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Subject: Re: [RFC PATCH 0/5] memcg: VM overcommit accounting and handling  
Posted by [KAMEZAWA Hiroyuki](#) on Tue, 10 Jun 2008 00:14:27 GMT  
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On Tue, 10 Jun 2008 01:32:58 +0200  
Andrea Righi <[righi.andrea@gmail.com](mailto:righi.andrea@gmail.com)> wrote:

>  
> Provide distinct cgroup VM overcommit accounting and handling using the memory  
> resource controller.  
>

Could you explain the benefits of this even when we have memrlimit controller ?  
(If unsure, see 2.6.26-rc5-mm1 and search memrlimit controller.)

And this kind of virtual-address-handling things should be implemented on  
memrlimit controller (means not on memory-resource-controller.).  
It seems this patch doesn't need to handle page\_group.

Considering hierarchy, putting several kinds of features on one controller is  
not good, I think. Balbir, how do you think ?

Thanks,  
-Kame

> Patchset against latest Linus git tree.  
>  
> This patchset allows to set different per-cgroup overcommit rules and,  
> according to them, it's possible to return a memory allocation failure (ENOMEM)  
> to the applications, instead of always triggering the OOM killer via  
> mem\_cgroup\_out\_of\_memory() when cgroup memory limits are exceeded.  
>  
> Default overcommit settings are taken from vm.overcommit\_memory and  
> vm.overcommit\_ratio sysctl values. Child cgroups initially inherits the VM  
> overcommit parent's settings.  
>  
> Cgroup overcommit settings can be overridden using memory.overcommit\_memory and  
> memory.overcommit\_ratio files under the cgroup filesystem.  
>  
> For example:  
>  
> 1. Initialize a cgroup with 50MB memory limit:  
> # mount -t cgroup none /cgroups -o memory  
> # mkdir /cgroups/0  
> # /bin/echo \$\$ > /cgroups/0/tasks  
> # /bin/echo 50M > /cgroups/0/memory.limit\_in\_bytes  
>

> 2. Use the "never overcommit" policy with 50% ratio:  
> # /bin/echo 2 > /cgroups/0/memory.overcommit\_memory  
> # /bin/echo 50 > /cgroups/0/memory.overcommit\_ratio  
>  
> Assuming we have no swap space, cgroup 0 can allocate up to 25MB of virtual  
> memory. If that limit is exceeded all the further allocation attempts made by  
> userspace applications will receive a -ENOMEM.  
>  
> 4. Show committed VM statistics:  
> # cat /cgroups/0/memory.overcommit\_as  
> CommitLimit: 25600 kB  
> Committed\_AS: 9844 kB  
>  
> 5. Use "always overcommit":  
> # /bin/echo 1 > /cgroups/0/memory.overcommit\_memory  
>  
> This is very similar to the default memory controller configuration: overcommit  
> is allowed, but when there's no more available memory oom-killer is invoked.  
>  
> TODO:  
> - shared memory is not taken in account (i.e. files in tmpfs)  
>  
> -Andrea  
> --  
> To unsubscribe from this list: send the line "unsubscribe linux-kernel" in  
> the body of a message to majordomo@vger.kernel.org  
> More majordomo info at <http://vger.kernel.org/majordomo-info.html>  
> Please read the FAQ at <http://www.tux.org/lkml/>  
>

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Subject: Re: [RFC PATCH 0/5] memcg: VM overcommit accounting and handling  
Posted by [Balbir Singh](#) on Tue, 10 Jun 2008 05:13:23 GMT  
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KAMEZAWA Hiroyuki wrote:  
> On Tue, 10 Jun 2008 01:32:58 +0200  
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> not good, I think. Balbir, how do you think ?  
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I would tend to agree. With the memrlimit controller, can't we do this in user space now? Figure out the overcommit value and based on that setup the memrlimit?

--

Warm Regards,  
Balbir Singh  
Linux Technology Center  
IBM, ISTL

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Subject: Re: [RFC PATCH 0/5] memcg: VM overcommit accounting and handling  
Posted by [Pavel Emelianov](#) on Tue, 10 Jun 2008 07:52:25 GMT  
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Balbir Singh wrote:

> KAMEZAWA Hiroyuki wrote:  
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> space now? Figure out the overcommit value and based on that setup the memrlimit?

I also agree with Balbir and Kamezawa. Separate controller for VM (i.e. vma-s lengths) is more preferable, rather than yet another fancy feature on top of the existing rss one.

---

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Subject: Re: [RFC PATCH 0/5] memcg: VM overcommit accounting and handling  
Posted by [Andrea Righi](#) on Tue, 10 Jun 2008 08:30:29 GMT  
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Pavel Emelyanov wrote:

> Balbir Singh wrote:  
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> I also agree with Balbir and Kamezawa. Separate controller for VM (i.e. vma-s  
> lengths) is more preferable, rather than yet another fancy feature on top of  
> the existing rss one.  
>

Yep! it seems I totally miss the memrlimit controller. I was trying to implement pretty the same functionalities, using a different approach. However, I agree that a separate controller seems to be a better

solution.

Thank you all for pointing in the right direction. I'll test memrlimit controller and give a feedback.

-Andrea

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