Subject: OOM didn't save the machine
Posted by lazy on Sun, 29 Mar 2009 17:33:53 GMT
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64 bit rhel5 60.2, 2 32 bit VE's 8GB of ram without swap

what is filp cache ?

Am i right that it was 4,9GB big ?

Mar 29 15:49:11 hd1 kernel: filp : size 4979023872 objsize 256

it looked like some memory leak (for 6 hours memory usage was raising) 2 VE's have total 6GB privvmpages + 4,9GB for flip cache makes it possible.

Mar 29 15:49:11 hd1 kernel: apache2 invoked oom-killer: gfp_mask=0x201d2, order=0, oomkilladj=0
Mar 29 15:49:11 hd1 kernel:
Mar 29 15:49:11 hd1 kernel: Call Trace:
Mar 29 15:49:11 hd1 kernel: [<ffffffff800b5373>] out_of_memory+0x9a/0x16a
Mar 29 15:49:11 hd1 kernel: [<ffffffff8000f00d>] __alloc_pages+0x236/0x323
Mar 29 15:49:11 hd1 kernel: [<ffffffff80012535>] __do_page_cache_readahead+0xcd/0x24d
Mar 29 15:49:11 hd1 kernel: [<ffffffff8003086a>] release_sock+0x13/0xaa
Mar 29 15:49:11 hd1 kernel: [<ffffffff8001ce4d>] tcp_recvmsg+0x803/0x916
Mar 29 15:49:11 hd1 kernel: [<ffffffff80012fac>] filemap_nopage+0x147/0x313
Mar 29 15:49:11 hd1 kernel: [<ffffffff80007ff2>] __handle_mm_fault+0x26d/0xe76
Mar 29 15:49:11 hd1 kernel: [<ffffffff8000c801>] do_sync_read+0xc7/0x104
Mar 29 15:49:11 hd1 kernel: [<ffffffff8000a849>] do_page_fault+0x3aa/0x6e3
Mar 29 15:49:11 hd1 kernel: [<ffffffff8003086a>] release_sock+0x13/0xaa
Mar 29 15:49:11 hd1 kernel: [<ffffffff8000b1b0>] vfs_read+0x11b/0x150
Mar 29 15:49:11 hd1 kernel: [<ffffffff8005fe39>] error_exit+0x0/0x84
Mar 29 15:49:11 hd1 kernel:
Mar 29 15:49:11 hd1 kernel: Mem-info:
Mar 29 15:49:11 hd1 kernel: DMA per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 3 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: DMA32 per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 186, batch 31 used:182

Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 62, batch 15 used:56
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 186, batch 31 used:158
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 62, batch 15 used:23
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 186, batch 31 used:154
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 62, batch 15 used:2
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 186, batch 31 used:178
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 186, batch 31 used:183
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 62, batch 15 used:14
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 186, batch 31 used:172
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 62, batch 15 used:5
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 186, batch 31 used:172
Mar 29 15:49:11 hd1 kernel: cpu 3 cold: high 62, batch 15 used:14
Mar 29 15:49:11 hd1 kernel: HighMem per-cpu: empty
Mar 29 15:49:11 hd1 kernel: Free pages: 42888kB (0kB HighMem)
Mar 29 15:49:11 hd1 kernel: Active:636733 inactive:1008 dirty:0 writeback:59 unstable:0
free:10722 slab:1341299 mapped-file:27 mapped-anon:637545 pagetables
:8471
Mar 29 15:49:11 hd1 kernel: DMA free:12304kB min:16kB low:20kB high:24kB active:0kB
inactive:0kB present:11868kB pages_scanned:0 all_unreclaimable? yes
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 3246 8034 8034
Mar 29 15:49:11 hd1 kernel: DMA32 free:23768kB min:4632kB low:5788kB high:6948kB
active:1100012kB inactive:336kB present:3324872kB pages_scanned:2028965 all
_unreclaimable? yes
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 4788 4788
Mar 29 15:49:11 hd1 kernel: Normal free:6816kB min:6828kB low:8532kB high:10240kB
active:1446920kB inactive:3696kB present:4902912kB pages_scanned:6614355 a
ll_unreclaimable? yes
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 0 0
Mar 29 15:49:11 hd1 kernel: HighMem free:0kB min:128kB low:128kB high:128kB active:0kB
inactive:0kB present:0kB pages_scanned:0 all_unreclaimable? no
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 0 0
Mar 29 15:49:11 hd1 kernel: DMA: 2*4kB 5*8kB 4*16kB 3*32kB 3*64kB 3*128kB 1*256kB
0*512kB 1*1024kB 1*2048kB 2*4096kB = 12304kB
Mar 29 15:49:11 hd1 kernel: DMA32: 8*4kB 13*8kB 5*16kB 0*32kB 0*64kB 0*128kB 0*256kB
0*512kB 1*1024kB 1*2048kB 5*4096kB = 23768kB
Mar 29 15:49:11 hd1 kernel: Normal: 120*4kB 4*8kB 0*16kB 1*32kB 32*64kB 3*128kB 1*256kB
1*512kB 1*1024kB 1*2048kB 0*4096kB = 6816kB
Mar 29 15:49:11 hd1 kernel: HighMem: empty
Mar 29 15:49:11 hd1 kernel: 1208 pagecache pages
Mar 29 15:49:11 hd1 kernel: Swap cache: add 0, delete 0, find 0/0, race 0+0+0
Mar 29 15:49:11 hd1 kernel: Free swap = 0kB
Mar 29 15:49:11 hd1 kernel: Total swap = 0kB
Mar 29 15:49:11 hd1 kernel: Free swap: 0kB
Mar 29 15:49:11 hd1 kernel: 2293760 pages of RAM
Mar 29 15:49:11 hd1 kernel: 253465 reserved pages
Mar 29 15:49:11 hd1 kernel: 173691 pages shared
Mar 29 15:49:11 hd1 kernel: 0 pages swap cached
Mar 29 15:49:11 hd1 kernel: Top 10 caches:

Mar 29 15:49:11 hd1 kernel: ip_conntrack : size 4235264 objsize 312
Mar 29 15:49:11 hd1 kernel: dentry_cache : size 335552512 objsize 240
Mar 29 15:49:11 hd1 kernel: size-2048(UBC) : size 7345536 objsize 2048
Mar 29 15:49:11 hd1 kernel: files_cache : size 10207232 objsize 768
Mar 29 15:49:11 hd1 kernel: size-128 : size 8962048 objsize 128
Mar 29 15:49:11 hd1 kernel: ext3_inode_cache : size 18158976 objsize 808
Mar 29 15:49:11 hd1 kernel: vm_area_struct : size 7004160 objsize 168
Mar 29 15:49:11 hd1 kernel: filp : size 4979023872 objsize 256
Mar 29 15:49:11 hd1 kernel: task_struct : size 43917312 objsize 2160
Mar 29 15:49:11 hd1 kernel: page_beancounter : size 53186560 objsize 64
Mar 29 15:49:11 hd1 kernel: Mem-info:
Mar 29 15:49:11 hd1 kernel: DMA per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: cpu 3 cold: high 0, batch 1 used:0
Mar 29 15:49:11 hd1 kernel: DMA32 per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 186, batch 31 used:182
Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 62, batch 15 used:56
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 186, batch 31 used:158
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 62, batch 15 used:23
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 186, batch 31 used:154
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 62, batch 15 used:2
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 186, batch 31 used:178
Mar 29 15:49:11 hd1 kernel: cpu 3 cold: high 62, batch 15 used:49
Mar 29 15:49:11 hd1 kernel: Normal per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 186, batch 31 used:159
Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 62, batch 15 used:24
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 186, batch 31 used:183
Mar 29 15:49:11 hd1 kernel: Normal per-cpu:
Mar 29 15:49:11 hd1 kernel: cpu 0 hot: high 186, batch 31 used:159
Mar 29 15:49:11 hd1 kernel: cpu 0 cold: high 62, batch 15 used:24
Mar 29 15:49:11 hd1 kernel: cpu 1 hot: high 186, batch 31 used:183
Mar 29 15:49:11 hd1 kernel: cpu 1 cold: high 62, batch 15 used:14
Mar 29 15:49:11 hd1 kernel: cpu 2 hot: high 186, batch 31 used:172
Mar 29 15:49:11 hd1 kernel: cpu 2 cold: high 62, batch 15 used:59
Mar 29 15:49:11 hd1 kernel: cpu 3 hot: high 186, batch 31 used:172
Mar 29 15:49:11 hd1 kernel: cpu 3 cold: high 62, batch 15 used:14
Mar 29 15:49:11 hd1 kernel: HighMem per-cpu: empty
Mar 29 15:49:11 hd1 kernel: Free pages: 43852kB (0kB HighMem)
Mar 29 15:49:11 hd1 kernel: Active:637098 inactive:750 dirty:0 writeback:59 unstable:0
free:10963 slab:1341299 mapped-file:27 mapped-anon:637545 pagetables:
8471
Mar 29 15:49:11 hd1 kernel: DMA free:12304kB min:16kB low:20kB high:24kB active:0kB

inactive:0kB present:11868kB pages_scanned:0 all_unreclaimable? yes
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 3246 8034 8034
Mar 29 15:49:11 hd1 kernel: DMA32 free:23768kB min:4632kB low:5788kB high:6948kB active:1101240kB inactive:496kB present:3324872kB pages_scanned:2590683 all_unreclaimable? yes
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 4788 4788
Mar 29 15:49:11 hd1 kernel: Normal free:7780kB min:6828kB low:8532kB high:10240kB active:1447152kB inactive:2504kB present:4902912kB pages_scanned:15392 all_unreclaimable? no
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 0 0
Mar 29 15:49:11 hd1 kernel: HighMem free:0kB min:128kB low:128kB high:128kB active:0kB inactive:0kB present:0kB pages_scanned:0 all_unreclaimable? no
Mar 29 15:49:11 hd1 kernel: lowmem_reserve[]: 0 0 0 0
Mar 29 15:49:11 hd1 kernel: DMA: 2*4kB 5*8kB 4*16kB 3*32kB 3*64kB 3*128kB 1*256kB 0*512kB 1*1024kB 1*2048kB 2*4096kB = 12304kB
Mar 29 15:49:11 hd1 kernel: DMA32: 8*4kB 13*8kB 5*16kB 0*32kB 0*64kB 0*128kB 0*256kB 0*512kB 1*1024kB 1*2048kB 5*4096kB = 23768kB
Mar 29 15:49:11 hd1 kernel: Normal: 361*4kB 4*8kB 0*16kB 1*32kB 32*64kB 3*128kB 1*256kB 1*512kB 1*1024kB 1*2048kB 0*4096kB = 7780kB
Mar 29 15:49:11 hd1 kernel: HighMem: empty
Mar 29 15:49:11 hd1 kernel: 952 pagecache pages
Mar 29 15:49:11 hd1 kernel: Swap cache: add 0, delete 0, find 0/0, race 0+0+0
Mar 29 15:49:11 hd1 kernel: Free swap = 0kB
Mar 29 15:49:11 hd1 kernel: Total swap = 0kB

Subject: Re: OOM didn't save the machine
Posted by maratrus on Mon, 30 Mar 2009 13:42:15 GMT
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Hello,

Quote:
it looked like some memory leak (for 6 hours memory usage was raising) 2 VE's have total 6GB privvmpages + 4,9GB for flip cache makes it possible.

Whenever you open a file the kernel uses a piece of memory that belongs to filp cache. So, a numerous open files might cause this situation. Are you sure that user_beancounters are configured properly, i.e. they restrict the VEs consumption?
Could you please show /proc/user_beancounters from HN?

Subject: Re: OOM didn't save the machine
Posted by lazy on Mon, 30 Mar 2009 19:24:58 GMT

Thank's for Your answer.

It's possible the "leak" started after the machine was rsynced (f

Now it's happening again, apache process is using 100% cpu, I can't enter the vps beancounters bellow

```
    3000:  kmemsize            68901194         68920466        668435456        836870912
               0
           lockedpages             0                0             2562             2562                0
           privvmpages        157683           171574           512000           537600
    0
           shmpages              284              284            15374            15374                0
           dummy                   0                0                0                0                0
           numproc                98              127             2000             2000                0
           physspages          50345            59833                0  9223372036854775807
          0
           vmguarpages             0                0            35236  9223372036854775807
        0
           oomguarpages        50345            59833            35236  9223372036854775807
               0
           numtcpsock             15               95             2000             2000                0
           numflock                1               13             1000             1100                0
           numpty                  0                1              200              200                0
           numsiginfo              1               30             1024             1024                0
           tcpsndbuf          178640          1460304          9300923         17492923
        0
           tcprcvbuf            1296           286512           638976          1048576
0
           othersockbuf        11600          1270944          4650461         12842461
        0
           dgramrcvbuf             0             4368          4650461          4650461
0
           numothersock            9               33             8000             9000                0
           dcachesize              0                0         11452893         11796480                0
           numfile              3101             4801            20480            20480                0
           dummy                   0                0                0                0                0
           dummy                   0                0                0                0                0
           dummy                   0                0                0                0                0
           numiptent              10               10              200              200                0
         0:  kmemsize          49891537         49960180  9223372036854775807
9223372036854775807               0
           lockedpages             0                0  9223372036854775807
9223372036854775807               0
           privvmpages          6277            18544  9223372036854775807
9223372036854775807               0
```

```
        shmpages              647           663  9223372036854775807
9223372036854775807             0
        dummy                   0             0  9223372036854775807  9223372036854775807
             0
        numproc                90            98  9223372036854775807
9223372036854775807             0
        physspages           3690         15435  9223372036854775807
9223372036854775807             0
        vmguarpages             0             0  9223372036854775807
9223372036854775807             0
        oomguarpages         3697         15435  9223372036854775807
9223372036854775807             0
        numtcpsock              5             6  9223372036854775807
9223372036854775807             0
        numflock                1             7  9223372036854775807  9223372036854775807
             0
        numpty                  4             4  9223372036854775807  9223372036854775807
             0
        numsiginfo              1             3  9223372036854775807  9223372036854775807
             0
        tcpsndbuf           85216        698000  9223372036854775807
9223372036854775807             0
        tcprcvbuf           81920       1312608  9223372036854775807
9223372036854775807             0
        othersockbuf         9280         24832  9223372036854775807
9223372036854775807             0
        dgramrcvbuf             0          8464  9223372036854775807
9223372036854775807             0
        numothersock           22            27  9223372036854775807
9223372036854775807             0
        dcachesize              0             0  9223372036854775807  9223372036854775807
             0
        numfile              1680          1825  9223372036854775807
9223372036854775807             0
        dummy                   0             0  9223372036854775807  9223372036854775807
             0
        dummy                   0             0  9223372036854775807  9223372036854775807
             0
        dummy                   0             0  9223372036854775807  9223372036854775807
             0
        numiptent              10            10  9223372036854775807
9223372036854775807             0
```

this apache is heavly modified and it can be stuck in some recvmsg, i cant kill -9, memory is starting to be eaten

meminfo from hn
MemTotal: 8161180 kB
MemFree: 55608 kB
Buffers: 114284 kB
Cached: 2716572 kB
SwapCached: 0 kB
Active: 3450172 kB
Inactive: 2065236 kB
HighTotal: 0 kB
HighFree: 0 kB
LowTotal: 8161180 kB
LowFree: 55608 kB
SwapTotal: 1023992 kB
SwapFree: 1023964 kB
Dirty: 9504 kB
Writeback: 188 kB
AnonPages: 2683688 kB
Mapped: 28620 kB
Slab: 2479572 kB
PageTables: 32560 kB
NFS_Unstable: 0 kB
Bounce: 0 kB
CommitLimit: 5104580 kB
Committed_AS: 4361756 kB
VmallocTotal: 34359738364 kB
VmallocUsed: 273424 kB
VmallocChunk: 34359464744 kB

vps are eating total 2,6G physp + 2,6G cache and 140M free

any pointers how to kill that vps, i'm thinging about taking away its privvmpages and thus forcing oom

this process is untracable

its wchan is init_level4_pg, and is eating 100% cpu

vzctl enter 3000 ends
brk(0xa41e000)   = 0xa41e000
rt_sigaction(SIGPIPE, {SIG_IGN}, NULL, = 0
open("/etc/vz/vz.conf", O_RDONLY)   = 3
stat("/etc/vz/vz.conf", {st_mode=S_IFREG|0644, st_size=1103, ...}) = 0
fstat(3, {st_mode=S_IFREG|0644, st_size=1103, ...}) = 0
mmap(NULL, 4096, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) = 0x2b3071a0b000
read(3, "## Global parameters\nVIRTUOZZO=y"..., 4096) = 1103
read(3, "", 4096)   = 0

```
close(3)                                = 0
munmap(0x2b3071a0b000, 4096)            = 0
open("/var/log/vzctl.log", O_WRONLY|O_APPEND|O_CREAT, 0666) = 3
fstat(3, {st_mode=S_IFREG|0644, st_size=0, ...}) = 0
mmap(NULL, 4096, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x2b3071a0b000
fstat(3, {st_mode=S_IFREG|0644, st_size=0, ...}) = 0
lseek(3, 0, SEEK_SET)                   = 0
stat("/etc/vz/conf/3000.conf", {st_mode=S_IFREG|0644, st_size=1194, ...}) = 0
open("/etc/vz/conf/3000.conf", O_RDONLY) = 4
stat("/etc/vz/conf/3000.conf", {st_mode=S_IFREG|0644, st_size=1194, ...}) = 0
fstat(4, {st_mode=S_IFREG|0644, st_size=1194, ...}) = 0
mmap(NULL, 4096, PROT_READ|PROT_WRITE, MAP_PRIVATE|MAP_ANONYMOUS, -1, 0) =
0x2b3071a0c000
read(4, "# Configuration file generated b"..., 4096) = 1194
read(4, "", 4096)                       = 0
close(4)                                = 0
munmap(0x2b3071a0c000, 4096)            = 0
fcntl(0, F_GETFL)                       = 0x8002 (flags O_RDWR|O_LARGEFILE)
fcntl(1, F_GETFL)                       = 0x8002 (flags O_RDWR|O_LARGEFILE)
fcntl(2, F_GETFL)                       = 0x8002 (flags O_RDWR|O_LARGEFILE)
open("/dev/vzctl", O_RDWR)              = 4
ioctl(4, 0x400c2e05, 0x7fff392db2f0)    = 0
ioctl(4, 0x400c2e05, 0x7fff392db150)    = 0
clone(child_stack=0, flags=CLONE_CHILD_CLEARTID|CLONE_CHILD_SETTID|SIGCHLD,
child_tidptr=0x2b3071e52b70) = 4189
wait4(4189,

root     2283  0.0  0.0  10228   872 pts/2    S+   21:01   0:00 vzctl enter 3000
root     2284  0.0  0.0  10228   376 ?        Ds   21:01   0:00 vzctl enter 3000
```

Subject: Re: OOM didn't save the machine
Posted by lazy on Mon, 30 Mar 2009 21:41:06 GMT
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thanks to sysreq i managed to reboot the machine without a crash, I didnt find anything interesting in proc beside filp beaing eaten in slab and this

CPU 1, VCPU 3000:0
Modules linked in: vzethdev(U) vznetdev(U) simfs(U) vzrst(U) ip_nat(U) vzcpt(U) ip_conntrack(U) nfnetlink(U) ipip(U) tunnel4(U) tun(U) vzdquota(U) vzmon(U)
vzdev(U) xt_tcpudp(U) xt_length(U) ipt_ttl(U) xt_tcpmss(U) ipt_TCPMSS(U) iptable_mangle(U) iptable_filter(U) xt_multiport(U) xt_limit(U) ipt_tos(U) ipt_REJE

CT(U) ip_tables(U) x_tables(U) button(U) dm_snapshot(U) dm_mirror(U) dm_mod(U) mptctl(U) loop(U) sg(U) sr_mod(U) cdrom(U) sd_mod(U) ehci_hcd(U) ata_piix(U) libata(U) tg3(U) uhci_hcd(U) mptsas(U) mptscsih(U) mptbase(U) scsi_transport_sas(U) scsi_mod(U)
Pid: 10722, comm: httpd Tainted: P
            ^^^^^^^^^^^ this is the unkillable 100% cpu eating monster

     2.6.18-92.1.18.el5.028stab060.2 #1 028stab060
RIP: 0060:[<ffffffff8004a9b7>] [<ffffffff8004a9b7>] unix_stream_sendmsg+0x194/0x3d7
RSP: 0000:ffff8101f250fb88 EFLAGS: 00000203
RAX: 0000000000000000 RBX: ffff8101f250fee8 RCX: 00000000000003b8
RDX: fffffffffffffef0 RSI: ffff81011e35b4c0 RDI: ffff81012fbae000
RBP: 0000000000000227 R08: ffff8101c476cb80 R09: 0000000000000286
R10: 000053fe5fafdbc6 R11: ffff8101f250fb38 R12: 0000000000000000
R13: ffff8101f34b50c0 R14: 0000000000000000 R15: ffff8101b17cbc80
FS: 0000000000000000(0000) GS:ffff81022f494b40(0033) knlGS:00000000b7bd06c0
CS: 0060 DS: 007b ES: 007b CR0: 000000008005003b
CR2: 00000000b6d19030 CR3: 00000001f2634000 CR4: 00000000000006e0

Call Trace:
 <NMI> <<EOE>> [<ffffffff8001df4c>] __pollwait+0x0/0xe1
 [<ffffffff80055a09>] sock_sendmsg+0xd4/0xec
 [<ffffffff8003f92b>] memcpy_toiovec+0x36/0x66
 [<ffffffff80064edf>] _spin_lock_bh+0x9/0x14
 [<ffffffff800960cc>] autoremove_wake_function+0x0/0x2e
 [<ffffffff801de53f>] cmsghdr_from_user_compat_to_kern+0x180/0x20b
 [<ffffffff801ca06a>] sys_sendmsg+0x217/0x28a
 [<ffffffff8000c801>] do_sync_read+0xc7/0x104
 [<ffffffff80064edf>] _spin_lock_bh+0x9/0x14
 [<ffffffff800960cc>] autoremove_wake_function+0x0/0x2e
 [<ffffffff801ddd6c>] compat_sys_socketcall+0x159/0x172
 [<ffffffff800615fa>] ia32_sysret+0x0/0xa

this was the unkillable process, this apache process recives http requests and sends sockets to other http processes using sendmsg, there can be some error in this msghdr can be wrong or there might be some loop but it shouldn't kill the machine.

FD_SETSIZE is raised to 2048 if it makes any diference.

I think i might be able to reproduce some of the flow from this trace, to bad I did sysreq p only once
Basicly it should be sthing like poll(), accept a socket, sendmsg the socket to another process threw one of sockets created by socketpair(PF_UNIX, SOCK_STREAM, 0, socks)

Same code runs without problems on non openvz kernels 2.6.22 25 27 for months

Any pointers how to debug it ?

Subject: Re: OOM didn't save the machine
Posted by maratrus on Tue, 31 Mar 2009 11:36:36 GMT
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Hello,

Quote:
It's possible the "leak"

Yes, it might be a leak. Moreover, you said that
Quote:
Same code runs without problems on non openvz kernels 2.6.22 25 27 for months

So, let's try to find out if it's indeed a memory leak.

Quote:
Now it's happening again, apache process is using 100% cpu, I can't enter the vps beancounters bellow

Looks like you have to adjust CPUUNITS/CPULIMITS on the HN. You may read about them in OpenVZ user's guide
http://download.openvz.org/doc/OpenVZ-Users-Guide.pdf

Quote:

oomguarpages 50345 59833 35236 9223372036854775807 0

Oomguarpages exceeded barrier value, so this is likely the reason why a process inside that VE was killed.
http://wiki.openvz.org/Oomguarpages#oomguarpages

Do you have a single VE on the HN? If no, please show the full user_beancounters output.

Next time this issue will occur try to stop the problem VE (hope CPULIMIT/CPUUNITS adjustment will allow to do that) and look at the user_beancounters again. There should be no usage when VE is stopped. Please, also look at the slab state. If the consumption value is decreased. And show please /proc/slabinfo output after and before stopping the problem VE.

Subject: Re: OOM didn't save the machine
Posted by lazy on Tue, 31 Mar 2009 12:34:21 GMT
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maratrus wrote on Tue, 31 March 2009 06:36Hello,

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Looks like you have to adjust CPUUNITS/CPULIMITS on the HN. You may read about them in OpenVZ user's guide
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this VE has 300% cpulimit, and themachine has 4 cores

Quote:

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Oomguarpages exceeded barrier value, so this is likely the reason why a process inside that VE was killed.
http://wiki.openvz.org/Oomguarpages#oomguarpages
yes, first time when memory run out oom tried to kill some processes but I don't know if the one eating all the cpu was killed

Do you have a single VE on the HN? If no, please show the full user_beancounters output.

Version: 2.5

uid	resource	held	maxheld	barrier	limit	failcnt
3001:	kmemsize	164187239	168681365	268435456	536870912	0
	lockedpages	0	0	2562	2562	0
	privvmpages	750001	863788	1048576	1048576	0
	shmpages	28	48	15374	15374	0
	dummy	0	0	0	0	0
	numproc	202	247	2000	2000	0
	physpages	667127	774657	0	9223372036854775807	0
	vmguarpages	0	0	35236	9223372036854775807	0
	oomguarpages	667127	774657	35236	9223372036854775807	0

numtcpsock 134 309 2000 2000 0
numflock 10 32 1000 1100 0
numpty 0 1 200 200 0
numsiginfo 0 101 1024 1024 0
tcpsndbuf 1125360 4048272 8388608 10485760 0
tcprcvbuf 1046080 2213216 8388608 10485760 0
othersockbuf 171680 1371728 4650461 12842461 0
dgramrcvbuf 0 8736 4650461 4650461 0
numothersock 101 140 2048 3000 0
dcachesize 0 0 11452893 11796480 0
numfile 3896 4609 20480 20480 0
dummy 0 0 0 0 0
dummy 0 0 0 0 0
dummy 0 0 0 0 0
numiptent 10 10 200 200 0
3000: kmemsize 80854359 83363201 125829120 131072000 0
lockedpages 0 0 2562 2562 0
privvmpages 135920 171574 512000 537600 0
shmpages 284 284 15374 15374 0
dummy 0 0 0 0 0
numproc 65 127 2000 2000 0
physpages 37459 59833 0 9223372036854775807 0
vmguarpages 0 0 35236 9223372036854775807 0
oomguarpages 37503 59833 30000 30000 0
numtcpsock 15 95 2000 2000 0
numflock 2 13 1000 1100 0
numpty 0 1 200 200 0
numsiginfo 8 30 1024 1024 0
tcpsndbuf 266800 1460304 9300923 17492923 0
tcprcvbuf 1296 286512 638976 1048576 0
othersockbuf 13136 1270944 4650461 12842461 0
dgramrcvbuf 0 4368 4650461 4650461 0
numothersock 11 33 8000 9000 0
dcachesize 0 0 11452893 11796480 0
numfile 2126 4801 20480 20480 0

```
        dummy                0                0                0                0                0
        dummy                0                0                0                0                0
        dummy                0                0                0                0                0
        numiptent           10               10              200              200                0
     0:  kmemsize     74806381         74857340 9223372036854775807
9223372036854775807          0
        lockedpages          0                0 9223372036854775807
9223372036854775807          0
        privvmpages       8703            20362 9223372036854775807
9223372036854775807          0
        shmpages          1287             1303 9223372036854775807
9223372036854775807          0
        dummy                0                0 9223372036854775807 9223372036854775807
             0
        numproc             99              109 9223372036854775807
9223372036854775807          0
        physpages         4995            15435 9223372036854775807
9223372036854775807          0
        vmguarpages          0                0 9223372036854775807
9223372036854775807          0
        oomguarpages      5002            15435 9223372036854775807
9223372036854775807          0
        numtcpsock           6                7 9223372036854775807
9223372036854775807          0
        numflock             1                7 9223372036854775807 9223372036854775807
             0
        numpty               8                8 9223372036854775807 9223372036854775807
             0
        numsiginfo           2                6 9223372036854775807 9223372036854775807
             0
        tcpsndbuf       125696           698000 9223372036854775807
9223372036854775807          0
        tcprcvbuf        98304          1312608 9223372036854775807
9223372036854775807          0
        othersockbuf      9280            24832 9223372036854775807
9223372036854775807          0
        dgramrcvbuf          0             8464 9223372036854775807
9223372036854775807          0
        numothersock        25               30 9223372036854775807
9223372036854775807          0
        dcachesize           0                0 9223372036854775807 9223372036854775807
             0
        numfile           1935             2135 9223372036854775807
9223372036854775807          0
        dummy                0                0 9223372036854775807 9223372036854775807
             0
        dummy                0                0 9223372036854775807 9223372036854775807
             0
```

```
        dummy                 0               0  9223372036854775807  9223372036854775807
            0
        numiptent            10              10  9223372036854775807
9223372036854775807                0
```

Quote:
Next time this issue will occur try to stop the problem VE (hope CPULIMIT/CPUUNITS adjustment will allow to do that) and look at the user_beancounters again. There should be no usage when VE is stopped. Please, also look at the slab state. If the consumption value is decreased. And show please /proc/slabinfo output after and before stopping the problem VE.

after i tried to set vzctl set 3000 --cpus 1 all other vzctl's got stuck

there was monstrous filp cache usage in slab, (taken at second event at Tue)

```
mnt_cache              44     75    256   15    1 : tunables  120   60    8 : slabdata      5      5      0
inode_cache          1665   1740    608    6    1 : tunables   54   27    8 : slabdata    290    290      0
dentry_cache       896624 896624    240   16    1 : tunables  120   60    8 : slabdata  56039
56039      0
filp              9343650 9343650    256   15    1 : tunables  120   60    8 : slabdata 622910 622910
    0
names_cache           33     33   4096    1    1 : tunables   24   12    8 : slabdata     33     33      0
idr_layer_cache      102    105    528    7    1 :
```

Please look at the attatched images, there is a lot of kernel activity about 100% i guess this is runaway unkillable httpd whitch was in some kind of loop whitch was also eating filp cache thus crashing the machine,

this process had under 20 open files and was sending msgs threw af_unix socket as I mentioned bellow

memory consumption by userspace processes ware normal under 4 GB all the time, it looks like filp cache was eating the rest

Today we roll out plain apache on that vps, but later I'll try to trigger this event on a test machine.

File Attachments

1) ram.png, downloaded 423 times
2) cpu.png, downloaded 442 times

Subject: Re: OOM didn't save the machine
Posted by maratrus on Wed, 01 Apr 2009 15:59:11 GMT
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I have to admit that I'm a little bit confused.
The only assumption for now is the following.
The memory freeing process takes place in two steps:
- uncharging beancounters
- freeing memory with kfree via RCU.

If some process is stuck inside kernel space, RCU will never be scheduled and thus the second step will never be done. Hence, user_beancounters output shows nothing interesting (everything is ok) but slab cache consumes a huge amount of memory.

So, we have to single out the process that is stuck inside kernel space. You mentioned that you'd look at the wchan output but it is not the reliable way of debugging.

So, the ideal situation would be a serial console
http://wiki.openvz.org/Remote_console_setup
and alt-sysrq-
- p (twice the number of CPUs)
- w (several times)
- t (for all processes calltrace. this is a time consuming operation)

Subject: Re: OOM didn't save the machine
Posted by lazy on Wed, 01 Apr 2009 16:36:26 GMT
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maratrus wrote on Wed, 01 April 2009 10:59I have
So, the ideal situation would be a serial console
http://wiki.openvz.org/Remote_console_setup
and alt-sysrq-
- p (twice the number of CPUs)
- w (several times)
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ok, thank's for the tips

now we moved to plain apache on this machine(so far it's stable)

but I'll try to run it on test machine and try to trigger this issue again and log to netconsole

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