

Dylan Lucas

Preventing Server Disaster

Server and computer disasters are notoriously very annoying. They always prevent one or more users from working until the IT support can come round and fix it. Sometimes it is a hardware failure and the new hardware to replace it is no where to be found. Alternatively it could be a software problem and no current fixes exist. All in all server disasters are a pain for businesses as they may be business critical, they could be responsible for operating the phone systems or the e-mails. This article explains a few ways in which you can use redundant hardware and software to minimize and possibly eliminate server downtime.

Software

Backing Up

No Matter how much hardware redundancy you have, you still need backups of your important files and databases stored to external media or external sites. There is a lot of "off the shelf" backup software. Usually the better backup software is not free and not cheap. Your IT Support team should recommend you their favourite software and hardware backup implementation. You should agree on a schedule to change external media and a maintenance plan with the IT support team.

Oops I deleted A file on the server

It has happened to everyone. You have accidentally deleted a file or folder. Luckily for you it has gone in to the recycle bin. You just open the recycle bin and restore the file. However, sometimes this is not the case; the file has not gone to the recycle bin because it was located on the server. The file is completely lost and you have to call in the IT support urgently because you need access to the file. This will cost money and if backups are not been carried out the IT support team might have to use more expensive software to recover the lost files. The example above is very annoying and an all too common one... so to prevent this from happening your IT support team should activate a function on Windows servers called Shadow Copy. Shadow Copy creates backups of your files at different intervals during the day and you can retrieve the files using the Shadow Copy client. If files have been accidentally been overwritten, Shadow Copy will help you retrieve a previous version. Shadow copy will reduce the number of calls to IT support to restore corrupt files from backup however it is NOT meant to replace backing up.

Monitoring Software

Monitoring Software helps IT support to identify possible software and hardware faults. For example a hard drive with very little space remaining, or a software service or hardware has stopped functioning. If set up correctly, monitoring software will

prove to be very valuable for the availability of hardware and software services. If the IT support team correctly interprets the information from the software correctly, it will reveal any existing problems or help to predict possible problems in the future.

Avoiding Hardware failure

UPS and Surge Protectors

Too frequently hard drives, graphic cards, motherboards and other hardware is blown because of a power cut or power surge. There are easy and inexpensive methods to protect your computer hardware against this. All your computer equipment should be connected to surge protected power sockets. These are meant to keep your electrical equipment safe from sudden spikes in electricity. For extra protection an Uninterrupted Power Supply (UPS) is recommended. A UPS will keep your computer hardware up and running for a period of time in the event of a power cut (time depends on the capacity of the battery) as well as providing surge protection. This will allow the hardware to be shut down as it is meant to be and thus preventing hardware damage. It is recommended that all servers are connected to a UPS. If desired there exist small UPS that are ideal to connect a desktop and monitor to protect your PCs. Note: A UPS is not meant to last very long. UPSs are used to be able

to shut down equipment properly or until the backup generator kicks in.

Redundant Disks

A Hard Drive failure is very common. Sometimes it is because of power faults (as highlighted above) and sometimes it happens because hard drives are mechanical and mechanical objects have a life span (sometimes more, sometimes less). To prevent data loss and IT support having to urgently install a new hard drive, operating system and recover data from back-ups (possibly resulting in having no access to the server for a day or two), a technology called RAID was developed. RAID is a fast way in which the computer uses redundant hard drives to mirror information from other hard drives. In the event of a hard-ware failure the redundant hard drive will be automatically used. This prevents disaster. The failure will go unnoticed until IT support are alerted by the monitoring software or detect this when checking hardware monitoring logs. Some RAID hard drives are hot swappable which means if one breaks down it can be replaced without even turning off the server, so there will be no disruption.

Dual Power Supply's

A blown power supply is another common hardware failure. As mentioned above in UPS and Surge Protectors a spike in electricity is likely to break computer hardware and the power supply is the piece of hardware most likely to blow. Even with the use of UPSs and Surge Protectors the power supply might still get damage. A blown power supply may prevent your employees from using the services for a few hours. However increasingly more server systems allow for an optional second power supply that will prevent server downtime. Monitoring Software can be used to alert the IT support team of this failure.

Hardware Costs

All the hardware and techniques described above do cost money. Servers with redundant power supplies and hard drives are usually more expensive than normal computers. UPS's cost money and batteries will have to be replaced after a year or two. Backup and monitoring software may cost money and may be tedious to configure and require monitoring which means IT support costs. However all these costs will prove a worthwhile investment when your system has a near 100% availability during the year. It may seem that you are paying IT support to do nothing, but you are paying them to prevent disasters. Don't believe me? Imagine loosing all your sage data because of a power cut.

