

The KCS Enquirer

Information about the Computer Revolution

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KCS News

Server Drives – You Can't Have Too Many

Companies are storing more data, and program sizes are increasing dramatically requiring more and more disk space. Application programs and operating systems will require even more space in the future as new features and performance enhancements are added. More image files, such as PDF or JPG files are being used that are much larger than text files. In addition, these files are more difficult to compress to reduce their size. To accommodate this growing need you should make sure you have adequate disk space on your server. Not only do you need enough room to store data and programs but the system needs free space to store temporary files that are required for efficient operation. If there is not enough free space available the system can crash. Adding additional drives can not only increase your storage capacity but also speed up your system. Additional free space allows the system to read and write data more efficiently since it can keep files in a contiguous area instead of scattering them over the disk in whatever empty areas are available. These fragmented files take much

longer to locate and read. Available

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storage room is needed to facilitate drive defragmentation which puts fragmented files back together to increase efficiency.

Another advantage of adding drives is that it will allow the utilization of different RAID (Random Array of Independent Drives) technologies. RAID technology significantly improves performance and data protection – referred to as fault tolerance. There are various methods of storage used and they are referred to as level 0, 1, 2, 3, 4, 5, 6, 10, 50 and 0+1. Different RAID levels store data with different techniques. Data can be spread (striped) over several drives (RAID 0) to improve

performance. However RAID 0 alone does not provide any fault tolerance. Data can be mirrored (RAID 1, 10 and 0+1), meaning it is stored in duplicate so a drive failure will not result in a data loss. Other RAID levels use a parity drive (RAID 3) or they store parity data over multiple drives (RAID 5 & 6). The parity information is used to rebuild data in case of a drive failure. RAID technology substantially increases performance especially for data reads since the computer can simultaneously read data from at least two drives. RAID levels using parity technology also allow “hot swapping” of failed drives. Hot swapping is the ability to replace bad drives without shutting the computer down.

We are now recommending that new servers be ordered with a minimum of four drives and a minimum RAID level of 5 or 6. We also recommend upgrading current servers if they are not at a proper RAID and drive level. Upgrading will boost performance and is cheap insurance against data loss.

Citrix Certification

Citrix Systems manufactures software that facilitates remote access collaboration on documents,

spreadsheets, applications, etc. The program can be configured as a Web page that can be accessed by any authorized person that has Internet access. Many levels of security are available allowing authorized access ranging from read-only to full creation, editing and deletion privileges. Transmitted information is fully encrypted to foil hackers. Applications and security are centrally managed. Best of all this is a relatively inexpensive method to simplify and manage your remote access users. We can send you more information or show you a demonstration if you are interested.

Demystifying SharePoint

Microsoft has a program called SharePoint for on-line collaboration that is similar to the Citrix system discussed above. Unfortunately neither they nor other third party companies have much information on it. To learn more about this system we have gathered what information is available and have set up a test server. We are currently experimenting with the software to see what it can do. So far it looks promising. We will be reporting on our progress periodically.

MS News

Here They Come

During 2006 and early 2007 Microsoft will be releasing Vista, the computer operating system (OS) that will replace the current XP OS. Only two years late (known as on-time at Microsoft) there will be six, yes six, versions of Vista. Two will be targeted at business users, Business and Enterprise, three for home users, Basic, Premium and Ultimate, and one called Starter will be sold in emerging markets. In addition there will be two versions without the Media Player to comply with the European Union antitrust verdict. They will be called Home Basic N and Business N. The Home, Business and Enterprise versions will include support for mobile computing.

Currently there are no listed 64 bit versions of the operating system.

Basic Home will be mainly for Web browsing, e-mailing and documents. The Home Premium version will have several entertainment features including the ability to record and play back television programs. A wireless link will be available to transmit shows to a TV via an Xbox 360. It will also be able to control other home entertainment devices. Home Ultimate will have even more features.

A virtually full featured test (beta) version of the Vista Enterprise version has been released for debugging and comments. The reports we have seen to date indicate that this should be considered an important upgrade with much improved security.

The equivalent Network Operating System (NOS), currently called Longhorn (also the original name for the client OS) is due for release in 2007. It is currently released in beta form but is not at as advanced a stage as Vista.

Also due for a 2006 release is Office 2007. Office 2007 will be available in at least seven different versions. Some publications say that by release date 34 versions may be available!

MS Phone

New phones using an updated Microsoft Mobile 5.0 operating system will be available very soon. E-mail capability is one of the new features in Mobile 5.0 and will permit them to function much like Blackberry devices. The phones will have an organizer, a mobile Office version and a mobile Web browser. Additional applications are also available as add-ons including voice command modules, GPS mapping and navigation functions, media features to play audio and video and reference tools to name a few.

Ultra-Mobile PC

Microsoft has unveiled a 2 ½ pound portable computer that is about the size of a paperback book with a 7-inch screen. It will be powered by Pentium M or Celeron M processor and will be a full-fledged computer. The prototype models do not have a keyboard and rely on a touch screen for entry functions. While the first versions will run the same operating system as tablet PCs, future versions will run the new Vista OS.

CPU News

Dual Core Chips Are Here

Both Intel and AMD, Advance Micro Devices have released dual core CPU (Central Processing Unit) microprocessors. These chips have two distinct processors integrated in the same chip. They promise higher performance and reduced power consumption. Reduced power usage is especially important in mobile devices since it means longer battery life and less heat generation.

Dual processor CPUs are now available for desktops and will be available soon for notebooks and servers. Both AMD and Intel are eliminating the familiar GHZ (gigahertz) designation to identify processor speed. With the revised architecture neither company feels the GHZ speed reflects the true processing speed.

The new names are confusing to say the least. For example an Intel Pentium 4 D is a dual-core processor but a Celeron D is not. Plus not all dual-core Intel processors have a "D" suffix. Although both companies brag their naming structure is more informative the opposite is closer to the truth.