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## Protect Your Network From Dangerous Spring Thunderstorms



*Thomas Fox is president of Tech Experts, southeast Michigan's leading small business computer support company.*

What's the best way to keep your computer safe during a thunderstorm? Crawl under your desk and unplug it.

While not a particularly practical suggestion, unplugging your PC from AC power, a telephone line if you use a modem, and your network will protect it from surges and power problems.

A more practical solution would be to use a power protection device, such as a true surge protector, or a business-grade battery backup system.

Computer damage from severe weather conditions is surprisingly a very common problem, despite warnings to install power protection.

When power problems strike, they can cause permanent damage, to your computer, your data, or both. To minimize the possibility of damage, install a true surge protector - not just a power strip. A true power strip will cost you in the neighbor-

hood of \$20 to \$40, and most offer specific guarantees if your equipment is damaged after you properly install the power protection device.

Get a surge protector that also protects your network, phone lines, or DSL connection. Some even offer a connection to provide surge protection on the cable line that services your cable modem. Remember, the more protection, the better.

Check your protection devices regularly. If you use battery backup systems, use the testing feature at least quarterly to make sure your unit still functions properly. Batteries in backup systems will typically last two or three years, unless your power environment is particularly troublesome.

Remember, too, that not all power problems result from electrical storms. The every day variances in power quality - from smaller surges, sags, drops and brownouts - will also, over time, cause damage to



your electronic equipment.

When you invest in a high-quality surge protector, many of them will also compensate for these minor electrical fluctuations, protecting your equipment at its own expense. These are called line conditioning surge protectors.

Higher end line conditioning surge protectors will wear out and lose effectiveness after a few years, and should be replaced. We always recommend using APC Power Protection equipment because it comes with an equipment insurance policy.

Throughout the month of April, Tech Experts is offering a free power protection audit. To reserve your audit, call the office at 734-457-5000, or sign up at: [www.computerbatterybackups.com](http://www.computerbatterybackups.com).

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We're proud to partner with the computer industry's leading companies:



**Need help? Call the Tech Experts 24 hour computer emergency hotline at (734) 240-0200.**



## Data Loss Prevention And Recovery Tips

With every business relying heavily on their computers and network, it is a huge risk to not properly care for your important data.

The fact is a computer's hard drive becoming damaged, corrupt, or even completely unusable is not an issue of whether or not it will happen to you, but rather an issue of when.

If you do not properly care for your data you may wind up in the unfortunate situation of having to recover your lost data.

### Backup Your Data

First of all, the most important step in preventing lost or corrupt data due to a faulty hard drive is to back up your data. This may sound silly, but there are many people that simply do not have a good backup strategy in place to protect them from the inevitable hard drive failure.

You see hard drives are much like your car; they have moving parts that function nonstop as your computer works and processes data.

These moving parts eventually will wear out and when they do if you did not back up your data you will have to recover it. Backing up your data is the best solution; it will save you a huge headache when your hard drive fails.

If you have a backup, the recovery process is as simple as buying a new hard drive, reinstalling Windows and your applications, and then transferring backed up data over.

Backups can be in many different forms from CD's, DVD's, Flash Drives, External Hard Drives, Online backup, etc. Whatever your

choice, it is good practice to not only back up your data, but make sure you can recover it from the backup as well.

Unfortunately, many times we see business owners backing up their data, but never taking the time to do a test restore. It's only when disaster strikes that they find out the backups had errors.

In the event that you did not have a good backup solution or it was not working/tested properly there is the option to try and recover the "lost" data.

### If Your Hard Drive Crashes

In order to have the highest success rate recovering your old data make sure to follow the following procedures:

Upon realizing you have lost data make sure that you immediately stop using your computer.

The reason you want to make sure that you stop using your computer immediately is that when data is lost as long as it is still on the hard drive and has not been over written on the actual hard drive disks it can be recovered.

When you use your computer data is randomly placed on your hard drive disks so using your computer after data loss greatly increases the chances of losing the data you wanted to recover because it was overwritten from the computer being used.

### Avoid System Utilities

Do not run any system tasks such as a Disk Cleanup or Disk Defragmenter.

Running Disk Cleanup or Disk

Defragmenter both can cause you to permanently lose data that you need to be recovered.

These system process move data around and in doing so could overwrite your lost data.

As long as you follow the steps listed above you can bring your computer to Tech Experts, and we can run various programs that allow us to recover lost files that have not been overwritten by other files.

This is the reason it is so important to stop using your computer as soon as you realize the data loss.

### Data Recovery Firms

If in the case your hard drive is damaged mechanically there are companies you can send your hard drive away to and have them manually open the hard drive and recover that data in a "Clean Room." Just a side note, never ever open a hard drive.

When these other data recovery companies open your hard drive they use a clean room that exceeds the cleanliness of a surgical room.

They do this because even the smallest amount of dust or dirt in the hard drive will ruin it in a very short period of time.

This is the reason it is so expensive to have data recovered in this fashion, usually in the \$1700+ range depending on the company you use.

Long story short, always make sure to have a good backup.

Having a good backup can save you a lot of headaches in the future.

*Feature article by Frank Wright, Service Manager for Tech Experts*



## What Is RAID, And Why Should Your Server Have It?

Did you know you can increase storage functions and reliability through the redundancy of RAID?

RAID is an acronym for “Redundant Array of Independent Disks.”

RAID was first developed in the late 1980’s because servers were encountering a dramatic increase in the amount of data they needed to store.

Storage drives were really expensive then and would cost a fortune if ever you needed to replace one.

By having RAID on your server you were able to use a large number of low cost hard drives and link them together to form a single large capacity storage device, which offered greater performance, storage capacity and reliability over older storage solutions.

It has been used mainly in the server markets, but over the past few years RAID has become much more common in end user systems.

There are three major advantages by having RAID.

### Redundancy

This allows for a form of data backup in the storage array in the event of a hard drive failure.

If one of the drives in the array failed, it could be easily swapped out for a new drive (without the need to turn the system off, this is referred to as “Hot-Swappable”) or you could continue to use the other drives in the array.

### Performance

Depending on which level of RAID you are using and how many hard drives you have in the array you can increase the read/write speed of your drives.

### Lower Costs

You can set it up so that you have

several inexpensive (low capacity) hard disk drives brought together to make up one big (high capacity) disk drive.

Also in the event you need to replace a hard drive you will not have as much down time if you chose a RAID level that supports redundancy.

### Types Of RAID

There are several different RAID levels, and each has advantages over the other. Depending on what you’re trying to accomplish, you can choose between (these are just the most common choices) RAID 0, RAID 1, and RAID 5.

RAID 0 is a base configuration called striping, which requires a minimum of 2 disks. With RAID 0 all of the drives in the array will appear as one drive with the sum of all drives adding up to make one big hard drive.

The logical disk is then created with “stripes” which run a crossed each disk in the array.

The advantage of having RAID 0 is that you gain storage space as each disk is seen as one giant logical disk. However if one drive goes bad, then all of the data is lost and there is no way of retrieving it.

RAID 1 is the second base configuration and it is called mirroring. Like RAID 0, this level of RAID also requires a minimum of 2 disks and can only be used with an even number of disks. RAID 1 provides data integrity. Instead of each disk showing up as one giant logical drive as with RAID 0, RAID 1 will mirror any data that is written to one of the disk’s in the array, and

copy the data to all of the other disks in that array.

Therefore if one of the mirrored



drives goes bad, no data is lost as it is on the other drives in the array. The bad drive can then be replaced and the data can be copied back over automatically (if set up to do so).

RAID 5 is the most commonly used RAID level. It combines the features of RAID 0 and RAID 1. It requires a minimum of 3 disks in the array.

RAID 5 uses the same striping aspect as in RAID 0, however not all of a stripe is made available for data storage.

Part of each stripe is reserved for parity. Parity is used to ensure the integrity of the array by comparing two bits of data and then it forms a third data bit, in which each bit is on a different physical disk drive based upon the first two bits, leaving you with 2/3 of your storage.

However depending on which disk dies, each triplet will lose one of the bits built by the RAID level.

Either bit 1, bit 2 or the parity, but with the other 2 existing on a different disk, the third can be quickly calculated and replaced onto the replacement drive.



## Contact Information

24 Hour Computer

Emergency Hotline

(734) 240-0200

General Support

(734) 457-5000

(866) 993-9737

support@MyTechExperts.com

Sales Inquiries

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Take advantage of our  
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[https://connect.](https://connect.expertsmi.com/support)

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## 5 Things You Need To Know If You Buy A New PC

Great Tips To Keep In Mind When Shopping For Your Next Computer

When you are ready to buy a new computer, one of the first questions you may ask yourself is, “Where can I get the best deal?”

Obviously you don’t want to pay more than you have to, price shouldn’t be the only thing you consider before making your decision.

If you shop the local electronics superstores for weekly specials, you can easily get a standard machine at an ok price. This option would work best for you if you’re not too picky or if you don’t have any special requirements for gaming, graphics, or your special business software.

If you buy over the Internet from a major manufacturer, you’ll get more choice and customization on the components, chip speed, RAM, hard drive size, and video components, but you’ll pay a slightly higher price. But, the biggest downside to buying online is that you’ll have a hard time getting technical support if something goes wrong.

Not a week goes by where we don’t get a client who wants to pay us to fix a warranty-covered machine simply because the manufacturer is making it next to impossible to get the problem taken care of. In many cases, these companies have help desks located outside of the US, which means you might have a hard time communicating with them.

Sometimes only a component (like the hard drive) will go bad. When this happens, you’ll have to ship the entire machine back wait a couple of weeks for them to repair it and ship it back. You also run the risk of losing all your data and configurations.

If you have special requirements, need help in selecting a machine, or if service before, during, and AFTER the sale is important, then you’ll want to buy from a local shop like Tech Experts.

### Here Are 5 Big Reasons To Buy Your Next PC From Tech Experts:

1. You’ll get a senior technician who will take time to explain your options, answer your questions, and help you make a good buying decision based on what YOU need, not what we have to clear off the store shelves. At an electronics superstore, there’s a good chance you’ll end up talking to a teenager working on commis-

sion who doesn’t have any real technical expertise. If you buy online, you’ll get very little or no help in selecting the right combination of components and options, so this works best ONLY for those individuals who really know what they are buying.

2. Superior technical support and service after the sale. If you’ve ever dealt with a manufacturer’s technical support in the past, you know how frustrating it can be. After waiting on hold for days, you’ll end up speaking with a “technician” who doesn’t have a clue. Most of the time they’re just reading from a script and taking you through a series of system checks that won’t help.

Whenever you have a problem with a machine that you purchased from us, we’ll troubleshoot it for free. Plus, you won’t have to wait on hold when you call, which brings me to another point...

3. If you need technical support on a computer that you bought from us, you won’t go through voice mail jail or be transferred to another country. You actually get to speak to a friendly, local technician.

4. We’ll set up your e-mail account, Internet access, check your virus protection, set up your firewall, and other preferences and settings. When you buy from a superstore or online, it’s up to you to configure your new machine.

5. We’ll custom build or upgrade your PC here in our office. Maybe you just need more memory and a video card added. If you simply want to “upgrade” your PC to save a few dollars, we will gladly do it for you.

The bottom line is this: if you are shopping solely on price and aren’t too picky, then watch the weekend papers for sales at your local electronic superstore. They can offer a great price on a standard machine. Usually you can save anywhere from \$100—\$200 this way.

For semi-customization at a decent price, check the Internet. There are hundreds of online resellers offering PCs at competitive prices.

For the best customization, service, and support after the sale, buy from Tech Experts. You’ll pay a little bit more but we’ll make sure you get exactly what you need without any hassle or problems. Give us a call today at (734) 457-5000.

**Need help? Call the Tech Experts 24 hour computer emergency hotline at (734) 240-0200.**