We're on the web, we've got pictures from the camera on the computer, recipes from friends for the testing, videos of the lamb shearing, scan tax info, medical records, and more. You've got "lot's of memory" and spent good money for your device. You've updated your passwords, you're feeling secure – but wait, there's more to this party.

A computer is comprised of many parts, all of which wear out with use. The three most common failure points in a computer: disk drive, power supply, video card. Guess which failure causes the most angst?

Albert Einstein once said: "Never memorize something that you can look up."

Let's take Dr. Einstein' wisdom one step further: "don't back up what can easily be replaced"

Most home users fail to backup their files. Most of us haven't used film in years, our photos primarily digital nowadays. When disaster strikes, there are many times data recovery is too expensive to justify – don't let that happen to you.

Backup anything that cannot be replaced or found elsewhere. Backup and test often.

There are many applications (software) to use for backing up your data. Both Windows and Mac computers have built in utility software to manage backups and recovery. Good tools, but the selection process/inclusion and exclusion too much for most, and while storage is fairly cheap, it's still money, let's spend yours wisely.

* A backup device can be a Writable CD or DVD
* A backup device can be an external disk drive (of some sort)
* A backup device can be a Cloud storage account

I like a combination of technologies, as each has benefit and shortcomings.

If you computer has a CD/DVD drive capable of "writing" or "burning" files, you'll need CD's or DVD's that are designed for Read/Write (RW). Most contemporary optical devices support RW, but not all. Simple read-only optical drives are dirt cheap, and common on modestly priced PC's.

The advantage of backup to optical: once written, the information is safe for a long time. Kept cool and dry, an optical disk will survive 25+ years. A 650MB CD will hold roughly 1,000 photos, a DVD, about 7,000. Movies are bigger, documents typically smaller. With good management, backup to DVD is safe and secure, and quite cost effective.This is a great archival strategy. Move old pictures to DVD, make sure the backup can be read on another computer, delete the pictures from the camera/computer. We want valid backups, and we want to keep our computer clean – store what's needed now (or soon) on the computer, protect that data you can't replace.

External devices (Thumb Drive, External SATA, External Solid State, Tape, NAS) can provide a user with virtually unlimited storage. Unlike an optical drive, where data can usually only be

written to the media once, an external drive is engineered to be written/re-written many times. Solid State devices (thumb drives, SSD's, etc.) tend to last longer than SATA drives. NAS (network addressable storage) drives have varying degrees of hardware redundancy built in, if one or more disks fail, the data is safe on another, and once the bad parts are replaced, the NAS "rebuilds" the redundant data. Tape backups are mostly old school.

With Cloud storage comes added flexibility. You may have heard names like: Dropbox, Box, Adrive, GoogleDrive, Office 365, Amazon or Azure. Cloud storage is often easy to configure, allowing the user to control which folders/files are backed up, and which are ignored. In most cases, Cloud storage provides the user with flat-file replication, and requires no special software (or device) to access the data.

Limiting factors with Cloud storage: Internet access and file capacity. We are limited by our web access solutions, I wouldn't encourage anyone on Exede to upload their 10GB's of pictures, not because the cost associated with a 10-25GB account is that much, rather, you'd be attempting to use a straw to upload a fire hose volume of information – it would take days to copy a 10,000 picture library!

Get to know the size of your important folders. Create a combined backup/data archival procedure that works for you. Old pictures of the kids can be burned to DVD. Current stuff can be copied to Thumb drive and a Cloud account. I keep photos on optical (DVD and CD), files I need now in the Cloud and on backup drives. If I haven't accessed a folder for years, I archive it and remove it from my Cloud account if I'm nearing quota. If I need to upgrade a usage plan, I will, but if I can free 40% by moving something to longer term storage, it's an immediate savings.

Next up: Tricks to maintaining quota, netiquette fundamentals, and browser security