- Data protection

Data backup options

There are many ways to back up your file. Choosing the right option can help ensure that you are creating the best data backup plan for your needs. Below are six of the most common techniques or technologies:

1. Removable media

A simple option is to backup files on removable media such as CDs, DVDs, newer Blu-Ray disks, or USB flash drives. This can be practical for smaller environments, but for larger data volumes, you'll need to back up to multiple disks, which can complicate recovery. Also, you need to make sure you store your backups in a separate location, otherwise they may also be lost in a disaster. Tape backups also fall into this category.

2. Redundancy

You can set up an additional hard drive that is a replica of a sensitive system's drive at a specific point in time, or an entire redundant system. For example, another email server that is on standby, backing up your main email server. Redundancy is a powerful technique but is complex to manage. It requires frequent replication between cloned systems, and it's only useful against the failure of a specific system unless the redundant systems are in a remote site.

3. External hard drive

You can deploy a high-volume external hard drive in your network, and use archive software to save changes to local files to that hard drive. Archive software allows you to restore files from the external hardware with an RPO of only a few minutes. However, as your data volumes grow, one external drive will not be enough, or the RPO will substantially grow. Using an external drive necessitates having it deployed on the local network, which is risky.

4. Hardware appliances

Many vendors provide complete backup appliances, typically deployed as a 19" rack-mounted device. Backup appliances come with large storage capacity and pre-integrated backup software. You install backup agents on the systems you need to back up, define your backup schedule and policy, and the data starts streaming to the backup device. As with other options, try to place the backup device isolated from the local network and if possible, in a remote site.

5. Backup software

Software-based backup solutions are more complex to deploy and configure than hardware appliances, but offer greater flexibility. They allow you to define which systems and data you'd like to back up, allocate backups to the storage device of your choice, and automatically manage the backup process.

6. Cloud backup services

Many vendors and cloud providers offer Backup as a Service (BaaS) solutions, where you can push local data to a public or private cloud and in case of disaster, recover data back from the cloud. BaaS solutions are easy to use and have the strong advantage that data is saved in a remote location. However, if using a public cloud, you need to ensure compliance with relevant regulations and standards, and consider that over time, data storage costs in the cloud will be much higher than the cost of deploying similar storage on-premises.