Subject: Can't start 5 processes each allocates 1G of VIRT memory, on OpenVZ with 2GB configured RAM.
Posted by mriadus on Sat, 19 Dec 2009 01:36:51 GMT
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Hello.

My laptop: 2G, linux gentoo, no swap.
OpenVZ (on big 16-CPU xeon-server): 2G, linux gentoo, no swap.

A little program for my experiment:

```
...
char *p = new char [ 1024 * 1024 * 500 ];
...
```

Compiled to "/tmp/AAAA".

Starting 5 instances on laptop:

```
xx@master1 ~/forge/cpp $ ps aux | grep AAAA
xx      22257  0.0  0.0 514700   856 pts/29   T    05:06   0:00 /tmp/AAAA
xx      22894  0.0  0.0 514700   852 pts/21   S+   05:06   0:00 /tmp/AAAA
xx      23200  0.0  0.0 514700   852 pts/44   S+   05:06   0:00 /tmp/AAAA
xx      23443  0.0  0.0 514700   852 pts/45   S+   05:06   0:00 /tmp/AAAA
xx      24023  0.0  0.0 514700   856 pts/56   S+   05:07   0:00 /tmp/AAAA
xx      24224  0.0  0.0 514700   852 pts/59   S+   05:07   0:00 /tmp/AAAA
```

(514700 = VIRT, 856 = RES)
As we can see, since am not using memory pages, it is available to allocate much more memory than we have physically.

The same experiment with OpenVZ has failed. I couldn't start more than ~2-3 instances of AAAA (limited by sum of their "VIRT"s). But ps's output for one instance of AAAA on OpenVZ is similar (in terms of VIRT and RES) to laptop's one:

```
xx   25554  0.0  0.0 523548  1024 pts/1    T    01:16   0:00 /tmp/AAAA
```

(VIRT=523548, RES=1024)

Interesting detail. Lets see to "htop" program. It has a general green "memory-meter" displaying amount of used memory, file cache etc... For laptop running one "AAAA" i can see that used memory increasing by AAAA's "RES" value (~1MB). But for OpenVZ i see increasing by ~500MB in this meter.

What parameters of OpenVZ resources limitation i should RTFM to allow processes have VIRTs

like on real laptop? Need this very much.)

Thank you!

Subject: Re: Can't start 5 processes each allocates 1G of VIRT memory, on OpenVZ with 2GB configured RAM.
Posted by maratrus on Sat, 26 Dec 2009 11:29:34 GMT
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Hello,

sorry for delay.

Firstly, I would recommend you to pay attention to "cat /proc/user_beancounters" output.
Increasing fail counters (the last column) indicate to resources that your system lack of at the moment.
To deeper investigate the issue please start with the following page.
http://wiki.openvz.org/User_beancounters
