
Subject: Is privvmpages's MAX limited to the amount of RAM on a computer

Posted by [CatDaaaady](#) on Fri, 20 Feb 2009 00:02:17 GMT

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I can't seem to get a straight answer on this one.

After reading these links:

http://forum.openvz.org/index.php?t=msg&goto=2594&#m sg_2886

<http://maxgarrick.com/understanding-openvz-resource-limits/>

<http://forum.openvz.org/index.php?t=msg&goto=32000&>

<http://wiki.openvz.org/Privvmpages#privvmpages>

<http://download.openvz.org/doc/OpenVZ-Users-Guide.pdf>

I am unsure if we can set a VE's privvmpages to more than a system's total RAM.

For instance if I have a system that has:

4GB RAM

4GB SWAP

HardwareNode

free -m

	total	used	free	shared	buffers	cached
Mem:	3926	224	3702	0	4	78
-/+ buffers/cache:		141	3785			
Swap:	4094	9	4085			

I can run this command.

```
vzctl set 33503 --privvmpages 4G --save
```

Then run "free -m" inside the VE and we will see 4Gs for the system.

VE

\$ free -m

	total	used	free	shared	buffers	cached
Mem:	3926	75	3850	0	0	0
-/+ buffers/cache:		75	3850			
Swap:	0	0	0			

\$

But if I set it to more then 4G it will not show up as system memory.

```
vzctl set 33503 --privvmpages 6G --save
```

VE

\$ free -m

	total	used	free	shared	buffers	cached
Mem:	3926	75	3850	0	0	0
-/+ buffers/cache:		75	3850			
Swap:	0	0	0			

\$

Thoughts?

If the answer is "no". My follow up question is "Why not? Assuming you have enough SWAP to

cover it."

Subject: Re: Is privvmpages's MAX limited to the amount of RAM on a computer
Posted by [CatDaaaady](#) on Fri, 20 Feb 2009 00:13:31 GMT
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Also I read this.
<http://forum.parallels.com/showthread.php?t=59082>

But I am still unsure.

Subject: Re: Is privvmpages's MAX limited to the amount of RAM on a computer
Posted by [CatDaaaady](#) on Fri, 20 Feb 2009 19:04:10 GMT
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Another interesting note.

I created some code to malloc and take up about 2G worth of memory.

I set the VE to 4G of memory to match the RAM on the hardware node.

Then I run the program. As you can see below I can only run the program 2 times before I get a malloc error.

```
vzctl set 33503 --privvmpages 4G
```

```
*Inside the VE*
```

```
$ free -m
```

	total	used	free	shared	buffers	cached
Mem:	3926	73	3853	0	0	0
-/+ buffers/cache:		73	3853			
Swap:	0	0	0			

```
$
```

```
$ ./allocateandfill &
```

```
[1] 32375
```

```
$ ./allocateandfill &
```

```
[2] 32376
```

```
$ Success
```

```
./allocateandfill &
```

```
[3] 32377
```

```
$ malloc: Cannot allocate memory
```

```
$ free -m
```

	total	used	free	shared	buffers	cached
Mem:	3926	3926	0	0	0	0
-/+ buffers/cache:		3926	0			
Swap:	0	0	0			

\$

So the above error is expected.

Then I set the VE to something over the amount of physical ram on the hardware node...
vzctl set 33503 --privvmpages 6G

Inside the VE

\$ free -m

	total	used	free	shared	buffers	cached
Mem:	3926	73	3853	0	0	0
-/+ buffers/cache:		73	3853			
Swap:	0	0	0			

\$

NOTICE no change in the total memory!?!?!

\$./allocateandfill &

[1] 32483

\$./allocateandfill &

[2] 32484

\$./allocateandfill &

[3] 32485

\$

NOTICE no errors!

\$ free -m

	total	used	free	shared	buffers	cached
Mem:	3926	3926	0	0	0	0
-/+ buffers/cache:		3926	0			
Swap:	0	0	0			

\$

Memory is totally used up. And it shows just 4Gs. "top" shows the same.

On the Hardware node

free -m

	total	used	free	shared	buffers	cached
Mem:	3926	3810	116	0	0	8
-/+ buffers/cache:		3800	125			
Swap:	4094	1678	2415			

Notice the hardware node is using all its ram and half the swap. As expected. It needs to grab 6G from somewhere.

So my question: What's up? Why does the VE not show all the memory it has available to it???

Subject: Re: Is privvmpages's MAX limited to the amount of RAM on a computer
Posted by [CatDaaaady](#) on Mon, 09 Mar 2009 19:14:32 GMT
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Looks like they are coming out with a change to taken into account swap space.
http://bugzilla.openvz.org/show_bug.cgi?id=1202
