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Subject: **\*SOLVED\*** SMP kernel vs PAE

Posted by [jpastore](#) on Thu, 19 Jul 2007 22:29:35 GMT

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I have a Dell PowerEdge 1900 with 6G of Ram and a quadcore processor. After reviewing the different kernel flavors ( [http://wiki.openvz.org/Different\\_kernel\\_flavors\\_%28UP%2C\\_SMP%2C\\_ENTERPRISE%2C\\_ENTNOSPLIT%29](http://wiki.openvz.org/Different_kernel_flavors_%28UP%2C_SMP%2C_ENTERPRISE%2C_ENTNOSPLIT%29))

I chose the PAE kernel, which hangs on boot. So I decided to fall back to the SMP kernel.

top shows 6G of Ram available.

should I bother trying to get the PAE kernel working?

-Jon

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Subject: Re: SMP kernel vs PAE

Posted by [dev](#) on Fri, 20 Jul 2007 07:02:13 GMT

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1. what kernel version have you used? the answers/questions depend on this
  2. i686 or x86-64? I assume 1st.
  3. it is binary kernel from openvz.org or compiled by yourself?
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Subject: Re: SMP kernel vs PAE

Posted by [jpastore](#) on Fri, 20 Jul 2007 14:09:08 GMT

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uname -a

Linux HOSTNAME-OMITTED 2.6.18-ovz028stab035.1-smp #1 SMP Sat Jun 9 12:09:51 MSD 2007 x86\_64 x86\_64 x86\_64 GNU/Linux

rpm -qa |grep ovz

ovzkernel-2.6.18-8.1.4.el5.028stab035.1

ovzkernel-PAE-2.6.18-8.1.4.el5.028stab035.1

kernel-smp-2.6.18-ovz028stab035.1

I followed the instructions from the wiki and after finishing the instructions I found another set of work around instructions for dealing with x86\_64. I did not compile them myself I used yum to fetch them from the openvz repository.

Thanks

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Subject: Re: SMP kernel vs PAE  
Posted by [dev](#) on Fri, 20 Jul 2007 14:19:56 GMT  
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PAE kernel is for i686 only. it has even i686 in rpm name  
For x86-64 there is only one RHEL5 kernel flavour and it's SMP by default.

So your currently loaded kernel (2.6.18-ovz028stab035.1-smp as shown by uname output) is the right choice for you.

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Subject: Re: SMP kernel vs PAE  
Posted by [jpastore](#) on Fri, 20 Jul 2007 14:27:46 GMT  
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Thank you I didn't realize it was i686 only. I only tried to get it work when I realized I had 6G of ram and the chart stated that over 4G you should PAE.

Am I going to fully utilize the 6G of ram with the SMP kernel? I see that it recognizes it, but the wiki states otherwise.

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Subject: Re: SMP kernel vs PAE  
Posted by [dev](#) on Fri, 20 Jul 2007 14:31:16 GMT  
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there is no 4GB limit on x86-64, so the whole RAM will be used.

there is a note in wiki

Note: When using a 64-bit processor and operating system, you need only select the SMP or non-SMP version. 64-bit linux can access the entire 64Gb of ram in ZONE\_NORMAL (low memory). PAE and 4GB/4GB splitting are only needed for 32-bit OS, and so are not necessary and are disabled by default in 64-bit kernels.

And I've also added the table in question is i686-specific.  
Sorry for the confusion :/

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Subject: Re: SMP kernel vs PAE  
Posted by [jpastore](#) on Fri, 20 Jul 2007 14:41:22 GMT  
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No problem. Thank you for the clarification!

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