

Subject: -bash: fork: Cannot allocate memory
Posted by [gnutered](#) on Sat, 05 Apr 2008 12:11:52 GMT
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Trying to dd a 1G file in a Debian VE on a Debian HN causes the above error, and then the VE cannot be successfully restarted.

Background:

Kernel is official Debian Etch + openvz. Guests are two Debian minimals (vanilla, no change). HN has 512MB RAM.

I try to create a large file:

```
root@oneoneoneoneoneone:/# time dd if=/dev/zero of=~/zero bs=1024k count=1000
dd: writing `//zero': Disk quota exceeded
818+0 records in
817+0 records out
857153536 bytes (857 MB) copied, 14.4335 seconds, 59.4 MB/s
```

This fills the disk quota (no big deal). Second time I get my error:

```
root@oneoneoneoneoneoneoneoneoneone:/# time dd if=/dev/zero of=~/.zero bs=1024k count=1000
- bash: fork: Cannot allocate memory
root@oneoneoneoneoneoneoneoneoneone:/# free -m
- bash: fork: Cannot allocate memory
root@oneoneoneoneoneoneoneoneoneone:/# logout
exited from VPS 111111
```

I deleted the zero file and even increased the disk quota, on the long shot that this was related to exceeding the disk quota. Did not fix.

I cannot restart the VE:

```
tony@sodium:/proc/bc/111111$ sudo vzctl restart 111111
Restarting VPS
Stopping VPS ...
VPS was stopped
vps-net_del WARNING: Function proxy_arp for eth0 is set to 0. Enable with 'sysctl -w
net.ipv4.conf.eth0.proxy_arp=1'. See /usr/share/doc/vzctl/README.Debian.
VPS is unmounted
Starting VPS ...
VPS is mounted
Unable to fork: Cannot allocate memory
Not enough resources to start environment
VPS start failed
VPS is unmounted
```

I have enough free memory (or so it appears):

```
tony@sodium:/proc/bc/111111$ free -m
      total    used    free   shared    buffers   cached
Mem:      502      147      355        0         3       112
-/+ buffers/cache:      31      471
Swap:      2047        0      2047
```

I haven't yet restarted the server. I'd like to try and recover from this broken situation first.

Any clues?

Tony

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [swindmill](#) on Sat, 05 Apr 2008 12:40:17 GMT
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Can you paste the contents of /proc/user_beancounters for the affected VE?

It sounds like you're hitting up against a resource limit.

Also, what versions of the kernel, vzctl and vzquota are you using?

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [gnutered](#) on Sat, 05 Apr 2008 12:54:22 GMT
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```
tony@sodium:/proc/bc/111111$ sudo cat /proc/user_beancounters
Version: 2.5
```

uid resource	held	maxheld	barrier	limit	failcnt
222222: kmemsize	0	507534	2752512	2936012	0
lockedpages	0	0	32	32	0
privvmpages	51200	52436	49152	53575	3
shmpages	0	0	8192	8192	0
dummy	0	0	0	0	0
numproc	0	9	65	65	0
physpages	0	878	0	2147483647	0
vmguarpages	0	0	6144	2147483647	0
oomguarpages	0	878	6144	2147483647	0
numtcpsock	0	2	80	80	0
numflock	0	2	100	110	0
numpty	0	1	16	16	0

numsiginfo	0	3	256	256	0	
tcpsndbuf	0	0	319488	524288	0	
tcprcvbuf	0	0	319488	524288	0	
othersockbuf	0	2928	132096	336896	0	
dgramrcvbuf	0	0	132096	132096	0	
numothersock	0	4	80	80	0	
dcachesize	0	0	1048576	1097728	0	
numfile	0	208	2048	2048	0	
dummy	0	0	0	0	0	
dummy	0	0	0	0	0	
dummy	0	0	0	0	0	
numiptent	0	10	128	128	0	
111111: kmemsize	0	922339	2752512	2936012	0	
lockedpages	0	8	32	32	0	
privvmpages	235008	236610	49152	53575	9	
shmpages	0	0	8192	8192	0	
dummy	0	0	0	0	0	
numproc	0	15	65	65	0	
physpages	0	5431	0	2147483647	0	
vmguarpages	0	0	6144	2147483647	0	
oomguarpages	0	5431	6144	2147483647	0	
numtcpsock	0	2	80	80	0	
numflock	0	7	100	110	0	
numpty	0	1	16	16	0	
numsiginfo	0	3	256	256	0	
tcpsndbuf	0	6696	319488	524288	0	
tcprcvbuf	0	325872	319488	524288	0	
othersockbuf	0	6696	132096	336896	0	
dgramrcvbuf	0	8376	132096	132096	0	
numothersock	0	4	80	80	0	
dcachesize	0	0	1048576	1097728	0	
numfile	0	323	2048	2048	0	
dummy	0	0	0	0	0	
dummy	0	0	0	0	0	
dummy	0	0	0	0	0	
numiptent	0	10	128	128	0	
0: kmemsize	2719902	3336457	2147483647	2147483647	0	
lockedpages	0	0	2147483647	2147483647	0	
privvmpages	5660	11610	2147483647	2147483647	0	
shmpages	1292	1308	2147483647	2147483647	0	
dummy	0	0	2147483647	2147483647	0	
numproc	58	72	2147483647	2147483647	0	
physpages	2658	5432	2147483647	2147483647	0	
vmguarpages	0	0	2147483647	2147483647	0	
oomguarpages	2670	5432	2147483647	2147483647	0	
numtcpsock	7	8	2147483647	2147483647	0	
numflock	2	4	2147483647	2147483647	0	
numpty	2	2	2147483647	2147483647	0	

numsiginfo	0	2 2147483647 2147483647	0
tcpsndbuf	75888	75888 2147483647 2147483647	0
tcprcvbuf	114688	81920 2147483647 2147483647	0
othersockbuf	20088	24776 2147483647 2147483647	0
dgramrcvbuf	0	8376 2147483647 2147483647	0
numothersock	32	36 2147483647 2147483647	0
dcachesize	0	0 2147483647 2147483647	0
numfile	1149	1368 2147483647 2147483647	0
dummy	0	0 2147483647 2147483647	0
dummy	0	0 2147483647 2147483647	0
dummy	0	0 2147483647 2147483647	0
numiptent	10	10 2147483647 2147483647	0

Kernel is from <http://download.openvz.org> debian repository; vzctl and vzquota are from etch repository:

```
tony@sodium:/proc/bc/111111$ uname -a
Linux sodium 2.6.18-openvz-686 #1 SMP Tue Apr 10 20:28:40 CEST 2007 i686 GNU/Linux
tony@sodium:/proc/bc/111111$ dpkg -l linux-image-`uname -r`
Desired=Unknown/Install/Remove/Purge/Hold
| Status=Not/Installed/Config-files/Unpacked/Failed-config/Half-installed
|/ Err?=(none)/Hold/Reinst-required/X=both-problems (Status,Err: uppercase=bad)
||/ Name          Version          Description
+++=====
=====
ii linux-image-2.6.18-o 028.18.1-2.6.18-12-1  Linux kernel binary image for version
2.6.18-openvz-686
```

```
tony@sodium:/proc/bc/111111$ dpkg -l vzctl vzquota
Desired=Unknown/Install/Remove/Purge/Hold
| Status=Not/Installed/Config-files/Unpacked/Failed-config/Half-installed
|/ Err?=(none)/Hold/Reinst-required/X=both-problems (Status,Err: uppercase=bad)
||/ Name          Version          Description
+++=====
=====
ii vzctl          3.0.11-13        server virtualization solution - control tools
ii vzquota        3.0.8-2          server virtualization solution - quota tools
```

Subject: Re: -bash: fork: Cannot allocate memory
 Posted by [swindmill](#) on Sat, 05 Apr 2008 12:57:57 GMT
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On both VEs you have hit up against the privvmpages resource limit.

The last column shows a 9 for one VE and a 3 for the other, which means you've tried to exceed the memory allocation limit that number of times.

Try increasing the privvmpages value for the VE in question and try again.

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [gnutered](#) on Sat, 05 Apr 2008 13:17:03 GMT
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Cool, thanks for that. It works - kinda.

The privvmpages count persists across restarts of the VE. Does this mean it's a cumulative count of *all* memory allocations, ever, for that VE? That seems wrong, unless this parameter is not meant be used except in unusual circumstances.

I edited the conf file, and she would start. But subsequent dd commands show that the privvmpages count is still going up, and, sure enough, I ran out of resources again.

The failcnt column is a good idea.

Thanks for your help.

Tony

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [kir](#) on Mon, 07 Apr 2008 10:41:27 GMT
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Quote:The privvmpages count persists across restarts of the VE. Does this mean it's a cumulative count of *all* memory allocations, ever, for that VE? That seems wrong, unless this parameter is not meant be used except in unusual circumstances.

privvmpages.held (as well as all other UBC parameters) shows the current usage of this resource. If a container is stopped and any parameter's held value is more than zero, this means either a resource leak or a bug in accounting -- and in both cases should be reported straight to <http://bugzilla.openvz.org/>

Speaking of fail counters, see http://wiki.openvz.org/UBC_failcnt_reset

For more info, see <http://wiki.openvz.org/privvmpages> and in general <http://wiki.openvz.org/UBC>

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [gnutered](#) on Mon, 07 Apr 2008 12:00:45 GMT
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Bug: http://bugzilla.openvz.org/show_bug.cgi?id=870

Thanks to swindmill for the pointer to the privvmpages.

Tony

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [swindmill](#) on Mon, 07 Apr 2008 12:44:37 GMT
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Perhaps you should try updating your vzctl and vzquota to the newest versions available.

These can be downloaded and installed from the openvz mirror of the debian-systs repository by adding the following to your sources.list:

```
deb http://download.openvz.org/debian-systs etch openvz
```

Subject: Re: -bash: fork: Cannot allocate memory
Posted by [gnutered](#) on Mon, 07 Apr 2008 14:22:11 GMT
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Sure, can do, but this looks very much like a kernel bug IMO

Tony
