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Subject: OpenVZ - allocation failed: out of vmalloc space  
Posted by [stuartornum](#) on Wed, 05 Dec 2007 10:16:12 GMT  
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Hi,

Got a slight problem on my development OpenVZ server, it has been working 100% up until 2 days ago when I did a restart.

I have 5 VE's (id 201 - 205), I was able to run all 5 with ample resources spare.

Now I can only run one at a time...?

I checked the logs and get this  
Code:

```
Dec 3 18:16:17 localhost kernel: allocation failed: out of vmalloc space - use vmalloc=<size> to
increase size.
Dec 3 18:16:17 localhost kernel: VE: 202: stopped
Dec 3 18:16:17 localhost kernel: VE: 202: failed to start with err=-12
```

This may help as well  
Code:

```
# cat /proc/meminfo | grep Vmalloc
VmallocTotal: 110584 kB
VmallocUsed: 110200 kB
VmallocChunk: 136 kB
```

Thanks in advanced

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [maratrus](#) on Wed, 05 Dec 2007 15:47:56 GMT  
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Hi,

please give to us a little more information:

1. What kernel do you use?
2. What OS do you use on HN?
3. What kind of templates do you use?

Thank You!

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [stuartornum](#) on Wed, 05 Dec 2007 15:52:16 GMT  
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Hi,

I am running on CentOS 4.5 kernel 2.6.18-8.1.14.el5.028stab045.1

I am using the standard OpenVZ templates of CentOS default and minimal

Some more info

# free -mt

	total	used	free	shared	buffers	cached
Mem:	1007	608	398	0	47	515
-/+ buffers/cache:		46	960			
Swap:	2055	0	2054			
Total:	3062	609	2453			

Thanks for you help.

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [maratrus](#) on Wed, 05 Dec 2007 17:45:59 GMT  
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Hi,

Sorry for the inconvenience but can you also attach lsmod output?

Thank You!

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [stuartornum](#) on Wed, 05 Dec 2007 18:04:53 GMT  
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Hi,

```
# lsmod
Module          Size Used by
simfs           9068 1
vzcpt          111524 0
vzdquota        44180 1 [permanent]
xt_tcpudp       7040 0
xt_length       6016 0
ipt_ttl         5888 0
xt_tcpmss       6272 0
ipt_TCPMSS      8064 0
```

```

iptables_mangle      8576 1
iptables_nat        13188 2
ip_nat              22288 1 iptables_nat
ip_conntrack        60356 4 vzcpt,iptables_nat,ip_nat
nfnetlink           10648 2 ip_nat,ip_conntrack
iptables_filter      8576 1
xt_multiport        7168 0
xt_limit            6656 0
ipt_tos             5760 0
ipt_REJECT          9344 0
ip_tables           18760 3 iptables_mangle,iptables_nat,iptables_filter
x_tables            19204 11 xt_tcpudp,xt_length,ipt_ttl,xt_tcpmss,ipt_TCPMS
S,iptables_nat,xt_multiport,xt_limit,ipt_tos,ipt_REJECT,ip_tables
parport_pc          29092 0
lp                  16168 0
parport             37960 2 parport_pc,lp
autofs4             24324 0
sunrpc              145084 1
vznetdev            21764 2
vzmon               46088 3 vzcpt,vznetdev
ipv6                261280 16 vzcpt,vzmon
vzdev               7556 3 vzdquota,vznetdev,vzmon
joydev              13888 0
dm_mirror           29648 0
dm_mod              56984 1 dm_mirror
video               19588 0
sbs                 18468 0
i2c_ec              8960 1 sbs
button              10512 0
battery             13700 0
asus_acpi           19480 0
ac                  9092 0
usb_storage         76512 0
uhci_hcd            25356 0
ehci_hcd            32780 0
intelfb            34348 1
cfbcopyarea         7552 1 intelfb
cfbimgblt           6912 1 intelfb
cfbfillrect         7552 1 intelfb
i2c_i801            11276 0
i2c_core            23552 2 i2c_ec,i2c_i801
snd_hda_intel       21268 0
snd_hda_codec       144128 1 snd_hda_intel
snd_pcm_oss         43168 0
snd_mixer_oss       19200 1 snd_pcm_oss
snd_pcm             72964 3 snd_hda_intel,snd_hda_codec,snd_pcm_oss
snd_timer           25604 1 snd_pcm
snd                 52740 6 snd_hda_intel,snd_hda_codec,snd_pcm_oss,snd_mixe

```

```
    r_oss,snd_pcm,snd_timer
soundcore      13152 1 snd
snd_page_alloc 13832 2 snd_hda_intel,snd_pcm
r8169          31496 0
e100           36744 0
mii            9216 1 e100
ide_cd         39968 0
cdrom          38048 1 ide_cd
ext3           124040 3
jbd            61736 1 ext3
ata_piix       17416 4
libata         97176 1 ata_piix
sd_mod         22912 6
scsi_mod       131212 3 usb_storage,libata,sd_mod
```

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [vaverin](#) on Thu, 06 Dec 2007 14:07:07 GMT  
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I would like to prepare the following experiment:  
please remove some modules and watch Vmalloc in /proc/meminfo.

First of all I suppose intel fb driver.

thank You,  
Vasily Averin

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
Posted by [stuartornum](#) on Thu, 06 Dec 2007 14:18:31 GMT  
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I have managed to find what the problem was.

in /etc/vz/vz.conf

I originally had

```
## IPv4 iptables kernel modules
IPTABLES="ipt_REJECT ipt_tos ipt_limit ipt_multiport iptable_filter iptable_mangle ipt_TCPMSS
ipt_tcpmss ipt_ttl ipt_length"
```

However I wanted iptable\_nat, so I added it to the list, and thats when I started getting this Vmalloc error, so I just removed it and all VPS' are now running !!

However why does iptable\_nat cause his problem?

Thanks

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [vaverin](#) on Thu, 06 Dec 2007 14:25:19 GMT

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iptables\_nat really consumes vmalloc, it creates some big hashes.  
But I do not think that it causes this issue, I believe some other driver eats too many vmalloc.  
Could you please show /proc/meminfo before and after starting of vz service?

thank you,  
Vasily Averin

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [stuartornum](#) on Thu, 06 Dec 2007 14:29:26 GMT

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Hi,

Thanks for your help.

Here is meminfo with OpenVZ NOT running

```
# cat /proc/meminfo
```

```
MemTotal: 1031776 kB
MemFree: 878100 kB
Buffers: 15200 kB
Cached: 106688 kB
SwapCached: 0 kB
Active: 71332 kB
Inactive: 55164 kB
HighTotal: 128544 kB
HighFree: 31764 kB
LowTotal: 903232 kB
LowFree: 846336 kB
SwapTotal: 2104504 kB
SwapFree: 2104504 kB
Dirty: 0 kB
Writeback: 0 kB
AnonPages: 4644 kB
Mapped: 4096 kB
Slab: 13576 kB
PageTables: 512 kB
```

NFS\_Unstable: 0 kB  
Bounce: 0 kB  
CommitLimit: 2620392 kB  
Committed\_AS: 18460 kB  
VmallocTotal: 110584 kB  
VmallocUsed: 109536 kB  
VmallocChunk: 624 kB  
HugePages\_Total: 0  
HugePages\_Free: 0  
HugePages\_Rsvd: 0  
Hugepagesize: 4096 kB

And here it is with OpenVZ running:

# cat /proc/meminfo

MemTotal: 1031776 kB  
MemFree: 832564 kB  
Buffers: 15456 kB  
Cached: 106952 kB  
SwapCached: 0 kB  
Active: 118128 kB  
Inactive: 49088 kB  
HighTotal: 128544 kB  
HighFree: 688 kB  
LowTotal: 903232 kB  
LowFree: 831876 kB  
SwapTotal: 2104504 kB  
SwapFree: 2104504 kB  
Dirty: 2464 kB  
Writeback: 0 kB  
AnonPages: 44828 kB  
Mapped: 22912 kB  
Slab: 16444 kB  
PageTables: 1544 kB  
NFS\_Unstable: 0 kB  
Bounce: 0 kB  
CommitLimit: 2620392 kB  
Committed\_AS: 268868 kB  
VmallocTotal: 110584 kB  
VmallocUsed: 110336 kB  
VmallocChunk: 100 kB  
HugePages\_Total: 0  
HugePages\_Free: 0  
HugePages\_Rsvd: 0  
Hugepagesize: 4096 kB

Thanks again

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [vaverin](#) on Fri, 07 Dec 2007 05:15:42 GMT

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Hi Stuart,  
thank You for cooperation.

As You can see VmallocUsed (109536 kB) on Your node is too high even without vz running.

Usual consuption should be like the following

VmallocTotal: 114680 kB  
VmallocUsed: 5748 kB  
VmallocChunk: 108532 kB

It is important to find the cause of this issue.

I believe that vmalloc was used by some module. Could You please remove kernel modules and watch /proc/meminfo?

thank You,  
Vasily Averin

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [stuartornum](#) on Tue, 12 Feb 2008 11:14:36 GMT

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Hi Vasily,

Sorry for the delay, I still have the prolem with Vmalloc.

However I am unsure how to remove kernel modules.

Here is /etc/modprobe.conf

```
alias eth0 e100
```

```
alias eth1 r8169
```

```
alias scsi_hostadapter ata_piix
```

```
alias snd-card-0 snd-azx
```

```
options snd-card-0 index=0
```

```
install snd-azx /sbin/modprobe --ignore-install snd-azx && /usr/sbin/alsactl restore >/dev/null 2>&1
```

```
|| :
```

```
remove snd-azx { /usr/sbin/alsactl store >/dev/null 2>&1 || : ; }; /sbin/modprobe -r --ignore-remove
```

```
snd-azx
```

```
alias usb-controller ehci-hcd
```

```
alias usb-controller1 uhci-hcd
```

Thanks again

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [vaverin](#) on Tue, 12 Feb 2008 11:28:41 GMT

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Hi, Stuart!

Please try to stop services (i.e. vz, iptables, network, sound) -- it can lead to remove some modules.

Then please use rmmmod for removing unused modules (it have '0' in 'Used by' clomn showed by lsmod).

After each attempt please look at current Vmalloc consumption (in /proc/meminfo file).

thank you,  
Vasily Averin

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space

Posted by [stuartornum](#) on Tue, 12 Feb 2008 11:39:11 GMT

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Hi Vasily,

Thanks again for you help;

So far I have done this ( the numbers are Vmalloc used, VmallocTotal is 110584 kB )

VZ On - 110272 KB

VZ Off - 109896 KB

IPtables Off - 109588 KB

rmmmod snd\_hda\_intel

rmmmod snd\_hda\_codec - 109392 kB

Here is lsmod again:

```
# lsmod
Module          Size Used by
ipt_LOG         10240 0
ipt_TOS         6272 0
x_tables        19204 2 ipt_LOG,ipt_TOS
vzdquota        44180 0 [permanent]
parport_pc      29092 0
lp              16168 0
parport         37960 2 parport_pc,lp
autofs4         24324 0
```



```

sunrpc          145084 1
ipv6            261280 16
vzdev          7556 1 vzdquota
joydev         13888 0
dm_mirror      29648 0
dm_mod         56984 1 dm_mirror
video          19588 0
sbs            18468 0
i2c_ec         8960 1 sbs
button         10512 0
battery        13700 0
asus_acpi      19480 0
ac             9092 0
usb_storage    76512 0
uhci_hcd       25356 0
ehci_hcd       32780 0
intelfb        34348 1
cfbcopyarea    7552 1 intelfb
cfbimgblt      6912 1 intelfb
cfbfillrect    7552 1 intelfb
i2c_i801       11276 0
i2c_core       23552 2 i2c_ec,i2c_i801
snd_pcm_oss    43168 0
snd_mixer_oss  19200 1 snd_pcm_oss
snd_pcm        72964 1 snd_pcm_oss
snd_timer      25604 1 snd_pcm
snd            52740 4 snd_pcm_oss,snd_mixer_oss,snd_pcm,snd_timer
soundcore      13152 1 snd
snd_page_alloc 13832 1 snd_pcm
r8169          31496 0
e100           36744 0
mii            9216 1 e100
ide_cd         39968 0
cdrom          38048 1 ide_cd
ext3           124040 3
jbd            61736 1 ext3
ata_piix       17416 4
libata         97176 1 ata_piix
sd_mod         22912 6
scsi_mod       131212 3 usb_storage,libata,sd_mod

```

Thanks

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Subject: Re: OpenVZ - allocation failed: out of vmalloc space  
 Posted by [vaverin](#) on Tue, 12 Feb 2008 12:35:53 GMT

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It is still abnormal high vmalloc consumption.  
please continue to remove the unused modules.  
You need to found module that eats ~100 Mb vmalloc.

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**Subject: Re: OpenVZ - allocation failed: out of vmalloc space**

Posted by [stuartornum](#) on Tue, 12 Feb 2008 13:51:39 GMT

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Hi Vasily,

Ive got it!! Actually, bit of a work around, I install the enterprise kernel, and here is meminfo:

```
cat /proc/meminfo
MemTotal:    1029844 kB
MemFree:     934252 kB
Buffers:     10608 kB
Cached:      47484 kB
SwapCached:    0 kB
Active:      48900 kB
Inactive:    25604 kB
HighTotal:   128544 kB
HighFree:    58476 kB
LowTotal:    901300 kB
LowFree:     875776 kB
SwapTotal:   2104504 kB
SwapFree:    2104504 kB
Dirty:       8 kB
Writeback:   0 kB
AnonPages:   16424 kB
Mapped:      10300 kB
Slab:        11540 kB
PageTables:   876 kB
NFS_Unstable: 0 kB
Bounce:      0 kB
CommitLimit: 2619424 kB
Committed_AS: 40264 kB
VmallocTotal: 118776 kB
VmallocUsed:  5488 kB
VmallocChunk: 113064 kB
```

Thank you for all your help, still dont know which module it was, I removed a hell of a lot too..?

Oh well, thanks again.

---