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Subject: Re: Measuring and Adjusting CPU utilization  
Posted by [Pradeep Padala](#) on Wed, 07 Jun 2006 00:33:23 GMT  
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On 6/6/06, Kir Kolyshkin <[kir@openvz.org](mailto:kir@openvz.org)> wrote:

>  
> CPU limit is in per cent units. I.e. if your server has a single CPU,  
> use --cpulimit 10 to limit a VE to 10% of the CPU.  
>  
> On a two-way SMP box max. value of cpulimit is 200. Say, if you want a  
> VE to use no more than one CPUs, use --cpulimit 100.

Thanks ! This solved the problem. However, I still see the loadavg at 100% (got from cat /proc/loadavg), but if I run top and see the CPU% for the one particular application (while(1) loop), it is limited to 10% CPU.

I can add up the CPU% for all the processes running in the container, and can get the current % utilization of the container. Is there a better way to do this?

Pradeep

Pradeep Padala wrote:

>  
>> Thanks for the explanation, but I DID use the --cpulimit parameter.  
>>  
>> I set the limit to 1000 units, I run a while(1) loop, and I see a 100%  
>> loadavg on the host node. Shouldn't it be somewhere around 10% ?  
>>  
>> Pradeep  
>>  
>> On 6/6/06, \*Kir Kolyshkin\* <[kir@openvz.org](mailto:kir@openvz.org) <<mailto:kir@openvz.org>>>  
>> wrote:  
>>  
>> Looks like you misunderstand the concept of cpuunits. cpuunits is  
>> not a  
>> hard limit, but just a suggestion, and a CPU time is shared  
>> proportionally to the values given. So, if you will have 9 VEs and  
> the  
>> host system with cpuunits set to 1000 for all of them, and run the  
>> loop  
>> in all of them, each VE will use 10% of the CPU time.  
>>  
>> In case you will stop the loop running in 5 VEs so there will be 4  
>> such

>> VEs (plus the host system) left, each of them will use 20% of the  
> CPU.

>> So, all the CPU time is distributed between VEs which will need it,  
>> according with their proportional cpuunits.

>>

>> More to say, the concept of "total CPU units" is purely fiction,  
>> and is  
>> here just for the convenience. People do want to set CPU units is  
>> terms  
>> of processor's megahertz, and this is what cpuunits does. But in  
>> fact it  
>> is not a megahertz but just a relative weights. I.e. all the  
> cpuunits  
>> values are relative to each other, it doesn't matter what the actual  
>> numbers are -- what matters is a number given to a VE in relation  
>> to the  
>> sum of all cpuweights (which is expressed as "total CPU units"  
>> just for  
>> the convenience).

>>

>> So, cpuunits, if you do not oversell them, are a CPU guarantee, not  
> a  
>> limit. If you want CPU limit -- use cpulimit parameter.

>>

>> Pradeep Padala wrote:

>>

>> > Hi,  
>> >  
>> > I am trying to measure the CPU utilization of the VZ  
>> containers, and  
>> > change the cpu share dynamically. I have poured over most of the  
>> > documentation, and looked at the code as well, and it seems like  
>> > there's no utility that can directly show the current CPU  
>> utilization  
>> > of a container (some thing like 30% of CPU). A search on the  
>> user list  
>> > got me a message, where someone suggested using loadavg.  
>> However, it  
>> > seems like the loadavg is not showing the proper utilization (or  
>> > showing the total CPU utilization). This is what I am doing.  
>> >  
>> > I setup a container with 1000 units limit (total CPU units:  
>> ~10000). I  
>> > wrote a small do {; }while(1); loop and ran it in the container,  
>> now I  
>> > do cat /proc/loadavg in both the container and on the host node.  
>> > Since, the container is only using 1000 units, I should see  
>> something

> > > like 100% loadavg in the container, and 10% loadavg in the  
> hostnode.  
> > > But, I see 100% at both places. Am I doing something wrong? How do  
> I  
> > > get the current cpu utilization of a container?  
> > >  
> > > Thanks,  
>  
>

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