Subject: HN hangs with no reason. Memory shortage?
Posted by piplite on Fri, 04 Sep 2009 15:42:04 GMT
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So i have a host node running 20 VEs.
From time to time HN just hangs, no ping, no ssh response. i have to reboot it by powercycling to bring it back to work.
Its 2.6.18-128.2.1.el5.028stab064.4PAE running centos 5.2

and as you can see from /var/log/messages from 10.49 to 11.25 (reboot time) server doesnt respond.

Where do i look? I have same thing happening from time to time with 2-3 of my servers.

Sep 4 10:31:05 perun kernel: Fatal resource shortage: privvmpages, UB 6640.
Sep 4 10:31:05 perun kernel: Fatal resource shortage: privvmpages, UB 6640.
Sep 4 10:32:59 perun kernel: CT: 6830: stopped
Sep 4 10:33:23 perun kernel: CT: 6830: started
Sep 4 10:49:03 perun kernel: CT: 6830: stopped
Sep 4 10:49:12 perun kernel: CT: 6830: started
Sep 4 11:02:52 perun kernel: CT: 6830: stopped
Sep 4 11:03:23 perun kernel: CT: 6830: started
Sep 4 11:25:05 perun syslogd 1.4.1: restart.
Sep 4 11:25:05 perun kernel: klogd 1.4.1, log source = /proc/kmsg started.
Sep 4 11:25:05 perun kernel: Linux version 2.6.18-128.2.1.el5.028stab064.4PAE (root@rh5-build-x64) (gcc version 4.1.2 20071124 (Red Hat 4.1.2-42)) #1 SMP Wed Jul 22 00:38:32 MSD 2009
Sep 4 11:25:05 perun kernel: BIOS-provided physical RAM map:
Sep 4 11:25:05 perun kernel: ********************************************************

Subject: Re: HN hangs with no reason. Memory shortage?
Posted by kir on Fri, 04 Sep 2009 15:45:11 GMT
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Show us your vzmemcheck -v output please.

Subject: Re: HN hangs with no reason. Memory shortage?
Posted by piplite on Fri, 04 Sep 2009 15:47:07 GMT
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Here its:
# vzmemcheck -v
Output values in %
veid LowMem LowMem RAM MemSwap MemSwap Alloc Alloc Alloc

| | util | commit | util | util | commit | util | commit | limit | |
|---|---|---|---|---|---|---|---|---|---|
| 6880 | 0.75 | 852.96 | 0.16 | 0.10 | 22.68 | 0.15 | 22.68 | 23.19 | |
| 6860 | 0.59 | 852.96 | 0.28 | 0.17 | 22.68 | 0.29 | 22.68 | 23.19 | |
| 6840 | 0.61 | 852.96 | 0.31 | 0.19 | 22.68 | 0.62 | 22.68 | 23.19 | |
| 6820 | 0.16 | 852.96 | 0.03 | 0.02 | 22.68 | 0.02 | 22.68 | 23.19 | |
| 6810 | 0.40 | 852.96 | 0.05 | 0.03 | 22.68 | 0.07 | 22.68 | 23.19 | |
| 6800 | 0.54 | 852.96 | 0.20 | 0.12 | 22.68 | 0.25 | 22.68 | 23.19 | |
| 6790 | 0.79 | 852.96 | 0.19 | 0.12 | 22.68 | 0.17 | 22.68 | 23.19 | |
| 6780 | 1.85 | 852.96 | 0.55 | 0.33 | 22.68 | 0.61 | 22.68 | 23.19 | |
| 6770 | 0.19 | 852.96 | 0.03 | 0.02 | 22.68 | 0.03 | 22.68 | 23.19 | |
| 6740 | 0.31 | 852.96 | 0.08 | 0.05 | 22.68 | 0.07 | 22.68 | 23.19 | |
| 6690 | 0.16 | 852.96 | 0.03 | 0.02 | 22.68 | 0.02 | 22.68 | 23.19 | |
| 6650 | 0.35 | 852.96 | 1.32 | 0.80 | 22.68 | 0.93 | 22.68 | 23.19 | |
| 6640 | 0.42 | 852.96 | 0.23 | 0.14 | 22.68 | 0.50 | 22.68 | 23.19 | |
| 6590 | 0.32 | 852.96 | 0.06 | 0.04 | 22.68 | 0.05 | 22.68 | 23.19 | |
| 6570 | 0.37 | 852.96 | 0.06 | 0.04 | 22.68 | 0.05 | 22.68 | 23.19 | |
| 6530 | 0.37 | 852.96 | 0.05 | 0.03 | 22.68 | 0.08 | 22.68 | 23.19 | |
| 6520 | 0.84 | 868.59 | 0.45 | 0.27 | 23.59 | 0.47 | 23.59 | 24.61 | |
| 6450 | 0.18 | 852.96 | 0.03 | 0.02 | 22.68 | 0.03 | 22.68 | 23.19 | |
| 6420 | 0.53 | 852.96 | 0.20 | 0.12 | 22.68 | 0.25 | 22.68 | 23.19 | |
| 2690 | 0.28 | 852.96 | 0.07 | 0.04 | 22.68 | 0.21 | 22.68 | 23.19 | |
| 6400 | 0.41 | 868.59 | 0.17 | 0.11 | 23.59 | 0.35 | 23.59 | 24.61 | |
| 5890 | 0.30 | 899.86 | 0.08 | 0.05 | 25.42 | 0.07 | 25.42 | 27.45 | |
| 4250 | 0.46 | 884.23 | 0.21 | 0.12 | 24.51 | 0.17 | 24.51 | 26.03 | |
| 4090 | 0.31 | 868.59 | 0.08 | 0.05 | 23.59 | 0.07 | 23.59 | 24.61 | |
| 4060 | 0.21 | 868.59 | 0.03 | 0.02 | 23.59 | 0.03 | 23.59 | 24.61 | |
| 3970 | 0.20 | 899.86 | 0.04 | 0.02 | 25.42 | 0.04 | 25.42 | 27.45 | |
| 3780 | 0.59 | 868.59 | 0.26 | 0.15 | 23.59 | 0.30 | 23.59 | 24.61 | |
| 3760 | 0.54 | 868.59 | 0.21 | 0.12 | 23.59 | 0.25 | 23.59 | 24.61 | |
| 3750 | 0.66 | 962.39 | 0.24 | 0.14 | 29.08 | 0.22 | 29.08 | 33.14 | |
| 3740 | 0.94 | 868.59 | 1.13 | 0.68 | 23.59 | 1.24 | 23.59 | 24.61 | |
| 3500 | 1.42 | 899.86 | 1.69 | 1.02 | 25.42 | 1.30 | 25.42 | 27.45 | |
| 3450 | 0.95 | 868.59 | 0.23 | 0.14 | 23.59 | 0.20 | 23.59 | 24.61 | |
| 2770 | 0.25 | 852.96 | 0.04 | 0.03 | 22.68 | 0.04 | 22.68 | 23.19 | |
| 2630 | 0.54 | 868.59 | 0.20 | 0.12 | 23.59 | 0.25 | 23.59 | 24.61 | |
| 2170 | 0.45 | 852.96 | 0.14 | 0.08 | 22.68 | 0.15 | 22.68 | 23.19 | |
| 2160 | 0.98 | 884.23 | 0.92 | 0.56 | 24.51 | 0.69 | 24.51 | 26.03 | |
| 2120 | 0.57 | 868.59 | 0.32 | 0.20 | 23.59 | 0.95 | 23.59 | 23.85 | |
| 2090 | 1.33 | 852.96 | 0.53 | 0.32 | 22.68 | 0.54 | 22.68 | 23.19 | |
| 2070 | 0.28 | 852.96 | 0.11 | 0.07 | 22.68 | 0.15 | 22.68 | 23.19 | |
| 1980 | 0.27 | 868.59 | 0.07 | 0.04 | 23.59 | 0.06 | 23.59 | 24.61 | |
| 1960 | 0.85 | 868.59 | 0.64 | 0.39 | 23.59 | 0.56 | 23.59 | 24.61 | |
| 1950 | 0.19 | 845.14 | 0.03 | 0.02 | 22.22 | 0.03 | 22.22 | 22.48 | |
| 1930 | 0.39 | 852.96 | 0.05 | 0.03 | 22.68 | 0.08 | 22.68 | 23.19 | |
| 1920 | 0.49 | 884.23 | 0.48 | 0.29 | 24.51 | 0.35 | 24.51 | 26.03 | |
| 1900 | 0.99 | 868.59 | 0.49 | 0.29 | 23.59 | 0.75 | 23.59 | 24.61 | |
| 1890 | 0.99 | 868.59 | 0.97 | 0.58 | 23.59 | 0.62 | 23.59 | 24.61 | |
| 1850 | 0.68 | 899.86 | 0.42 | 0.25 | 25.42 | 0.83 | 25.42 | 27.45 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 6870 | 0.40 | 852.96 | 0.12 | 0.07 | 22.68 | 0.09 | 22.68 | 23.19 |
| 1750 | 1.26 | 852.96 | 0.51 | 0.31 | 22.68 | 0.42 | 22.68 | 23.19 |
| 1740 | 0.77 | 852.96 | 0.16 | 0.10 | 22.68 | 0.15 | 22.68 | 23.19 |
| 1710 | 0.53 | 868.59 | 0.24 | 0.14 | 23.59 | 0.24 | 23.59 | 24.61 |
| 6830 | 0.74 | 852.96 | 0.33 | 0.20 | 22.68 | 0.34 | 22.68 | 23.19 |
| 1690 | 0.54 | 845.14 | 0.26 | 0.16 | 22.22 | 0.18 | 22.22 | 22.48 |
| 1680 | 0.19 | 845.14 | 0.03 | 0.02 | 22.22 | 0.03 | 22.22 | 22.48 |
| 1620 | 0.65 | 915.49 | 0.24 | 0.14 | 26.34 | 1.10 | 26.34 | 28.88 |
| 1550 | 0.37 | 868.59 | 0.10 | 0.06 | 23.59 | 0.63 | 23.59 | 24.61 |
| 1440 | 0.33 | 852.96 | 0.52 | 0.31 | 22.68 | 0.33 | 22.68 | 23.19 |
| 1430 | 0.38 | 852.96 | 0.05 | 0.03 | 22.68 | 0.08 | 22.68 | 23.19 |

---

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Summary: | 32.42 | 50151.66 | 16.73 | 10.09 | 1355.22 | 18.71 | 1355.22 | 1406.01 |

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Subject: Re: HN hangs with no reason. Memory shortage?
Posted by kir on Fri, 04 Sep 2009 16:15:35 GMT
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Oh. You overcommitment very very very much. See, for LowMem you have a value of 50000%, while normal values for your number of containers is about 100 to 120%.

See much more detailed description here: http://wiki.openvz.org/UBC_systemwide_configuration. Learn to use UBCs.

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Subject: Re: HN hangs with no reason. Memory shortage?
Posted by piplite on Sat, 05 Sep 2009 15:45:06 GMT
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And why doesnt memory use swap space? I mean system memory. I know that individual VE has no swap.
Lets say system memory usage reaches its top, what happens next?
In my situation system just hangs and needs a reboot.

Thanks.

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Subject: Re: HN hangs with no reason. Memory shortage?
Posted by divB on Sat, 05 Sep 2009 18:24:09 GMT
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AFAIK, low memory is kernel memory (kmemsize + socket buffers) and should be related to vmguarpages and numprocs. Look up in the wiki! And validate your config with vzcfgvalidate.

However, IMO your overall mem commitment is very high too. The MemSwap commit is 1355% (!) and this should be somewhere at 100% as far as I understand. Because if it is not, you promise your containers more memory than you have in your HN.

Regards,
divB

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Subject: Re: HN hangs with no reason. Memory shortage?
Posted by piplite on Tue, 01 Dec 2009 20:32:36 GMT
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Im getting to this question again as im confused. I have the following
What parameter am i missing and overselling here?
# vzmemcheck -v
Output values in %

| veid | LowMem util | LowMem commit | LowMem util | RAM util | MemSwap commit | MemSwap util | MemSwap commit | Alloc limit | Alloc | Alloc |
|---|---|---|---|---|---|---|---|---|---|---|
| 36789 | 0.26 | 23.22 | 0.07 | 0.04 | 1.76 | 0.06 | 1.76 | 4.15 | | |
| 36787 | 0.37 | 23.22 | 0.33 | 0.21 | 1.76 | 1.04 | 1.76 | 4.15 | | |
| 36786 | 0.27 | 23.22 | 0.06 | 0.04 | 1.76 | 0.06 | 1.76 | 4.15 | | |
| 36785 | 0.43 | 23.22 | 0.31 | 0.19 | 1.76 | 0.47 | 1.76 | 4.15 | | |
| 36784 | 0.56 | 29.16 | 0.27 | 0.17 | 3.60 | 0.59 | 3.60 | 10.75 | | |
| 36783 | 0.30 | 23.22 | 0.12 | 0.08 | 1.76 | 0.10 | 1.76 | 4.15 | | |
| 36782 | 0.87 | 38.65 | 0.62 | 0.39 | 4.79 | 1.40 | 4.79 | 14.32 | | |
| 36781 | 0.24 | 26.78 | 0.06 | 0.04 | 2.71 | 0.05 | 2.71 | 7.47 | | |
| 36780 | 0.46 | 26.78 | 0.48 | 0.30 | 2.71 | 1.07 | 2.71 | 7.47 | | |
| 36779 | 0.72 | 29.16 | 1.05 | 0.66 | 3.60 | 1.01 | 3.60 | 10.75 | | |
| 36778 | 0.21 | 38.65 | 0.06 | 0.04 | 4.79 | 0.06 | 4.79 | 14.32 | | |
| 36762 | 0.40 | 23.22 | 0.26 | 0.16 | 1.76 | 0.20 | 1.76 | 4.15 | | |
| 36758 | 0.21 | 23.22 | 0.05 | 0.03 | 1.76 | 0.04 | 1.76 | 4.15 | | |
| 36720 | 1.37 | 23.22 | 0.87 | 0.55 | 1.76 | 0.89 | 1.76 | 4.15 | | |
| 36672 | 0.57 | 23.22 | 0.51 | 0.32 | 1.76 | 0.49 | 1.76 | 4.15 | | |
| 36641 | 1.57 | 38.65 | 1.64 | 1.03 | 6.58 | 1.86 | 6.58 | 21.46 | | |
| 36639 | 0.70 | 25.60 | 0.57 | 0.36 | 2.26 | 1.67 | 2.26 | 5.83 | | |
| 6710 | 1.23 | 140.78 | 0.19 | 0.12 | 6.68 | 0.30 | 6.68 | 9.06 | | |
| 6580 | 0.24 | 144.34 | 0.06 | 0.04 | 7.62 | 0.05 | 7.62 | 12.38 | | |
| 6380 | 0.95 | 144.34 | 0.82 | 0.51 | 7.62 | 0.78 | 7.62 | 12.38 | | |
| 4300 | 0.30 | 135.56 | 0.29 | 0.18 | 6.86 | 0.32 | 6.86 | 10.43 | | |
| 3590 | 1.41 | 144.34 | 0.69 | 0.43 | 7.62 | 0.72 | 7.62 | 12.38 | | |
| 1470 | 0.31 | 473.10 | 0.12 | 0.08 | 26.13 | 0.09 | 26.13 | 45.18 | | |
| 1010 | 0.81 | 133.18 | 0.35 | 0.22 | 6.36 | 0.39 | 6.36 | 8.74 | | |
| 900 | 0.21 | 144.34 | 0.05 | 0.03 | 7.62 | 0.04 | 7.62 | 12.38 | | |
| 430 | 1.19 | 141.97 | 0.59 | 0.37 | 6.93 | 0.86 | 6.93 | 9.90 | | |
| 340 | 1.42 | 144.34 | 1.23 | 0.77 | 7.62 | 1.08 | 7.62 | 12.38 | | |
| Summary: | 17.60 | 2208.72 | 11.72 | 7.36 | 137.97 | 15.71 | 137.97 | 274.91 | | |

On a server i have 27 vps running with config files like this:

64Mb vps:
```
# UBC parameters (in form of barrier:limit)
KMEMSIZE="67108864:67108864"
LOCKEDPAGES="256:256"
PRIVVMPAGES="32768:65536"
SHMPAGES="21504:21504"
NUMPROC="192:192"
PHYSPAGES="0:2147483647"
VMGUARPAGES="16384:16384"
OOMGUARPAGES="16384:16384"
NUMTCPSOCK="1536:1536"
NUMFLOCK="188:206"
NUMPTY="16:16"
NUMSIGINFO="256:256"
TCPSNDBUF="6291456:6291456"
TCPRCVBUF="6291456:6291456"
OTHERSOCKBUF="1126080:2097152"
DGRAMRCVBUF="262144:262144"
NUMOTHERSOCK="1536:1536"
DCACHESIZE="3409920:3624960"
NUMFILE="1536:1536"
AVNUMPROC="180:180"
NUMIPTENT="128:128"

# Disk quota parameters (in form of softlimit:hardlimit)
DISKSPACE="3072000:3072000"
DISKINODES="384000:384000"
QUOTATIME="0"

# CPU fair sheduler parameter
CPUUNITS="1000"


VE_ROOT="/vz/root/$VEID"
VE_PRIVATE="/vps/$VEID"
OSTEMPLATE="fedora-10-i386-default"
ORIGIN_SAMPLE="vps.basic"
QUOTAUGIDLIMIT="2048"
CPULIMIT="10"
CPUS="1"
MEMINFO="pages:16384"
```

128 vps:
```
# UBC parameters (in form of barrier:limit)
```

```
KMEMSIZE="67108864:67108864"
LOCKEDPAGES="256:256"
PRIVVMPAGES="98304:131072"
SHMPAGES="21504:21504"
NUMPROC="512:512"
PHYSPAGES="0:2147483647"
VMGUARPAGES="32768:32768"
OOMGUARPAGES="32768:32768"
NUMTCPSOCK="3072:3072"
NUMFLOCK="188:206"
NUMPTY="16:16"
NUMSIGINFO="256:256"
TCPSNDBUF="12582912:12582912"
TCPRCVBUF="12582912:12582912"
OTHERSOCKBUF="1126080:2097152"
DGRAMRCVBUF="262144:262144"
NUMOTHERSOCK="3072:3072"
DCACHESIZE="3409920:3624960"
NUMFILE="3072:3072"
AVNUMPROC="180:180"
NUMIPTENT="128:128"

# Disk quota parameters (in form of softlimit:hardlimit)
DISKSPACE="4608000:4608000"
DISKINODES="576000:576000"
QUOTATIME="0"

# CPU fair sheduler parameter
CPUUNITS="1000"


VE_ROOT="/vz/root/$VEID"
VE_PRIVATE="/vps/$VEID"
OSTEMPLATE="debian-5.0.3-i386-minimal"
ORIGIN_SAMPLE="vps.basic"
QUOTAUGIDLIMIT="2048"
CPULIMIT="20"
CPUS="1"
MEMINFO="pages:32768"
```

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Subject: Re: HN hangs with no reason. Memory shortage?
Posted by unxs on Thu, 03 Dec 2009 19:08:13 GMT
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You will need to read up on this. See the above posts.

Most expert forum users will ignore you and other newbies -unless you prove yourself and/or it helps the paid tools guys.

You were lucky so far . Use a webgui to run your VZ nodes, if you do not have the time to learn and tinker on your own. Some vz manager software will make sure you do not overcommit resources and even adjust your UBCs for you.

Just remember there is a war in progress: vz/xen/vmware among other virtualization tech. (and of course the paid  vs. free tools.)

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