

Backup, the most important thing is doing one, preferably automated.

The first thing to appreciate is that **all disks fail**, even modern solid state disks, SSDs. The conventional hard drive is a platter spinning at between 5 and 10 thousand RPM the 'head' flies at about one ten thousandth of the thickness of a human hair above the platter. It will fail, it's just a matter of when.

All of the current desktop Operating Systems have an indigenous backup solution which you can use while you search for the solution that best suits your situation.

There are so many options available that it is difficult to provide more than an outline. Disk drives are cheap now, so there is little excuse on cost grounds, even supermarkets will sell you a small portable drive, they often contain software enabling them to do backups autonomously.

For users who regard their data as critical, three copies of that data should be kept, preferably on different media. Personally, I cheat a little here and have automated backup running to a server that contains a RAID1 Array. I use [BackupPC](#), it is an open source network based solution. I like it as it's independent of any other machine. The files are browsable via a Web interface and, it also pools files so will does not store files that are duplicated on other machines.

One of the problems with backup software is that it is often necessary to reinstall the machine in order to get to the backup. Although finding an OS independent solution is not always such a big deal if you re-install every so often.

Disk Image. Literally a clone of your Hard Disk, this method is clumsy as a backup but if you have no install media it is all the more valuable.

[acronis trueimage](#)

[bootit-bare-metal](#)

[Norton Ghost](#)

[Clonezilla](#)

RAID A mechanism to increase data integrity by introducing redundancy, oddly R0 does not. RAID 1 and 5 being the most relevant here. Note that increasing the number of drives increases the likelihood of a failure.

NAS (Network Attached Storage) may contain a RAID array but may just be an opportunity to back up to a remote location.

Cloud backup to a resource located far away reached by an internet connection. Note that as recent court cases have highlighted 'data' is not property.

Crashplan

Tarsnap

Lastly backups are only as good as your ability to restore, practice as part of your plan.

Please [Contact](#) me if you would like bespoke advice on Backup or Information Assurance.