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 allaocated 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 likes 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 eeficient 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 al lot of memory is alloacted but not used. When in need for more mmemory, it can be efficintly 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 te 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...