Subject: can't allocate memory
Posted by sander19 on Mon, 23 Apr 2007 16:15:44 GMT
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I think I have something wrong, I'm constantly getting memory exhausted errors and stuff, can't allocated memory blabla.

I just try to do some silly commmands but all have too little memory.

I understood that the privvmpages were the amount that a process can take. I've put this high enough but still it's hitting the limits. What am I doing wrong ?

Below you can find my specs:

client w:

root@*****:/# w
Inconsistency detected by ld.so: dl-minimal.c: 84: __libc_memalign: Assertion `page != ((void *) -1)' failed!

server vzctl:

*******:/home/sander# vzctl enter 101
entered into VE 101
Inconsistency detected by ld.so: dl-minimal.c: 84: __libc_memalign: Assertion `page != ((void *) -1)' failed!

client top:

```
  PID USER      PR  NI  VIRT  RES  SHR S %CPU %MEM    TIME+  COMMAND
26225 clamav    16   0 51016  38m  928 S  0.0  3.8   0:02.04 clamd
26223 amavis    16   0 36032  30m 2188 S  0.0  3.1   0:00.41 amavisd-new
26224 amavis    16   0 35876  30m 2188 S  0.0  3.0   0:00.23 amavisd-new
26207 amavis    16   0 35112  29m 2156 S  0.0  3.0   0:00.27 amavisd-new
26347 mysql     16   0  117m  24m 4812 S  0.0  2.4   0:18.13 mysqld
32526 www-data  16   0 24148  13m 2948 S  0.0  1.3   0:08.88 apache2
32177 www-data  16   0 23472  12m 3056 S  0.0  1.3   0:12.82 apache2
28585 www-data  15   0 23204  12m 3180 S  0.0  1.3   0:06.16 apache2
30533 www-data  16   0 23156  12m 3200 S  0.0  1.3   0:03.45 apache2
32525 www-data  16   0 23172  12m 2956 S  0.0  1.2   0:00.45 apache2
32529 www-data  15   0 23052  12m 2832 S  0.0  1.2   0:00.19 apache2
32528 www-data  16   0 18440 8172 2996 S  0.0  0.8   0:00.34 apache2
```

server beancounters:

```
Version: 2.5
       uid  resource          held    maxheld    barrier      limit    failcnt
       101: kmemsize       4252389    5210322    7752512    8936012          0
            lockedpages          0          5         32         32          0
            privvmpages      96595     105237      98304     131000       2672
            shmpages           702       1998       8192       8192          0
            dummy                0          0          0          0          0
            numproc             58         73        128        128          6
            physspages       48643      54437          0 2147483647          0
            vmguarpages          0          0      98304 2147483647          0
            oomguarpages     48643      54437     100196 2147483647          0
            numtcpsock          16         59         80         80          0
            numflock            10         21        100        110          0
            numpty               1          3         16         16          0
            numsiginfo           0         26        256        256          0
            tcpsndbuf         6708     297388     319488     524288          0
            tcprcvbuf         4472     175312     319488     524288          0
            othersockbuf    172172     425560    1585883    2937563        137
            dgramrcvbuf          0      20124     132096     132096          0
            numothersock       122        144        520        520        307
            dcachesize           0          0    1048576    1097728          0
            numfile           1423       1731       2048       2048          0
            dummy                0          0          0          0          0
            dummy                0          0          0          0          0
            dummy                0          0          0          0          0
            numiptent           30         90        128        128          0
```

Free command server:

```
             total       used       free     shared    buffers     cached
Mem:       1029844    1017256      12588          0     115040     176528
-/+ buffers/cache:     725688     304156
Swap:      4000168       2072    3998096
```

Subject: Re: can't allocate memory
Posted by Vasily Tarasov on Mon, 23 Apr 2007 17:45:17 GMT
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You have a resource shortage in your VE. Read more at
http://wiki.openvz.org/Resource_shortage

Vasily.

Subject: Re: can't allocate memory
Posted by sander19 on Mon, 23 Apr 2007 18:23:47 GMT
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Yes I can see that too.

The reason is why ! The privvmpages show how much a process my consume ? right ?

I have it set at about 400 MB, and still my processes aren't consuming that much of memory, so why am I always against the limit.

Subject: Re: can't allocate memory
Posted by Vasily Tarasov on Tue, 24 Apr 2007 07:39:32 GMT
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Read more about what is _privvmpages_ (http://wiki.openvz.org/Privvmpages#privvmpages). It is not used physical memory, it is _allocated_ _virtual_ memory.

Vasily.

Subject: Re: can't allocate memory
Posted by hvdkamer on Tue, 24 Apr 2007 08:51:05 GMT
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As said, the privvmpages is allaocated memory. Most of the times this isn't used at all. For example let's take one of my machines:

```
hoefnix2:~# ubc | grep -E 'priv' | sed -re 's/^(.{40}).*/\1/'
        privvmpages       6240
        privvmpages        913
        privvmpages        360
        privvmpages        378
        privvmpages      46847
        privvmpages      86436
        privvmpages      89116
        privvmpages      56970
        privvmpages      76104
        privvmpages      47447
        privvmpages      34170
        privvmpages      47919
        privvmpages      39446
```

It looks likes this machine is currently using 532.346 pages of 4 KiB is 2.079 MiB of memory. However:

```
hoefnix2:~# free
             total       used       free     shared    buffers     cached
Mem:       2053724    2020396      33328          0      51568    1475556
-/+ buffers/cache:     493272    1560452
Swap:      2104472     265072    1839400
```

excluding buffers, cache and shared it is only consuming 493.272 KiB of memory. You can roughly find this amount through physpages:

```
hoefnix2:~# ubc | grep -E 'phys' | sed -re 's/^(.{40}).*/\1/'
          physpages         1181
          physpages          202
          physpages          199
          physpages          232
          physpages         9384
          physpages         5168
          physpages        40408
          physpages        15069
          physpages         2171
          physpages         7003
          physpages         1595
          physpages          523
          physpages         3843
```

or 71.909 pages of 4 KiB is 287.636 KiB. The difference between this and 493.272 is allocated memory which is really in use. The difference between 2.129.384 and 493.272 is allocated memory which isn't used. Or at least not at this moment. That is why OpenVZ is so eeficient with hardware. You can use more memory than is strictly available .

Memory usage in modern OSses is a very difficult thing. For example an image manipulation program could ask for say three times the memory needed for reading an image. The reserve is then used for undo buffers and things like that. For a programmer it is nice to ask for more than is needed. If given you can use it as you want and is in general more efficient. The drawback is that most times al lot of memory is alloacted but not used. When in need for more mmemory, it can be efficintly swapped.

Now for your problem:

```
          privvmpages      96595     105237      98304     131000       2672
          physpages        48643      54437          0 2147483647          0
```

As you can see your machine uses at this moment 48.643 pages of 4 KiB and in the past has used up to 54.437 pages. That is more than the most consuming VE on my machine. And that one can ask up till 131.072 as barrier and 147.456 as limit. So I think that the solution to your problem is lowering the physical amount used or raise the amount that can be allocated. In my experience the factor between these two parameters is between 3 and 5 with te lower in more consuming VE's. So with 54.437 I think you must raise the privvmpages to 163.840 (is 640 MiB). You could try 131.072 (512 MiB) and the optimizing the amount of started processes...
