
Subject: Memory overflow in an OpenVZ VPS

Posted by [samuli.seppanen](#) on Wed, 26 Sep 2007 07:31:54 GMT

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Hello everybody!

I'm having problems with OpenVZ memory management. I have (probably) read all the Wiki articles there are that touch that subject, and browsed through the mailing list archives to no avail.

Most of my OpenVZ VPS'es work just fine after a bit of fiddling, but one of them is misbehaving constantly. It always runs out of memory, no matter how much I give it. It is running 10 instances of a same server to give better interactive responsiveness. I was just wondering if the server program is leaking memory and causing this erratic behavior, or if there is something wrong with my OpenVZ VPS's configuration.

The physical server runs only this one VPS. The hardware node has 2GB of RAM plus 2GB of swap. The VPS is given roughly 3.5GB of that if available (privvmpages limit). It is guaranteed 2.5GB (vmguarpages barrier). This is FAR more than the server software in question needs, but still it occasionally (and predictably) runs out of memory.

The strange thing about the VPS is that the HELD values in oomguarpages and privvmpages are much lower than the MAXHELD values - almost triple. There should be no usage peaks that should cause this kind of asymmetry, unless an instance of the server software goes amok.

The VPS's resource information is shown below. The parameters are not optimized, as you can see, but that not my biggest problem right now :). So can you see anything wrong with these settings, or should I take a look at the server software that is running on the VPS?

```
[root@VPS_NODE ~]# cat /proc/user_beancounters
```

Version: 2.5

| uid | resource | held | maxheld | barrier | limit | failcnt |
|------|--------------|----------|----------|-----------|------------|---------|
| 103: | kmemsize | 19265157 | 40765738 | 183079731 | 201387704 | 0 |
| | lockedpages | 0 | 0 | 8939 | 8939 | 0 |
| | privvmpages | 383368 | 930126 | 917504 | 930000 | 153 |
| | shmpages | 21647 | 24239 | 31099 | 31099 | 0 |
| | dummy | 0 | 0 | 0 | 0 | |
| | numproc | 229 | 524 | 8000 | 8000 | 0 |
| | physpages | 236810 | 485688 | 0 | 2147483647 | 0 |
| | vmguarpages | 0 | 0 | 655360 | 2147483647 | 0 |
| | oomguarpages | 382472 | 874046 | 310999 | 2147483647 | 0 |
| | numtcpsock | 532 | 793 | 8000 | 8000 | 0 |
| | numflock | 18 | 594 | 1000 | 1100 | 0 |
| | numpty | 1 | 4 | 512 | 512 | 0 |

| | | | | | | |
|--------------|---------|---------|----------|----------|---|--|
| numsiginfo | 0 | 39 | 1024 | 1024 | 0 | |
| tcpsndbuf | 3524644 | 4236356 | 28258577 | 61026577 | 0 | |
| tcprcvbuf | 3530300 | 6528712 | 28258577 | 61026577 | 0 | |
| othersockbuf | 190060 | 1737340 | 14129288 | 46897288 | 0 | |
| dgramrcvbuf | 0 | 41836 | 14129288 | 14129288 | 0 | |
| numothersock | 204 | 1169 | 8000 | 8000 | 0 | |
| dcachesize | 0 | 0 | 39977755 | 41177088 | 0 | |
| numfile | 11106 | 22346 | 71488 | 71488 | 0 | |
| dummy | 0 | 0 | 0 | 0 | 0 | |
| dummy | 0 | 0 | 0 | 0 | 0 | |
| dummy | 0 | 0 | 0 | 0 | 0 | |
| numiptent | 10 | 10 | 200 | 200 | 0 | |

[root@HOST_NODE ~]# free

| | total | used | free | shared | buffers | cached |
|--------------------|---------|---------|---------|--------|---------|--------|
| Mem: | 2073344 | 2017716 | 55628 | 0 | 66928 | 954828 |
| -/+ buffers/cache: | 995960 | 1077384 | | | | |
| Swap: | 2031608 | 586508 | 1445100 | | | |

Anyways, thanks for a great Open Source virtualization project!