ckrm-tech
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  Chandra Seetharaman | Be careful what you choose....
        - sekharan@us.ibm.com | ....you may get it.
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