

cpu reservation question for vsmp VM's ...



[asp24](#) 103 posts since

Oct 11, 2006

I know that vSMP VM's have to wait for x CPU's to be available (where x is the number of v-cpu's)

Lets say I have a host with cpu 16 cores (4 x quad-core), and the CPU's are running at 2,5 GHz..

Can I then run 7x 2-way vSMP guest or 3x 4-way vSMP (leaving some for "system") ,and set cpu reservation to 5000 MHz for 2-way guests and 10000 MHz reservation for 4-way guest, and NOT have any problems with the guest waiting for CPUs (cores) to be ready? (no other guests on the host)

Will reservation work that well?



[depping](#) 2,997 posts since

Jan 17, 2005 **1. Re: cpu reservation question for vsmp VM's** Oct 12, 2008 2:58 PM

Normally you will not need to set the reservations.I would first try to find out if it's useful to even give the vm's multiple cpu's, and with the relaxed co-scheduling introduced in 3.5 the vm's should spend less time waiting on eachother. If the vm's will not be in a DRS cluster you could pin the vm's down to specific cores!

Duncan

Blogging: <http://www.yellow-bricks.com>

If you find this information useful, please award points for "correct" or "helpful".



[asp24](#) 103 posts since

Oct 11, 2006 **2. Re: cpu reservation question for vsmp VM's** Oct 12, 2008 3:04 PM

 in response to: [depping](#)

Thank you for the reply! I see now that my question should be changed a little bit.

What if there are other non critical servers on the same host?

Scenario:


There are 16 cores @ 2,5 GHz on the host. And I have 2 x 4-way vSMP VM's with 10000 MHz cpu reservation each running on it.

Lets say that I add 12 non-vSMP guests running at 100% cpu (inside guest) ALL the time. Will the two 4-way vSMP guests ALWAYS get cpu resources with little or no delay compared to running alone on the host?



[mcowger](#) 2,065 posts since

Aug 22, 2007 **3. Re: cpu reservation question for vsmp VM's** Oct 12, 2008 3:40 PM

 in response to: [asp24](#) No, because you have created 20 vCPUs to run on 16 pCPUs - there will always be some amount of waiting, esp. for the multi CPU VMs.

--Matt

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[asp24](#) 103 posts since

Oct 11, 2006 4. **Re: cpu reservation question for vsmp VM's** Oct 12, 2008 3:47 PM

↑ in response to: [mcowger](#) even if the cpu reservation is as high as (or higher) that cpu speed x number of vCPU's ? Then the VP is not getting the guarantee cpu speed as "promised" ?



[mcowger](#) 2,065 posts since

Aug 22, 2007 5. **Re: cpu reservation question for vsmp VM's** Oct 12, 2008 3:57 PM

↑ in response to: [asp24](#) Even then - there will still be some waiting involved while the other VMs are serviced to their needs.

--Matt



[wilson94t](#) 95 posts since

Oct 28, 2004 6. **Re: cpu reservation question for vsmp VM's** Oct 12, 2008 5:09 PM

↑ in response to: [mcowger](#) There are 16 cores @ 2,5 GHz on the host. And I have 2 x 4-way vSMP VM's with 10000 MHz cpu reservation each running on it.

Lets say that I add 12 non-vSMP guests running at 100% cpu (inside guest) ALL the time. Will the two 4-way vSMP guests

ALLWAYS get cpu resources with little or no delay compared to running alone on the host?

The answer is, it depends how you configure. As depping said, (love yellowbicks btw) you can lock down to specific cores if you're not making use of DRS. Given the 2.5Ghz quad core, you are also likely to be on Opteron, so assign your cores thinking wisely of your memory nodes.

The approach, while it may seem to be a good idea, is something I'd recommend against unless you have no alternative. You'd schedule your 4vCPU VMs on two of the quad cores and prevent any other VM from scheduling time on those cores.

Best situation is to use resource pools to schedule priority, avoid 4 vCPU vm's if possible (even though Microsoft loves to recommend them). Typically those application people who demand x amount of Ghz without documented evidence for their application to run are simply concerned that their application may be throttled way down due to an improperly managed hyper visor environment. Bottom line is, given a sense of what is important and what is not, the vmkernel should be able to schedule better than you or I.

If you are in a situation which you're being asked for guarantees, perhaps suggest that you test and tune the application as needed, and come up with an acceptable response or load for the application. The guarantee should be based on some type of application performance (number of transactions, complete a process within x minutes....etc) rather than how many MHz a given CPU can provide.

CPU core speeds change much more quickly than application requirements.



[asp24](#) 103 posts since

Oct 11, 2006 7. **Re: cpu reservation question for vsmp VM's** Oct 12, 2008 11:55 PM

↑ in response to: [wilson94t](#)

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Thank you for very useful feedback both of you!

I will probably not run any 4-way vSMP VM's at all. This was more like a theoretical question. Now I have a bit more knowledge that will be useful when designing resource pools etc.



[wilson94t](#) 95 posts since

Oct 28, 2004 8. **Re: cpu reservation question for vsmp VM's** Oct 13, 2008 12:06 AM

👤 in response to: [asp24](#) When designing the resource pools, it is also recommend that you allow for some unallocated resources in the root pool that each of the defined pools can pull from if needed. It can be useful to have some buffer. Good luck with your implementation...