Running Head: SERVER LEVEL HARD DRIVES

Storage Devices: Server Level Hard Drives

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Walden UniversityStorage Devices: Server Level Hard Drives

Three popular server level hard drives, in my opinion, come from Seagate, each at varying storage densities and performance. The first is a high performance low capacity hard drive, the Cheetah 15K Hard Drive; the second is the Constellation ES Hard Drive; and the third is the Savvio 10K Hard Drive (Seagate Technology LLC, 2012). All three hard drives are server level, meaning they provide a mix of high capacity and high performance. However, each provides the mix at differing levels.

The Cheetah 15K Hard Drive is a 3.5” (platter size) drive with a 16MB (Mega Byte) cache and a spin speed of 15000 RPMs (Rotations per Minute). It comes in a range of sizes, 73 GB (Gigabytes) up to 600 GB. That being said, since this is going to be for a server, the 600GB would be the minimum size to consider, and as such, is the smallest of the listed hard drives. However, it does offer encryption at the hardware level. This means that it is one of the most secure.

The Constellation ES Hard Drive is a 3.5” drive with a 64MB cache and a spin speed of 7200 RPMs. It comes in a range of sizes, 500 GB to 3 TB (Terabytes), making it one of the largest hard drives on this list. It offers encryption at the hardware level, as well. Unfortunately, at only 7200 RPMs, the read/write speeds would be the slowest of the lot, something to keep in mind.

Finally, the Savvio 10K Hard drive is a 2.5” drive with 16MB or 64MB cache and a spin speed of 10000 RPMs (Seagate Technology LLC, 2012). The storage range is 146 GB to 900 GB and comes with encryption enabled. This drive is the middle ground of the three, offering speed and storage size, without giving much away in performance or capacity.

The factors to consider when choosing a hard drive are spin speed, capacity, cache size, and platter size. Spin speed assists in the read/write speed of the drive. It is not the definitive answer to read/write, but it does have the largest impact overall. Capacity is the actual amount of space on the hard drive used for storage. However, the larger the capacity, the lower the read/write speeds are likely to be. Cache is the temporary storage area where data sits before going to RAM or going back to the hard drive. The larger the cache size, the fewer reads/writes the hard drive will need to accomplish.

Last, but definitely not least, is platter size. Platter size has a subtle, but profound effect on the life span, read/write speeds of the hard drive, and overall power consumption (Schmid, 2007). The smaller the platter, the less movement the read head will need to do in order to finish a read/write cycle. Also, with less movement, comes lower energy use for that movement. With fewer movements during the lifetime of a hard drive, comes a longer overall lifetime.

When creating a server storage infrastructure, capacity, performance, speed, and power consumption, are the things that the network admin must consider. Although, power consumption is at the lower end of the consideration spectrum, when hundreds of hard drives are running, a large amount of electricity will be in use. With these thoughts in mind, I would recommend the Savvio 10K Hard Drive over any of the others. It is smaller, faster, more energy-efficient, and at 900 GB a decent server size, as well.

Reference

Schmid, P. (2007, October 10). *2.5" Kills 3.5".* Retrieved January 27, 2012, from Tom's Hardware: <http://www.tomshardware.com/reviews/sas-hard-drives,1702-2.html>

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