

# Designing vSphere

Designing vSphere

Home About

Type text to search here...



Home > Storage, performance > Performance charts and Troubleshooting

## Performance charts and Troubleshooting

April 10, 2010 Preetam Zare

Go to comments

Leave a comment

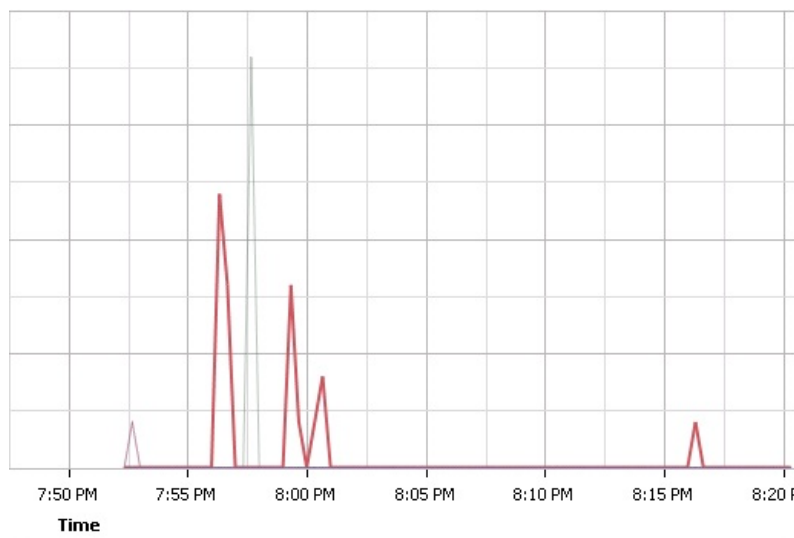
★★★★★ 1 Votes

There are really good tools and document available on troubleshooting vmware. I'm learning and as I go, I want to share with you all. Though production scenario are quite different but below approach might help you in finding bottlenecks in advance. I intend to show how to keep tab on the below values over a period of time. Say Weekly or monthly. Any changes or variation in these values means there is problem in the system which needs to be address ASAP.

### DISK BOTTLENECK

Three important counters to find disk bottleneck

1. **Kernel Disk Command Latency:** it is VMKernel processing time for each SCSI Command. So fast VMKernel can process SCSI command is clear from this counter. Ideally it should be between 0 – 1 millisecond. If it crosses 4 millisecond then you need look at either increasing CPU or queue depth. Below is real time observation of one of my ESXi box. You should actually observe this counter for week's time to check future expansion



Performance Chart Legend

Key	Object	Measurement	Units	Maximum	Minimum	Average
	naa.6000eb316dd2aeb80000000000000020	Kernel Disk Command Latency	Millisecond	9	0	0.115
	naa.6000eb316dd2aeb8000000000000000f	Kernel Disk Command Latency	Millisecond	6	0	0.218
	naa.6000eb316dd2aeb80000000000000022	Kernel Disk Command Latency	Millisecond	1	0	0.011
	naa.6000eb316dd2aeb80000000000000018	Kernel Disk Command Latency	Millisecond	0	0	0
	naa.6000eb316dd2aeb80000000000000016	Kernel Disk Command Latency	Millisecond	0	0	0

1. **Physical Device command latency:** It is the amount of time taken by physical device to complete the SCSI command. Here physical device is HBA, Switch fabric or ports. If this value is more than 15 millisecond it can indicate a problem with storage array.



RSS feed



Twitter

Search

### Top Posts

- How to backup esxi using powercli?
- Performance charts and Troubleshooting
- vCenter Requirements
- How to find Used Reservation
- VMware KB: Virtual machines with more than 2TB minus 512B of RDM disk space fail to power on after you upgrade from ESX/ESXi 3.5 to ESX/ESXi 4.0 or 4.1
- How to configure syslog (kiwi) server for ESXi –Part-02
- VMware KB: Changes to VMware High Availability in vSphere 4.1
- vCenter Ports & vCenter Services
- How to create user account on ESXi host directly using powershell
- What is LUN re-signature and what is it's importance

### Categories

Select Category

### Blogroll

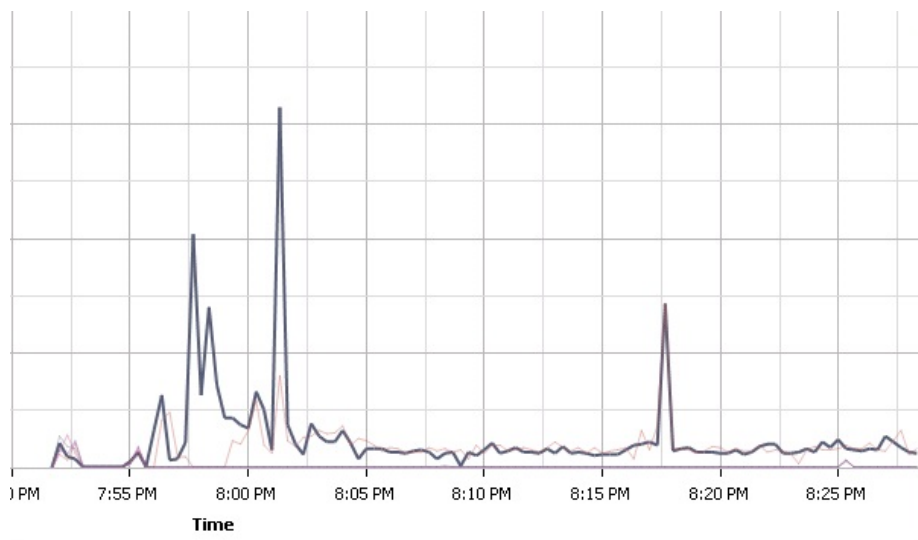
- expresscomputeronline
- in\_randombytes -NetApps

### FavWebsites

- Network Computing

### My Top VMware Blogs

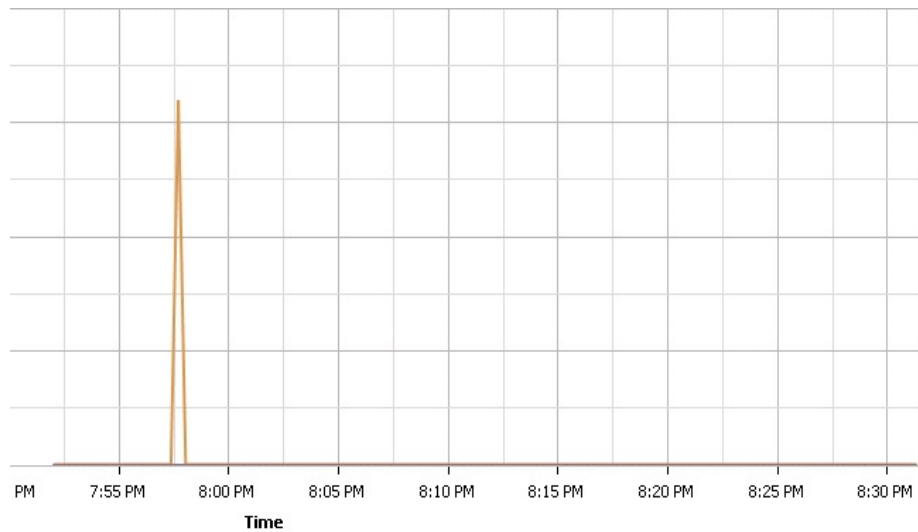
- boche.net
- Eric Sloof's ntpro.nl
- Hypervisor
- RTFM Education
- SimonLong/Blog
- VCP Certification
- vCritical
- Virtual Kenneth



Key	Object	Measurement	Units	Maximum	Minimum	Average
	naa.6000eb316dd2aeb80000000000000020	Physical Device Command Latency	Millisecond	315	0	24.08
	naa.6000eb316dd2aeb8000000000000000f	Physical Device Command Latency	Millisecond	143	0	17.607
	naa.6000eb316dd2aeb800000000000000022	Physical Device Command Latency	Millisecond	28	0	0.696
	naa.6000eb316dd2aeb800000000000000018	Physical Device Command Latency	Millisecond	27	0	0.714
	naa.6000eb316dd2aeb800000000000000016	Physical Device Command Latency	Millisecond	23	0	0.688

Remember to go by average, in this naa.6000eb316dd2aeb80000000000000020 is at one time 315 millisecond but on average it goes to only 24 sec. Remember these are real time values, we should actually be watching these values our week or monthly period to keep tab on them

1. **Queue command latency:** How long SCSI command spends time in VMKernel queue. It should be ideally zero and so it is seen below. If it not zero then there is again problem in the storage array.



Key	Object	Measurement	Units	Maximum	Minimum	Average
	naa.6000eb316dd2aeb800000000000000022	Queue Command Latency	Millisecond	0	0	0
	naa.6000eb316dd2aeb800000000000000018	Queue Command Latency	Millisecond	0	0	0
	naa.6000eb316dd2aeb800000000000000016	Queue Command Latency	Millisecond	0	0	0
	naa.6000eb316dd2aeb80000000000000000f	Queue Command Latency	Millisecond	0	0	0
	naa.6000eb316dd2aeb800000000000000020	Queue Command Latency	Millisecond	8	0	0.067

Possibly related posts: (automatically generated)

- [VMware Communities: Performance Troubleshooting for VMware vSphere 4 and ES...](#)
- [How to create custom chart?](#)
- [Default to advance chart in Performance tab](#)

Storage, performance

Leave a comment Trackback

Trackbacks (0)

Comments (4)



Paul

June 8, 2010 at 11:34 am | #1

[Reply](#) | [Quote](#)

Is it possible when the Physical Device Command Latency spikes the pipe from ESX host to storage device is not big enough?

June 8, 2010 at 4:24 pm | #2

[Reply](#) | [Quote](#)

That could be very very rare thing to happen as we are talking about Fiber channel/iSCSI which are very high networks



**Preetam Zare**



**Bryan Sample**

June 17, 2010 at 8:56 pm | #3

[Reply](#) | [Quote](#)

Preetam –

Trying to find some good sites that talk about storage problems for vm environments and came across your blog. First — check out <http://www.vkernel.com> for our capacity analyzer to do some of what you are doing above. Second – I am going to include a link to your blog in my coming post. Thanks.

June 18, 2010 at 4:57 am | #4

[Reply](#) | [Quote](#)

I'm aware of vKernel product, I'm quite impressed by it. I would definitely explore it.



**Preetam Zare**

Name (required)  
 E-mail (required)  
 Website

[Subscribe to comments feed](#)

[Submit Comment](#)

☐ Notify me of follow-up comments via email.  
☐ Notify me of site updates

[How to create custom chart?](#)

[Admin tips for reading Virtual Machine files and it's size](#)



Copyright © 2009-2010 Designing vSphere  
Blog at WordPress.com Theme: Inove by NeoEase.

[Top](#)

Fonts from