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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!

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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](http://wiki.openvz.org/User_beancounters)

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