Subject: How fine virtualization could openvz do?
Posted by thepontifex on Mon, 03 Jul 2006 12:05:55 GMT
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Hello together,

i read much docs about openvz in the last days and i test it currently with fedora c4 on the VE0 and fedora c5 at the ve's.
My hostsystem is an AMD 64 3800+ with 2GB RAM and 40 GB harddisk memory.

I read about the scalability of the VE's but one point is not clear for me:

Is it possible to simulate a specific hardware layout, for example each VE is a 100MHz CPU with 32 MB RAM and 1000 MB disk space?

The diskspace is no problem, for that i could use quota, but the rest?

Greetz
Frank

Subject: Re: How fine virtualization could openvz do?
Posted by kir on Mon, 03 Jul 2006 12:19:47 GMT
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For the CPU side, you assign different cpuunits values to different VEs, and they get their CPU shares according to their cpuunits. That means a VE can have up to 100% of the CPU if nobody else is using it; in case more than one VE is using a CPU, CPU time will be distributed in proportions to VE's cpuunits.

In case you want to have an upper limit on the CPU time a VE can have, use cpulimit option. But this is not really needed, since OpenVZ CPU scheduler is "fair" ... so the only time you need this cpulimit is when you want to simulate a slow machine or smth like this.

For the RAM side, it is not that straightforward, since RAM is used for a lot of different tasks. In short, RAM available for a VE is regulated by a set of so called User Beancounters. For more info, search this forum for user beancounters (or UBC), read OpenVZ user's guide, and check http://wiki.openvz.org/Resource_management

Subject: Re: How fine virtualization could openvz do?
Posted by thepontifex on Mon, 03 Jul 2006 15:19:09 GMT
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Quote:In case you want to have an upper limit on the CPU time a VE can have, use cpulimit option. But this is not really needed, since OpenVZ CPU scheduler is "fair" ... so the only time you

need this cpulimit is when you want to simulate a slow machine or smth like this.

Yes, but thats the point I want to know: can I use openvz to virtualize for example 5 slow mashine with 100 MHz cpu power and 32 MB RAM. I need an environment with mostly equal mashines, to simulate something. The number of mashines could be 5 or goes up to 100 so a hardware solution is not possible. Here comes the chance of openvz.

Regards
Frank

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Subject: Re: How fine virtualization could openvz do?
Posted by kir on Mon, 03 Jul 2006 15:43:44 GMT
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Yep, that could easily be done. By default all VEs have equal configurations and resource management params. Depending on the hardware, you can have up to several hundred "light" VEs on a single server.

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Subject: Re: How fine virtualization could openvz do?
Posted by thepontifex on Mon, 03 Jul 2006 15:59:03 GMT
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Quote:Depending on the hardware, you can have up to several hundred "light" VEs on a single server.

OK, but I only read about cpu time units or cpu time in percent. But how can I determine that the VE CPU has 100 MHz and not more. Or must I calculate:
Host 3800 MHz => 100 MHz = 2,631% cputime?

I don't think thats right?!

Greetz
Frank

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Subject: Re: How fine virtualization could openvz do?
Posted by kir on Mon, 03 Jul 2006 16:01:38 GMT
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You are totally right. Just note that if a server has more than one CPU, total value is more than 100% (say, 400% in case of 4-CPU box).

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