

## Entirely off-topic harddisk questions

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Hi Everyone,

Smack me if you want because my questions are not FreeBSD related, and feel free to send me to hell (I have a return ticket!).

The only reason I post my question here is because I found many people here with a wide hardware experience and I have already found many of your posts honest and reliable, unlike an official hardware description.

Impatient readers, feel free to jump to the questions below!

For the rest of you, here is some background info so that you know what environment my questions relate to.

It's been a while that I am working on constructing a little "all-purpose" home server for myself. Most probably many of you will understand what I am talking about. A machine that runs 24/7 in my room, allows me to connect home from work and secretly play with my home system (ssh), allows my friends to see the pride of my photos any time they have the time (apache) or shares my files with friends (sftp) or even complete strangers (donkey-server). Collects my mails from my pop boxes (fetchmail) and offers them to me in one central location (imap server) after filtering out the junk and viruses (procmail, clamav, spamass, etc), maybe even allowing me to see my mails from anywhere with a webbrowser (squirrel-mail). Also keeps my personal files in one common place where I can access them no matter what OS I boot on my desktop machine (nfs + samba), while it keeps downloading interesting files from the web (some eDonkey or aMule client) for me and still able to play my mp3 files. The machine is also to operate as my ADSL router, firewall and dhcp server.

I slowly put together the machine piece by piece. I decided to go for a MicroATX case so that it doesn't occupy too much space. A Jeantech JNF11S with some modifications (venting holes made on the top) and a Mach Speed 623DMP Socket370 mainboard was selected. An 1200 MHz VIA C3 Nehemia processor was picked to reduce power consumption and heat production. Thanks to the 4 PCI slots of the mainboard, I can add a second NIC (in addition to the onboard one), an Adaptec 2940 (I have many external SCSI devices) and a FireWire card (I also have some external FW devices), plus an ATI Radeon 9000 with DVI interface so that

I can connect the little machine to my DVI KVM switch so I don't need a separate keyboard/mouse/display for the server and I can switch very easily between my desktop, the server, and later if I buy it my Mac. A slot load 5.25 inch Pioneer DVD reader was added which can work fine in the upright position. A Zalman 6000CU copper flower heatsink is added to the C3 processor so it is passively cooled. The 200W power supply was removed from the JNF11 case and was replaced with a fanless 110W external brick PSU and a tiny power board. This made the entire system noiseless (when no optical disc is in the drive).

AND THIS IS WHERE THE HARDDISK ISSUE COMES IN, AS AT THE MOMENT THE ONLY SOUND THE SERVER GENERATES IS THE CONSTANT HARDDISK SOUND. The server uses a spare 10Gig disc, a pretty old, slow and noisy one. I perfectly eliminated the noise of my desktop machine with a relatively modern and silent Samsung SpinPoint 180Gig disc plus a SilentMaxx box which helps dissipating heat and absorbs noise and vibration.

**\*QUESTION\* PART:**

(sorry for the long intro, it was only for you to understand the circumstances and the operating environment/requirements)

I have the feeling that 2.5 laptop harddisks are more silent than 3.5 desktop ones. This is partly theory based, though I have some experience which confirms this (and I also have an extremely noisy rubbish laptop harddisk). Also, I can buy a laptop harddisk with 4200 RPM, which should be less noisy than a 7200 or 10000 RPM desktop disk. Even an 5400 desktop or laptop disk can save me some motor and spinning noise. But I have some doubts regarding laptop discs. A laptop is designed for some hours of work, than power off. Later you turn it on again, use it and power off (or sleep) again. So I guess that laptop harddisks are not designed for 24/7 operation. Still, modern technology today may mean that there is no difference in the manufacturing of a laptop or a desktop harddisk, so a 2.5 disk can run perfectly as a 24/7 server disk.

What do you think about 24/7 operation and reliability of laptop disks ?

Also, I have performance questions. As you can see the server is not likely to get any heavy load.

Will a 4200 or 5400 RPM disk mean a noticeable performance drop in this environment, related to a 7200 or 10000 RPM disk ?

I have serious difficulties deciding between an 5400 RPM Seagate 3.5 disk and a 4200 or 5400 RPM laptop disk. Do you think there is any noticeable difference between these, performance and noise level wise ?

Western Digital claims that its new 2.5" Scorpio series laptop disks running at 5400 RPM are more silent than any 4200 RPM disks and still outperforms most 5400 laptop and desktop disks.

Any experience with the 2.5" WD Scorpion disks? Noise and performance wise?

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In the last 6 years I had very bad experiences with desktop WD disks. Bad sector problems on many-many disks, old and new. So I am not really happy with WD and would rather pick a Seagate 2.5" 4200 RPM disk. But if the scorpion series is really that silent and good, I am willing to give it a try.

So, any comment or experience in this field is more than welcome here!

Regards,  
Keve

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