

Does the number of VCPUS relate to the ...



[srimini](#) 27 posts since

Apr 23, 2008

Thanks for the response. still am not clear with the VCPU concept. i saw in a document that VMware provides four way Virtual SMP support. how does that put a constraint on the VCPUS. how it relates to the number of physical processor available on the server.

for ex, if suppose i have a server with dual core processor, then can i have four way VSMP support on the server. in that case what is the number of VCPUS?

And can someone explain what is the logic behind the concept of VSMP and VCPU. Thanks in Advance.



[Dave.Mishchen...](#) 8,948 posts since

Nov 15, 2005 **1. Re: Does the number of VCPUS relate to the Virtual SMP support provided by VMWare** May 22, 2008 12:37 AM

With vSMP you can run a VM with 1, 2 or 4 virtual CPUs (vCPU). When ESX schedules a CPU cycle for a VM, it has to find the same number of free physical CPU cores as there are vCPUs the VM. So for a 2 vCPU VM, ESX would have to find two free CPU cores and for a 4 vCPU VM ESX would find 4 free physical CPU cores. So to answer your one questions, you would require a server with at least 4 physical CPU cores to run a 4 vCPU VM.

So for vSMP each vCPU will execute on a separate physical CPU core and those CPU cores must be free at the same time for the VM to get a CPU cycle. Here's a good paper to read through on the topic - http://www.vmware.com/pdf/vsmp_best_practices.pdf



[oreeh](#) 9,872 posts since

Nov 30, 2005 **2. Re: Does the number of VCPUS relate to the Virtual SMP support provided by VMWare** May 22, 2008 9:22 AM

for ex, if suppose i have a server with dual core processor, then can i have four way VSMP support on the server.

With only one dual-core CPU in the ESX hosts you can only use two way vSMP. But that wouldn't work well for the reasons Dave already mentioned.

in that case what is the number of VCPUS?

The number of vCPUs itself is related to the number of physical cores in the following way (from the [Configuration maximums pdf](#)):

Number of virtual CPUs per server: 128

Number of virtual CPUs per core: 8 (11 with VDI)


Therefore with two cores in the host you have a maximum of 16 vCPUs.



[drummonds](#) 112 posts since

May 31, 2007 **3. Re: Does the number of VCPUS relate to the Virtual SMP support provided by VMWare** May 23, 2008 11:50 AM

Does the number of VCPUS relate to the ...

 in response to: [Dave.Mishchen...](#) Also note that we recently published [Co-scheduling SMP VMs in VMware ESX Server](#) detailing the relaxation of the co-scheduling requirement you mentioned.