Data Protection Backup

2012 National HDT Rally

Why worry about data?

Who has a PC without any important data?

Why worry about data?

Data is:

- As valuable as diamonds

- As fragile as a tomato

- And you can't see it

Why worry about data?

Some data that is irreplaceable:

- financial records, receipts

- photos

Assumptions for Data Loss

- Hard disk failure

- PC failure

- Operator error
  - Deletion error

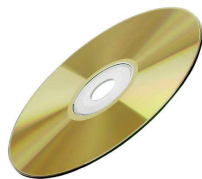- Malicious Malware corruption of system

Common Backup Procedures

To CD / DVD

To External Hard Drive

CD / DVD Backup

- Very Cost effective

- Easily stored

- Manual process

- Stored where?

External Hard Drive Backup

- Higher cost than CD/DVDs

- Can be automatic process

- Cabling to PC
  - Could be wireless NAS

- Stored where?

Common Backup Procedures

CD/DVD and external hard drive backups are effective for the assumed data losses

- hard disk failure
- PC failure
- Operator error
- Malware corruption of system

The data loss not considered

Just like in the commercial computer industry;

Loss of the facility (RV) is the last thing considered

Common Backup Procedures

CD/DVD and external hard drive backups are usually located where the computer is.

Loss of one means the loss of both.

Off-site Backup

Fifth-wheelers have the advantage of two "facilities"

But this is a very manual process.

Off-site Backup

If you have a good highly available Internet connection, an Internet backup is highly recommended.

- Automatic backup
    - You don't have to remember

- Located in a facility that is safe from any hazard that could destroy your facility(RV)

- Not that expensive

Internet Backup

How does Internet Backup work?

At the first startup, the data you choose to be backed up will be copied to the Backup Service
(Good time to be on free Wi-Fi)

After that, any changed file you chose will be copied to the service.

The copy process can be immediately as a file is closed or on a scheduled basis (example: middle of the night).

The copy service usually can be suspended when necessary.

Internet Backup

How does Internet Backup work?

For most Backup Services, the online data is a mirror of your local data, i.e. any file deleted on your PC will be deleted from the online store during update process.

A file deleted by accident locally will be reflected in the online store eventually.

Some of the Backup Services are starting to delay deleting files from the online store to give you a chance to reconsider the deletion.

Internet Backup

Some of the Online Services are Archiving Services.

Archiving services will keep files deleted as well as generations of files.
(i.e. as files are changed, the old and new versions are retained)

A consideration of archiving versus backup is online space. Depending on the Service, each version of an archived file may count against your online store allocation.

Another consideration is how many levels of versions are retained? 5 versions, all versions, for three days?

Internet Backup

Things to consider.

How much storage at the Backup Service will you use (GBytes)
        Some services are unlimited storage
        Some charge by the Gbyte of storage used

Is your Internet service data upload monitored?
        Air-Card (5 GB per month)
.
Do you use an external disk drive?

Internet Backup

What to backup

▪ Data
        The irreplaceable stuff

What not to backup

• Programs
        Usually needs to be reinstalled in a recovery anyways.
• Keep you programs and OS CDs/DVDs in a place where you can find them!
• Or keep snapshot system images
.

Problems with Internet Backup

If you wrongly deleted a file and know it right away, you can retrieve it from the Backup Service. After the backup process catches up, the deleted file will also be deleted from the Backup Service. Not a issue with an Archive Service.

There can be files that are very large and are changed often. (example the tracking database for Picasa). If you are on a data traffic monitored Internet service, you might want to protect those files differently.

Your photos are not replaceable, the tracking database can be recreated.

Sample Pricing

Brand	Link		Storage	Multiple PCs	Annual	Ext Drive
Acronis	http://www.acronis.com	A*	250GB	Yes	$49.95	Yes
Backblaze	http://www.backblaze.com/	A*	Unlimited	Yes/$	$50.00	Yes*
Carbonite	http://www.carbonite.com/	B	Unlimited*	No	$54.95	No
Carbonite Pro	http://www.carbonitepro.com/	B	20GB	Yes	$120.00	Yes
iBackup	http://www.ibackup.com/	B	10GB	Yes	$99.50	Yes
iDrive	http://www.idrive.com/	A	150GB	Yes*	$49.95	Yes
Mozy Home	http://mozy.com/	B	Unlimited	No	$54.45	Yes
Mozy Home	http://mozy.com/	B	2GB	No	free	Yes
SOS Backup	http://www.sosonlinebackup.com/	A*	50GB	Yes	$79.95	Yes
SugarSync	http://www.sugarsync.com	A	30GB	Yes	$49.99	No

Internet Backup Considerations

How are file versions counted? In the cumulative space counted or just the size of the last version.

Are there other features available, like shared folders between the family PCs?

Is you data available via web access?

Can a smartphone be backed up?

If you use a local mail client (Outlook, Outlook Express, Thunderbird), is your mail file handled?

Snapshot vs. Automatic Backups

Automatic backups can replicate system corruptions. Often malware corruption is not immediately known. There are lots of barriers to malware, but it is possible for one to get through.

Since malware corruption targets system software and not data, backups, either local or remote, will save good data. But you will have to recreate the system image to restore your data.

This is where a snapshot image of your system is useful. These are typically done to a USB connected disk drive or a set of DVDs.

Snapshot Backups

A snapshot system image is taken and then not updated. It is possible to use the same backup software for automatic backups and snapshots.

The use of the snapshot system image is to restore your system either from disk failure or malware corruption to the point where the snapshot was taken. Then you restore your data to the last backup.

If your PC environment is rather static (installed applications), than a single snapshot created after all the applications are install, could be enough.

Snapshot Backups

If you have a dynamic environment; applications added, updated or removed, than snapshots along the way make more sense. Just Windows updates make for a dynamic environment.

If using the multiple snapshot concept, plan on retaining a few copies. For instance a weekly system image snapshot weekly and keeping the last two snapshots.

The idea is that malware may not show up right away but it will not stay hidden for ever. I.e. the last snapshot may be corrupted, so you can go to the previous snapshot.

Why worry about data?

Your data is:
- As valuable as diamonds
- As fragile as a tomato
- And you can't see it

It needs to be stored someplace safe, and in your RV is not the place.

Discussion