

Strategies for backing up your data

According to World Backup Day...

- 83% of us own a computer
- 89% of us own a smartphone
- only 1 in 4 of us back up our data

World Backup Day takes place each year on March 31st. It seeks to raise awareness about the importance of making regular backups.

If something went wrong with your computer/smartphone/tablet, what would you lose forever?

How important is your data to you?

How much is your data worth to you?

“How much is it worth” as in, what dollar value would you put on your data?
How much money would you spend to prevent losing it?

What is a backup?

A backup is a second copy of your important files.

It's good to protect your data (with antivirus, firewalls, etc.), but backing up is just as important since even the best protection can fail.

How data can get lost

- viruses and tech failures
- misplaced or stolen devices
- accidents and disasters

the 3-2-1 approach

- always have three copies of your data
- have two of them be local
- have one of them be off-site

local backups

- USB flash drives
- external hard drives
- network attached storage (NAS) devices

USB flash drives can be gotten for less than \$10 (8 GB). A 128 GB USB flash drive can be purchased for \$35. 16 and 32 GB models are the most commonly sold currently. These are fine if you only have a small amount of data that needs backed up, but it's a good idea to use more than one, and always eject safely!

External hard drives, like USB flash drives, are portable and can be grabbed in an emergency. 500 GB to 8 TB are typical, with 1 to 4 TB currently the most common. Bigger capacity = more expensive. A typical 2 TB model runs around \$75; a typical 4 TB model costs around \$120. Solid state is generally more dependable than mechanical hard drives but also more expensive. Look for drives that come with long warranties. It's a good idea to replace hard drives that are out of warranty.

NAS devices can store data from multiple computers and mobile devices and can do a lot more besides (e.g., stream video), but are pricey. They may take a little more effort to set up than UFDs and external HDDs.

built-in backup software

- Windows 8 & 10: File History & Backup and Restore
- Windows 7: Backup and Restore
- MacOS: Time Machine
- Android OS: Back up to Google Drive
- iOS: iTunes backup and iCloud

Built-in computer backup software can back up and restore designated files and folders, create and restore system images, and create bootable media with system repair tools.

There's a lot of third-party software available for making backups. Some are free, some are paid but may have free tiers. Look for companies/products that have been around a while. Understand that data backed up with third-party solutions may use encryption, compression, and/or file formats that require proprietary software to restore.

off-site backups

- Popular cloud services with free tiers:
OneDrive, Dropbox, Google Drive
- Subscription-based online services:
 - iDrive Personal
 - Backblaze
 - Acronis True Image
 - Carbonite Safe
 - SpiderOak One

One way of keeping a backup off-site is to store UFDs or external HDDs in one's safety deposit box or at a family member's house. More typical is to back up to the internet somewhere; they generally run all the time in the background unobtrusively.

iDrive Personal is relatively new but is getting lots of good reviews. Starts at 2 TB for \$13.90/year; max of 5 TB; unlimited devices.

Backblaze has been around a while. \$60/year for unlimited storage, but for just one computer.

Acronis True Image also backs up locally. Starts at \$49.99/year. Lots of features but pricing structure is a little confusing.

Carbonite Safe starts at \$6/month; unlimited backup but lowest tier has exceptions; up to 5 computers.

SpiderOak One has been around a long time. Unlimited computers, but no backup of mobile devices. Between \$6 and \$14/month.

evaluating backup solutions

- How long has the company/product been around? How likely is it to be around years from now?
- What's the storage limit? How many computers/devices can it back up? Can it back up mobile devices?
- Can data be restored using common tools or is proprietary software required?
- Does it back up just files, or can it back up system images as well?

Propriety software is fine as long as you can get a hold of it and install it. Restoring data that was backed up by a defunct third-party solution may be difficult or impossible if the software it used is no longer available and/or doesn't run on modern computers.

A system image is a file or a set of files that contains everything on a computer's hard drive (or hard drive partition). If restored on the same computer or on a computer with similar hardware, there's no need to reinstall the OS & programs, and there's no need to recreate settings or preferences. Everything gets restored.

some coworkers' backup setups

"We use Carbonite and also swap out external hard drives, one of which we keep in our safety deposit box."

"I use a combination of cloud services, SyncBack (free version) from 2BrightSparks, and some software called UrBackup."

"We have lots of external hard drives."

some coworkers' backup setups

"I mostly use Google Drive and its related backup data. I do run Time Machine every once in a while in case I ever need to restore my Mac, but this seems to be less and less important as more of what I do moves to the cloud. I also keep an iCloud backup of my phone."

"I have an external drive (My Passport) and a SanDisk thumb drive."

some coworkers' backup setups

"I use a highly disorganized—for a librarian—mismatch of the cloud (Dropbox, iCloud, Google) and an external hard drive."

tips for success

- follow the 3-2-1 approach
- use more than one backup solution
- don't use a solution that makes you work; embrace solutions of the set-it-and-forget-it variety
- do check from time to time that backups are taking place
- occasionally check to make sure you can restore from a backup

There's no one-size-fits-all solution. The main thing is to do it. Don't put it off!

Discussion