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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	
	physpages	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				

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

Vasily.

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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 may 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.

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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.

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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 allocated 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 like 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 efficient 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 a lot of memory is allocated but not used. When in need for more memory, it can be efficiently 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 the 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...

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