

# File system performance ...

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[marius](#) 180 posts since

Nov 3, 2004

I installed VMware ESXi 3.5 on an HP ML350 G6 server.

It works fine. however I suspect there is some problem related to the file system, as operations involving accessing the file system (i.e. installig VMs from .ISO images) are really slow.

I created a RAID5 array managed by the disk controller and created a unique datastore.

How can I troubleshoot possible file system bottlenecks? Should I have managed disks in a different way?

In the next weeks I'll have the option to save all my VMs and reinstall my ESXi server from scratch before making it fully operational, but I need some hints or guidelines to avoid basic setup and configuration mistakes...

Regards

Marius



[J1mbo](#) 565 posts since

May 20, 2009 1. **Re: File system performance** Jun 26, 2009 7:32 AM

does your server have a battery backed write cache on the array controller?



[marius](#) 180 posts since

Nov 3, 2004 2. **Re: File system performance** Jul 10, 2009 8:55 AM

in response to: [J1mbo](#)

The hint sounds interesting: can you please provide more details?

Regards

Marius



[J1mbo](#) 565 posts since

May 20, 2009 3. **Re: File system performance** Jul 10, 2009 8:58 AM

in response to: [marius](#)

Do some searches for "BBWC" on this site and via Google, it comes up all the time. ESXi doesn't cache any writes itself so write performance with RAID-5 without a hardware cache (which will only be enabled by having a battery backup on it) will be pretty bad.



[marius](#) 180 posts since

Nov 3, 2004 4. **Re: File system performance** Jul 10, 2009 9:08 AM

in response to: [J1mbo](#)

File system performance ...

Interesting... My server (HP ML350 G6) does have a BBWC, I need to see if the battery is present and it is enabled...


Thanks again

Marius



[marius](#) 180 posts since

Nov 3, 2004 5. **Re: File system performance** Jul 13, 2009 3:55 AM

 in response to: [J1mbo](#)

I made a check and discovered that my ML350 G6 and discovered that BBWC is not installed.

Is there any documentation about this specific issue to convince the customer upgrading the server?

Regards

Marius



[Anton V Zhanov](#) 2,871 posts since

May 26, 2008 6. **Re: File system performance** Jul 13, 2009 4:10 AM

There is also a possible bottleneck with vmk type. By default all VMDKs are created in "zeroedthick" mode. It means that all the space is preallocated, but not wiped, so on first access to each block on vmk ESX wipes block first. As a result you see degraded performance for some time.

zeroedthick (default) .

Space required for the virtual disk is allocated during creation. Any data remaining on the physical device is not erased during creation, but will be zeroed out at a later time during virtual machine read and write operations.

eagerzeroedthick

Space required for the virtual disk is allocated at creation time. Unlike with the zeroedthick format, the data remaining on the physical device is zeroed out during creation. Disks in this format might take much longer to create than other types of disks.

thick

Space required for the virtual disk is allocated during creation. This type of formatting doesn't zero out any old data that might be present on this allocated space.

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VMware vExpert '2009

<http://blog.vadmin.ru>



[J1mbo](#) 565 posts since

May 20, 2009 7. **Re: File system performance** Jul 13, 2009 4:11 AM

 in response to: [marius](#)

Try [http://kb.vmware.com/selfservice/microsites/search.do?language=en\\_US&cmd=displayKC&externalId=1002282](http://kb.vmware.com/selfservice/microsites/search.do?language=en_US&cmd=displayKC&externalId=1002282)


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*"Write caching must always be enabled. It is always recommended to have a battery backup connected to ensure that write caching does not become disabled. On many arrays, write caching is automatically be turned off when the battery backup is disconnected, fails, or if one of the redundant power supplies disconnects or fails."*



[marius](#) 180 posts since

Nov 3, 2004 8. **Re: File system performance** Aug 5, 2009 8:48 AM

 in response to: [J1mbo](#)

I made some tests before and after installing the battery backup and the first tests show a real increase of performance.

I go on with the tests and I'll update as soon as I have more detailed results.

Thank you again

Marius