Cloudwards

Cloud Storage 101

Whether you're a personal user, a small business owner, or a student in a small study group, you've come to the right place

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Section 1: Introduction to Cloud Storage

Definition of Cloud Storage

Cloud storage is any software, platform or infrastructure that stores data on remote servers and makes that data accessible to the user over the internet. As you can see, this definition is very broad, as is the concept of cloud storage itself.

You see, everything you share online — every picture you post to Instagram, every TikTok you've recorded, every email you've sent, every Netflix show you've watched — **all of it is stored in the cloud.**

Here are a few key uses of cloud storage:

- **Individuals** rely on cloud storage to keep their files online, free up some hard drive space, and share files and photos with friends.
- **Companies** rely on cloud storage to host their sensitive data and facilitate online collaboration.
- **The entire internet** relies on cloud storage to host the data necessary to run websites.

In this guide, we'll be looking at what matters to **you**, and that's run-of-the-mill cloud storage services. So, for the purposes of this guide, when we say "cloud storage," we're simply referring to the widely available cloud storage services that we use daily.

Key Concepts & Terminology

Let's start our deep dive by going over the core concepts of cloud storage, as well as some terms you'll need to know to truly understand cloud storage. Don't worry, we'll expand on all of these as we go along. The list below is designed to give you a cursory glance at the main ideas you'll need to grasp.

The Cloud

The entire internet runs on data that's stored in the cloud. You can think of the cloud as the infrastructure that the internet is built on.

Cloud Storage

Cloud storage refers to services that store files on their remote servers, providing fast and easy access to them from anywhere in the world. Cloud storage services synchronize your files across devices and let you share them, download them and sometimes even edit them.

Cloud Backup

Cloud backup services are similar to cloud storage services in that they also store files remotely, but they differ in a few key aspects. Cloud backup services can back up your entire computer with your operating system in tow and will run periodic backups to make sure all files are up to date (as opposed to the continuous syncing that cloud storage performs).

Business Cloud Storage

Business cloud storage is a type of cloud storage tailored to business users and includes features like scalable pricing, online collaboration options, flexible storage, granular user account control and more.

Enterprise File Sync & Share (EFSS)

EFSS is similar to business cloud storage but has features better suited to larger companies, including compliance with security and privacy standards, dedicated live customer support and integration with other enterprise software.

File Storage

File storage is the main purpose of cloud storage and backup services, and simply refers to the act of storing your files in the cloud.

Remote File Access

Once your files are in the cloud, it's very easy to access them from any online device anywhere in the world just by installing the cloud storage app and logging in.

Media Streaming

Most cloud storage services will let you access media files remotely, and some even have dedicated media players, letting you stream your stored music and videos wherever you are.

File Sync

In addition to storing files, cloud storage services will synchronize files across all devices that have the cloud storage software installed. This way, if you make changes to a cloud file on one device, the change is immediately reflected across all devices.

File Sharing

Most cloud storage services let you share your cloud files, either by email or by sending a sharing link.

Online Collaboration

Though all cloud storage services can be used for collaboration thanks to changes syncing to files across remote devices, some services have dedicated collaboration features. For example, you can create an Excel spreadsheet in Microsoft OneDrive and share it with coworkers. They can then work in that document at the same time as you, with their edits visible in real time.

Productivity Suites

Larger companies that provide cloud storage sometimes also offer entire productivity suites that integrate seamlessly with their cloud storage services. Examples are Microsoft OneDrive integrating with Office apps like Word, Excel and PowerPoint, or Google Drive integrating with Google Workspace apps like Docs, Sheets and Slides.

Third-Party Integrations

Even cloud storage services that don't have their own productivity suites can integrate with existing ones to expand their functionality. For example, Dropbox integrates with both Microsoft Office and Google Workspace, and Google Drive has a store where you can download plugins and extensions.

Cloud Security

Cloud security refers to protecting your data from outsiders, and it can include encryption, two-factor authentication and even data server security.

Cloud Privacy

Cloud privacy refers to protecting your data from the provider itself, and the only solution that guarantees your cloud storage service can't access your files is zero-knowledge encryption.

Encryption

Encryption scrambles your data, making it readable only to someone who has your access code (your account password, in most cases). Even if a hacker manages to get into a cloud service's servers, if the data is encrypted all they'll see is nonsensical strings of characters.

Zero-Knowledge Encryption

With zero-knowledge encryption, the cloud storage service does not know your password, which means it can't decrypt and access your files — only you can do that. It also means you can't recover your account if you ever lose or forget your password.

Versioning

Versioning refers to keeping multiple old versions of your files. You'll be able to recover an older iteration of a file in case something goes awry with the current version.

Redundancy

Redundancy simply means having multiple copies of your data. You'll never lose your files if you keep a copy in the cloud, even if your device stops working. Redundancy also refers to a cloud storage provider storing data on multiple servers. If one server fails, you can still access your data from another one.

Disaster Prevention & Recovery

One of the main reasons for using cloud backup software is disaster prevention and recovery, which relies on the principle of redundancy to keep your files accessible even in unpredictable situations.

What Can You Do With Cloud Storage?

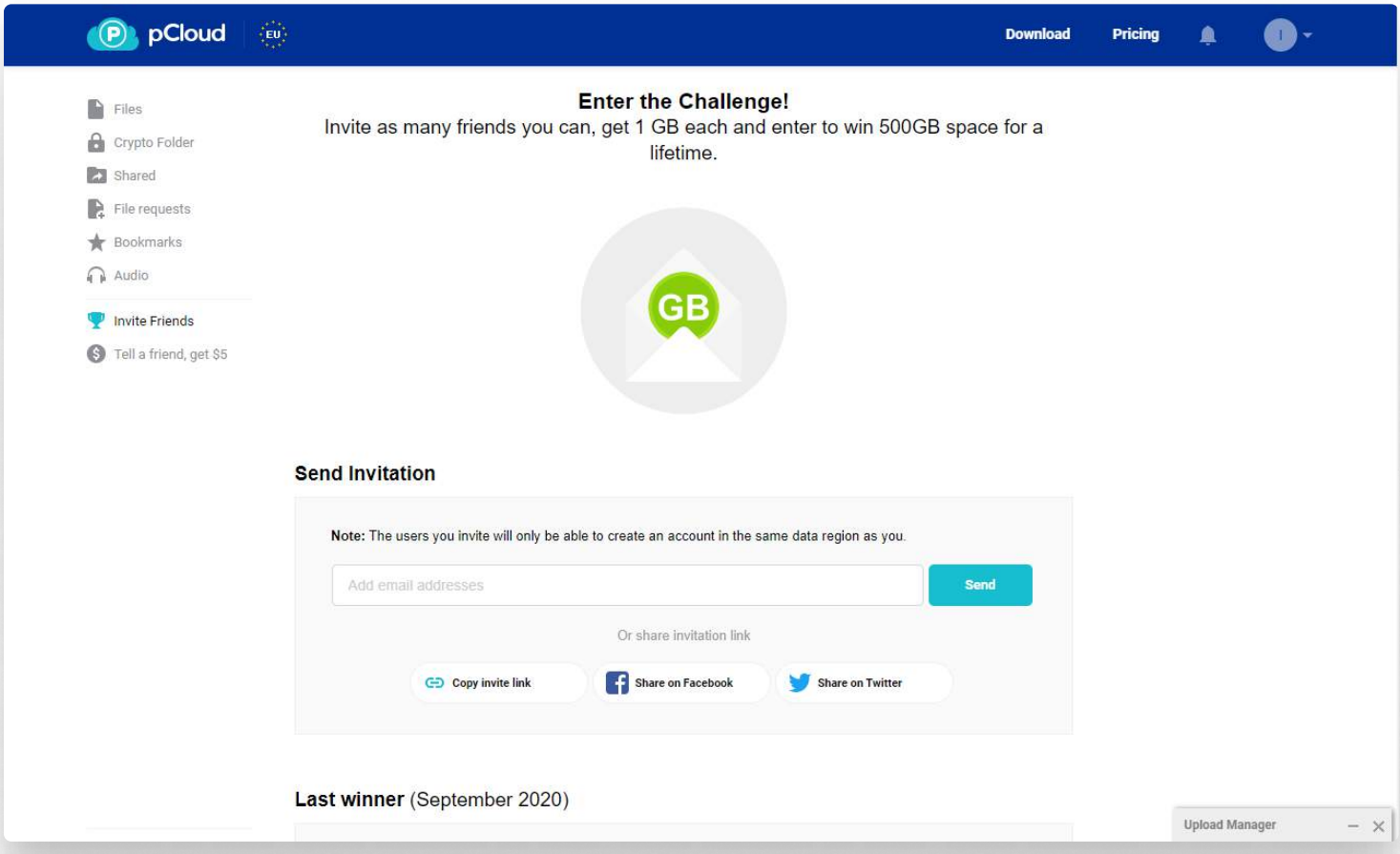
There was a time when cloud storage was simple. Your cloud account was just a place where you dumped your files, and there was no way to interact with them. Nowadays, cloud storage providers can do so much more. In this lesson, we'll outline the top benefits of cloud storage and how you can make the most of it.

1. Get the Most Out of Free Cloud Storage

If you want to use cloud storage like a pro but aren't quite ready to pay the full price of a "pro" experience, there are plenty of free cloud storage providers. Most cloud services set limits for free users, such as restricting features, but we'll go through the ones that aren't too strict with their non-paying customers.

First, you should look at free storage capacity. The most you'll get from a decent cloud service is around 15GB (like what **Google Drive** offers), though there are ways to get more. For example, many services have referral programs that let you grab a few extra gigabytes.

We recommend pCloud, as it doesn't restrict any features for free users and offers 10GB of free storage. You'll have to unlock some of that storage with extra steps like installing the desktop client, but it's a simple-enough procedure (and something you would end up doing anyway).



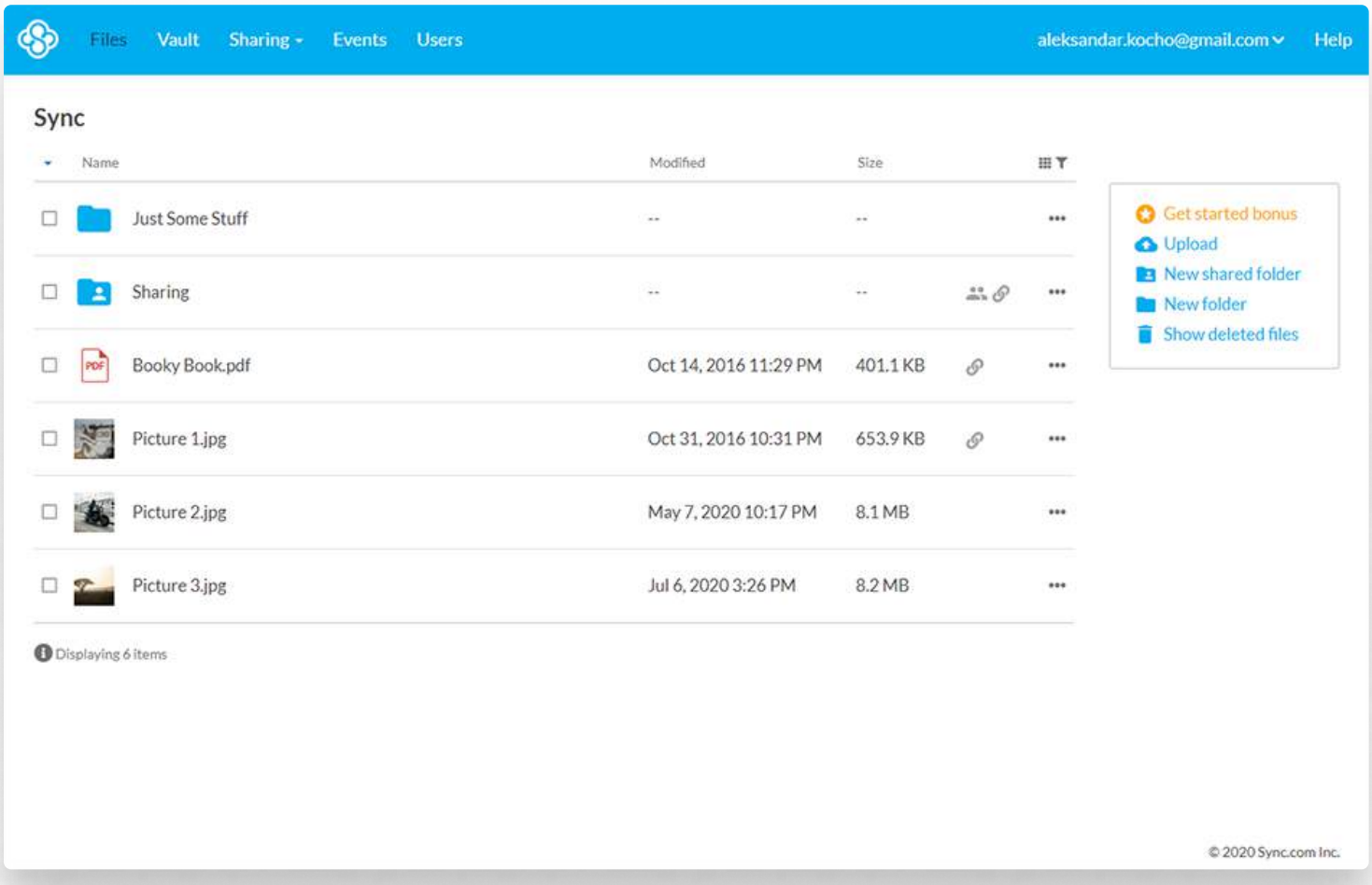
If you need more cloud storage, **MEGA** offers the most storage space up front, with a full 20GB of free storage. It also lets you expand your storage temporarily by completing simple tasks or referring friends. However, if you're willing to stitch together several services, it's possible to **get up to 100GB of storage for free**.

Sign Up Here For MEGA To Claim 20GB Free Storage MEGA

2. Look For Paid Plans That Go Beyond Storage Space

To get the most out of the cloud, make use of every feature the service offers. You'll want to get your money's worth if you're paying for a premium service, so it's important to look for one with plenty of features.

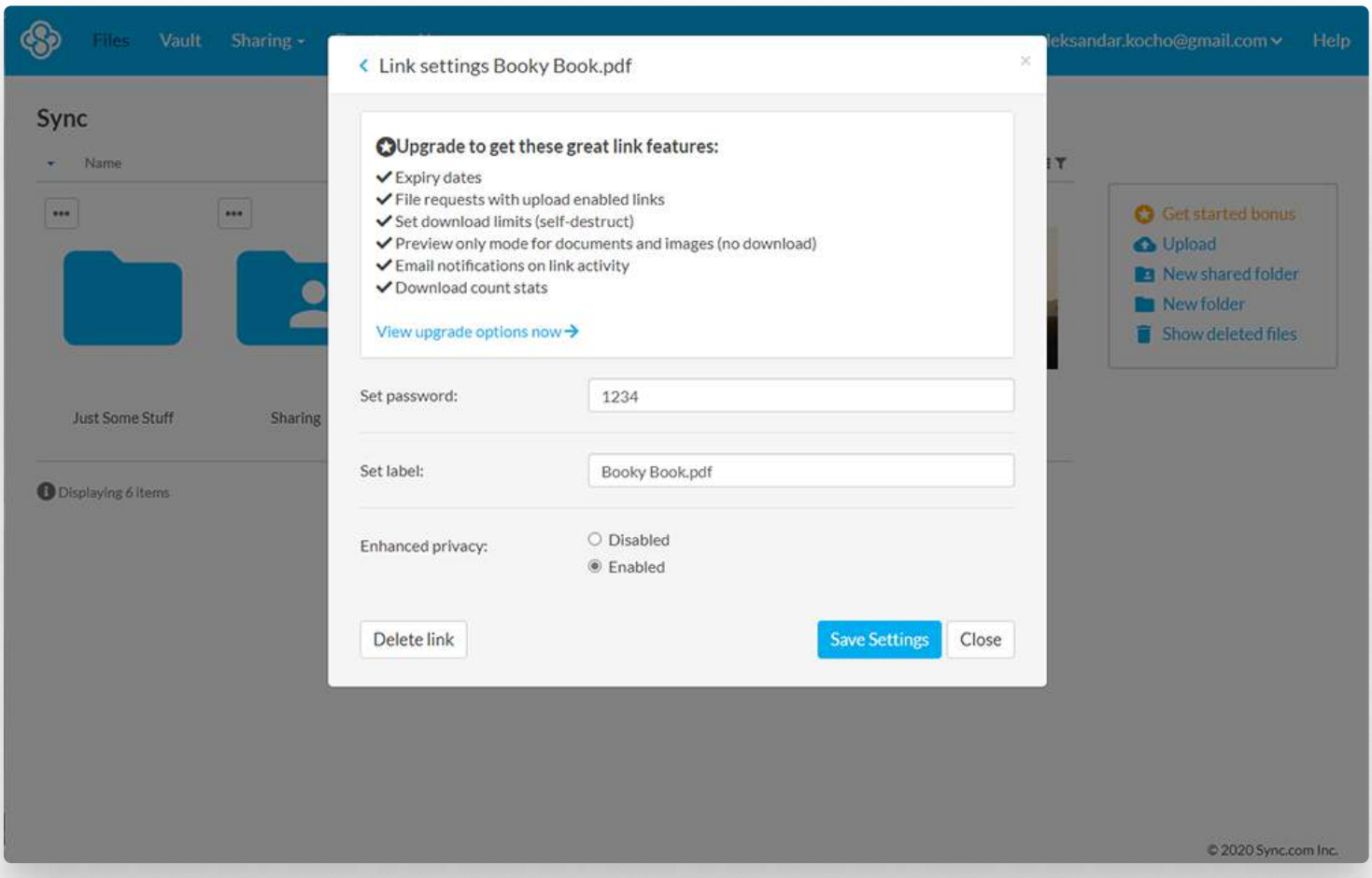
If you're willing to sacrifice some privacy for a good service, look no further than the big three: **Dropbox, Google Drive and OneDrive**. These services offer the most in terms of extra bells and whistles. Plus, third-party integrations can handle whatever these services can't do on their own.



However, if privacy is a concern for you (and it should be), **Sync.com** can't be beat. It provides secure, zero-knowledge encryption on all your data, putting it at the top of our **most secure cloud storage** chart. Plus, it integrates with Microsoft Office and has some of the best sharing features (we'll talk more about those soon). To top it off, Sync.com's pricing plans are among the **cheapest cloud storage options**.

3. Share Files Securely via the Cloud

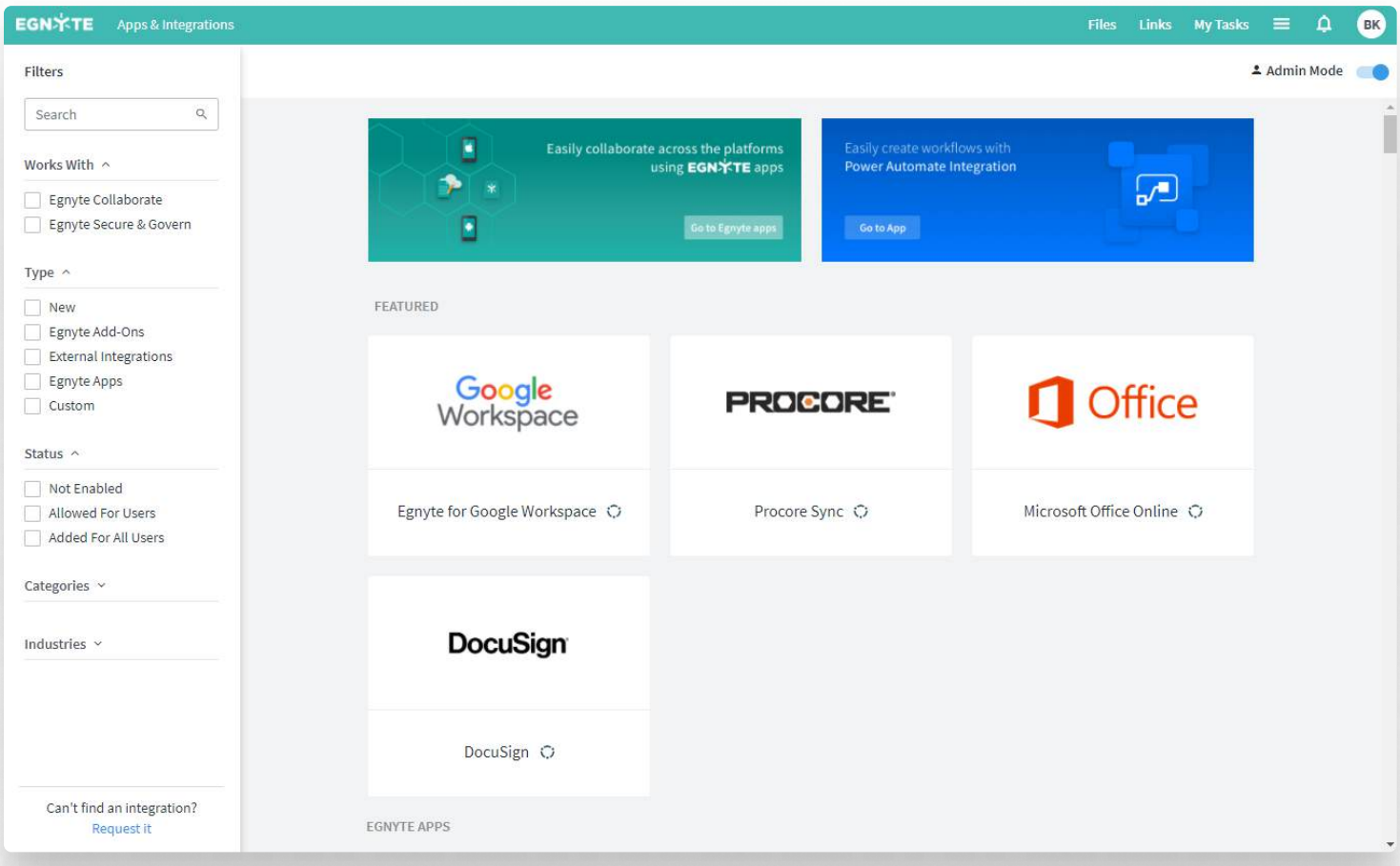
One of the biggest benefits of cloud storage is file sharing. Whether you need to share important work files with a coworker or simply want to send a photo album to Grandma, cloud storage can make the process easy and fast. Though most services today can share files, only a few **services provide extra sharing features** to enhance the experience.



Sync.com has incredible sharing features. Expiry dates and passwords for sharing links are a common way to share securely. However, Sync.com goes a step further, providing download stats and notifications, as well as a self-destruct mode that deactivates the sharing link after a set number of downloads

4. Take Your Office Life Online With Cloud Collaboration

A smooth workflow and a unified data system can make a huge difference for businesses. Cloud storage can work as a hub for all your company's data, which will make it easier for employees to find the files they need. Plus, some cloud storage providers integrate with third-party apps, so they can upload any content they create directly to the cloud.



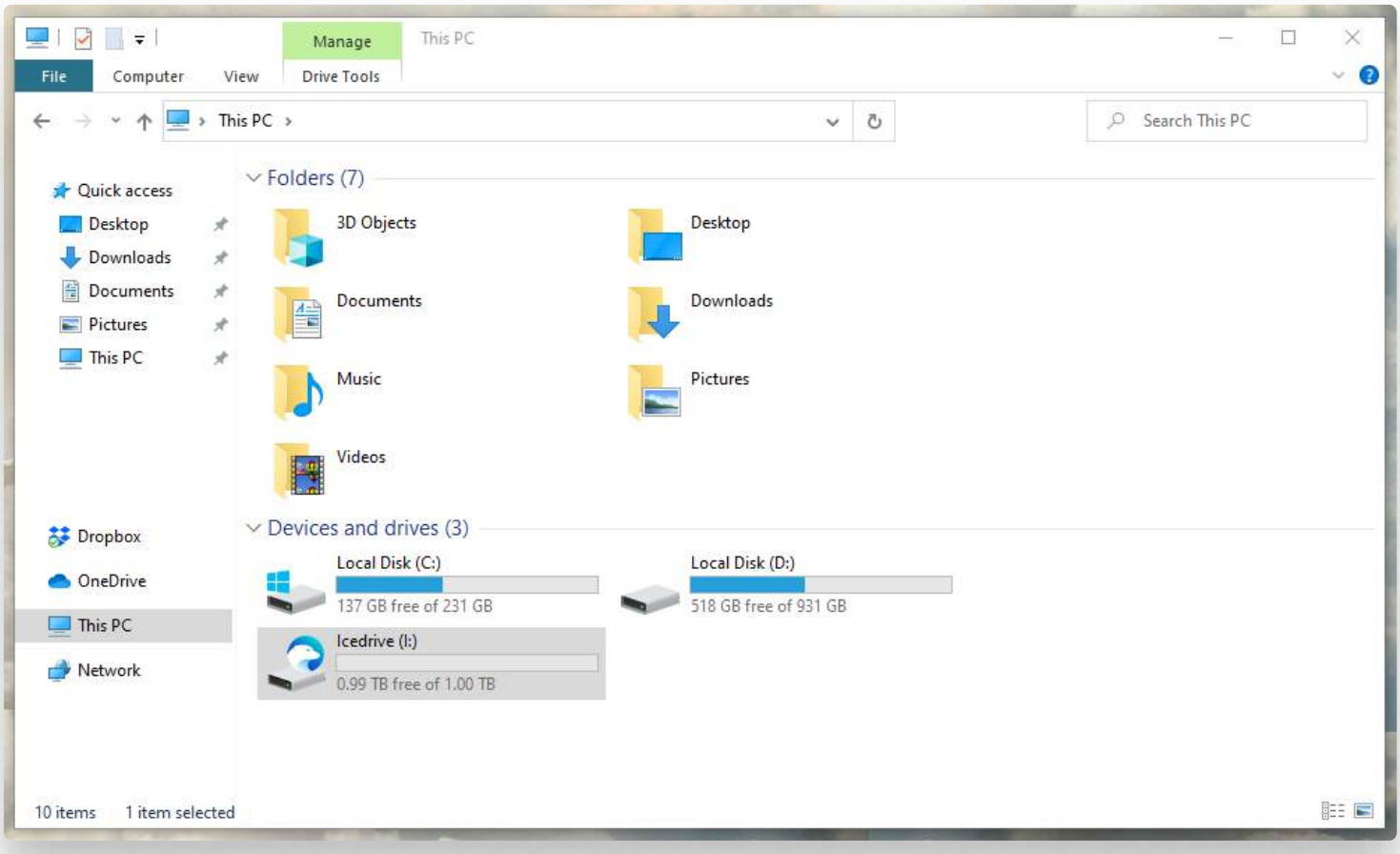
Egnyte Connect is a real tour de force when it comes to **cloud collaboration** thanks to its wealth of app integrations. It integrates with both Microsoft Office 365 and its Google counterpart, **Google Workspace**. Plus, it includes all your favorite **online productivity tools**, including Trello, Zapier and Zoom. You can read more about it in our **Egnyte Connect review**.

5. Use Syncing to Access Data Across Multiple Devices

Syncing is an integral part of cloud storage. Syncing your cloud-based files means you can access them on all of your devices simultaneously via the cloud app. However, to really step up your cloud storage game, you need some more advanced syncing methods.

When files sync to your computer, they inevitably take up space. However, a feature called **selective sync** lets you sync only the files you want, freeing up disk space.

Dropbox provides a syncing method called **"smart sync,"** which creates shortcuts to files on your computer rather than syncing them fully. This lets you access files you haven't marked for syncing.

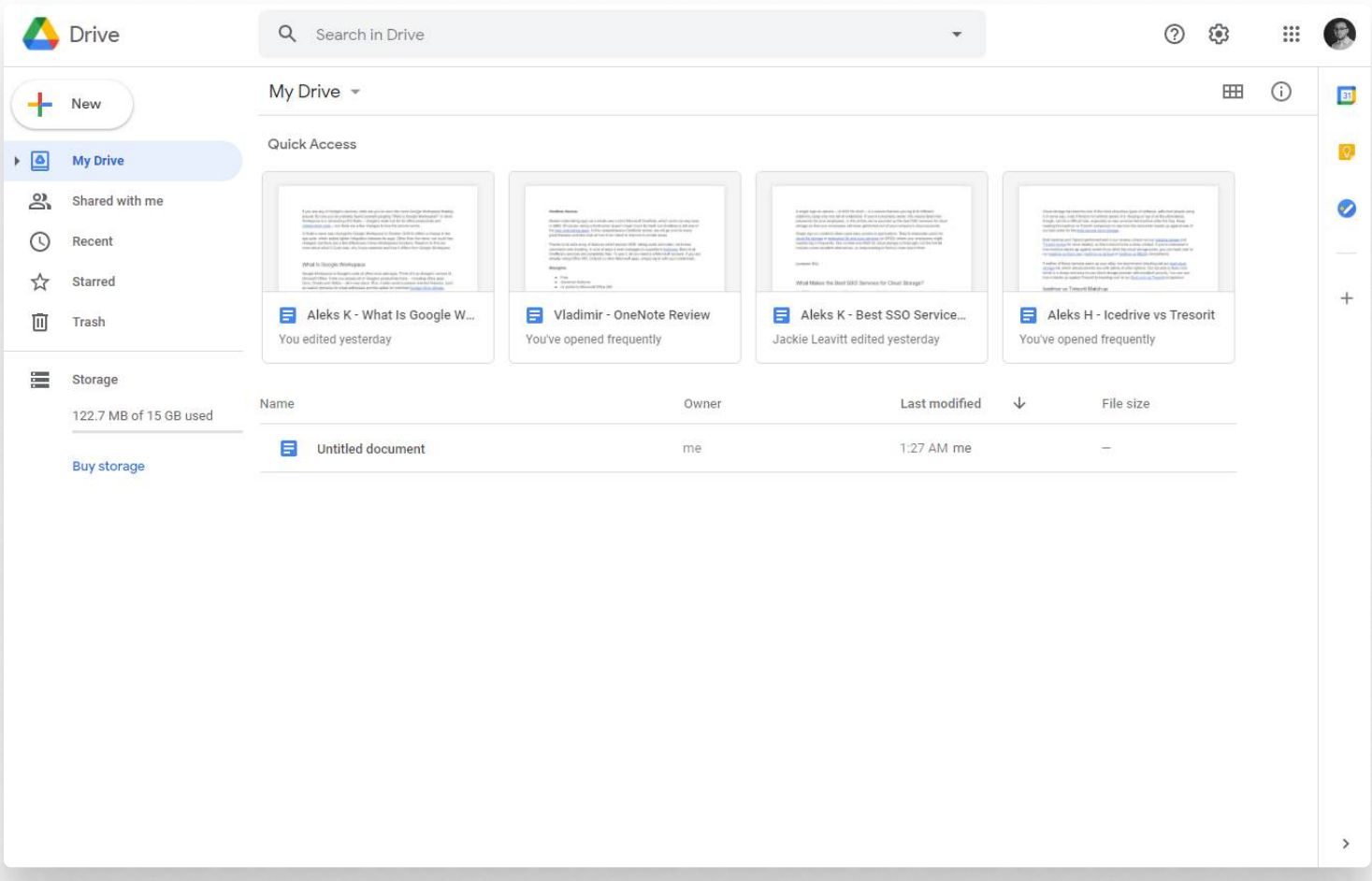


Icedrive and pCloud are even better at freeing up space on your hard drive. Both services create a virtual hard drive on your computer that lets you access your cloud-based data, but those files are never actually downloaded to your computer.

6. Improve Your Workflow With Cloud Productivity Tools

With the increase in remote work, online productivity tools have become a huge part of our virtual office lives. There are plenty of business-oriented cloud storage providers that have integrations with these tools. However, if you want a personal cloud solution, your choices are more limited, especially if you're not keen on name-brand services tracking your activity.

Google Drive is an affordable service that integrates by default with its own Workspace apps, including document-editing tools like Docs, Sheets and Slides. Plus, staples like Gmail and Google Photos use Google Drive to store their data. Having all of your work files in one place can really speed up the way you work.



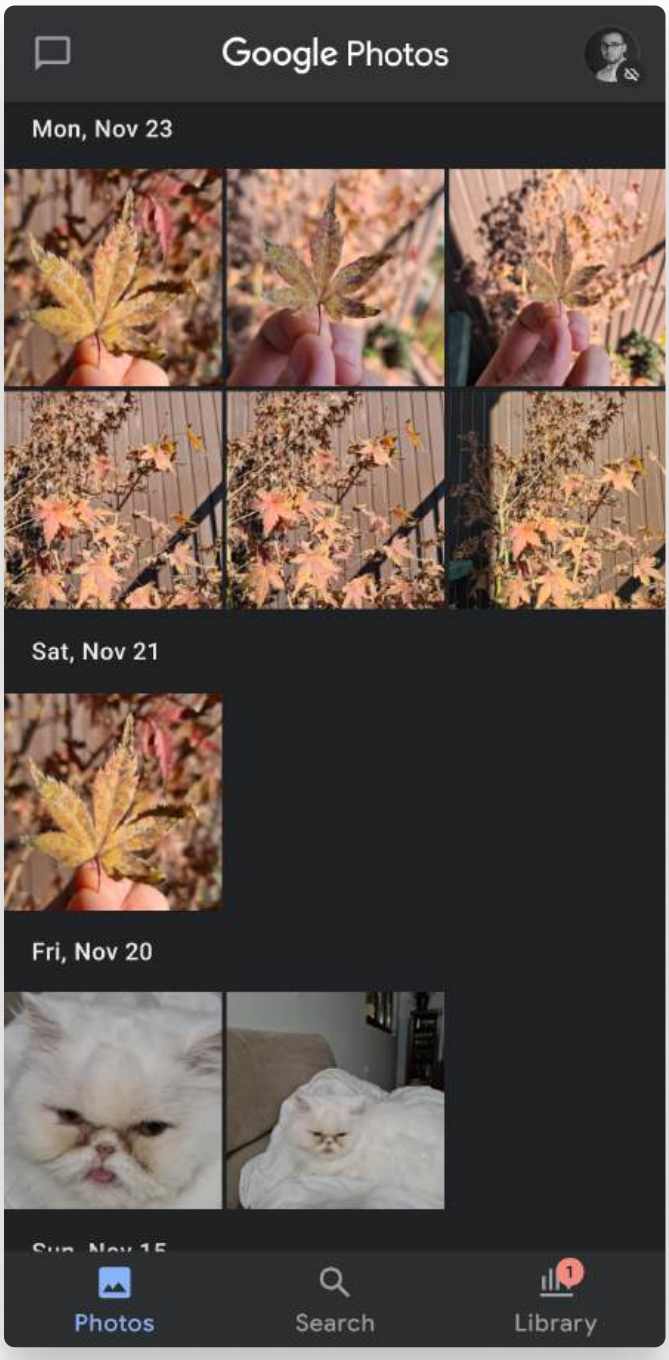
If you'd prefer to let Microsoft handle (and probably scan) your private data, **OneDrive** provides integrations with the Microsoft 365 suite of office apps, including Word, Excel, Outlook and Teams. **Dropbox** also provides plenty of third-party app integrations, including both Google and Microsoft office apps.

Sync.com is one of the rare secure cloud storage services that also integrates with productivity tools, so it's our top recommendation here as well. Your choices for app integrations are limited to the Microsoft Office suite, but the upside is that zero-knowledge encryption protects your data at all times.

7. Keep Your Memories Safe in the Cloud

We'd be remiss not to mention one of the most practical uses of cloud storage, and that's storing photos in the cloud. With almost all cloud storage providers now offering mobile apps, you don't even have to lift a finger to sync the photos on your phone to your computer — your cloud app will do it automatically.

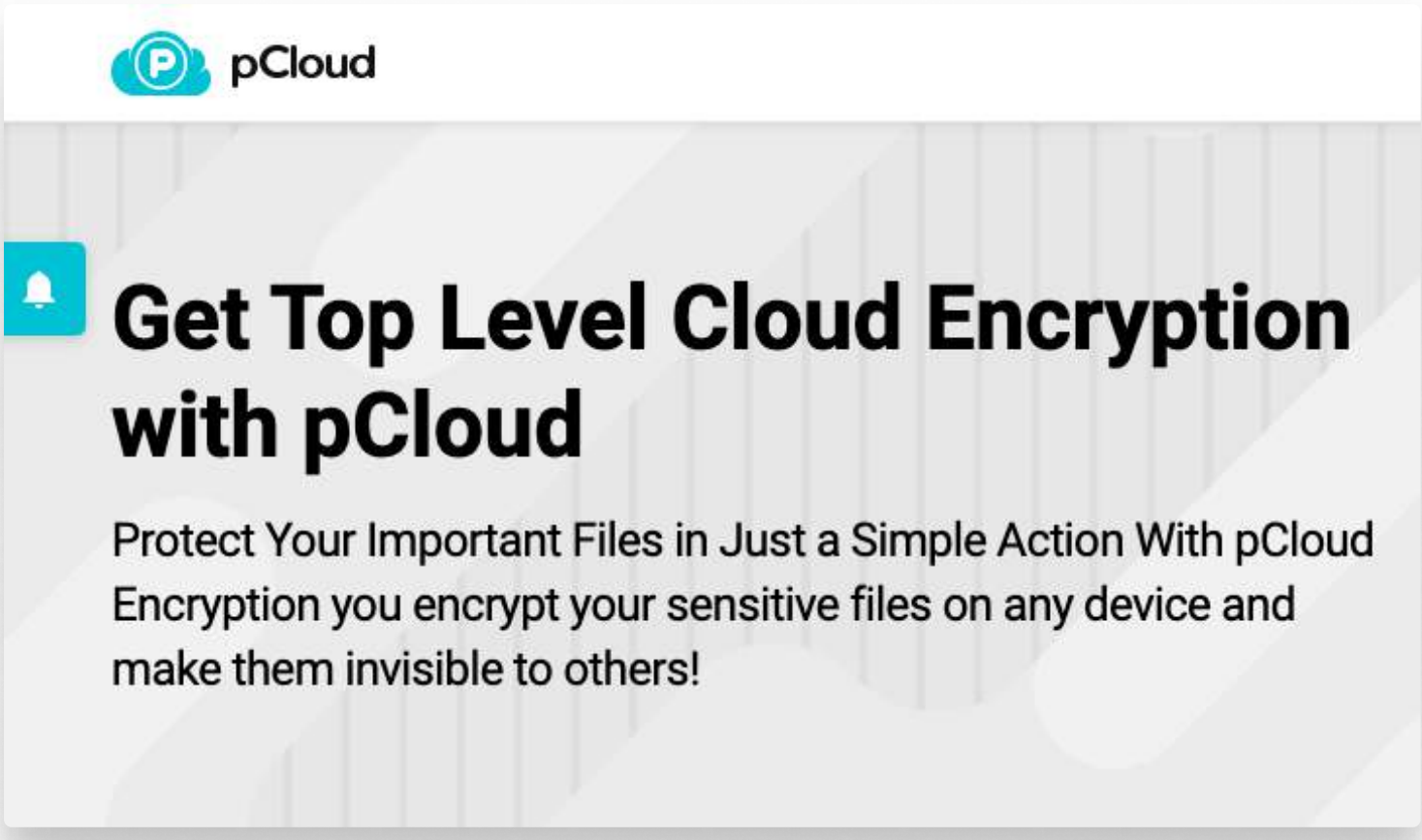
Google Drive is an affordable service that integrates by default with its own Workspace apps, including document-editing tools like Docs, Sheets and Slides. Plus, staples like Gmail and Google Photos use Google Drive to store their data. Having all of your work files in one place can really speed up the way you work.



Though not a cloud storage app, **Google Photos** syncs your photos to Google Drive. Its standout feature is its AI-powered image search, which finds items in photos. For example, a search for "German shepherd" reveals any photo you've taken of a German shepherd.

8. Keep Your Cloud Data Encrypted

Staying safe online is super important if you want to avoid losing your files or even sensitive data such as your credit card information. Thankfully, there are services that dedicate a lot of energy to keeping your data private.



These are so-called zero-knowledge cloud services. If you use them, no one but you will be able to access your data — not even the cloud service itself. Two of our favorite zero-knowledge services are Sync.com and pCloud, though the latter offers it in the form of its pCloud Encryption add-on.

Security Winner: **Sync.com**

- Zero-knowledge encryption
- Unlimited file sizes
- Competitive pricing

Sign Up Now sync.com

Runner up with lifetime storage: **pCloud**

- Fast performance
- Optional zero-knowledge folder
- Lifetime plans

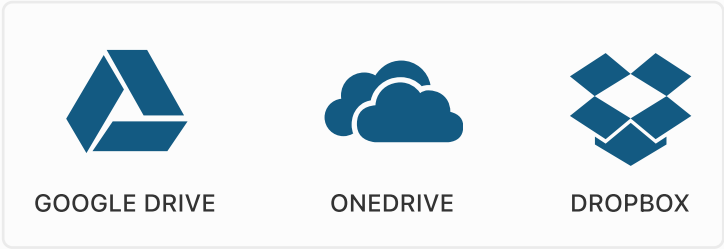
Get 2TB Lifetime Storage pCloud

Popular Personal Cloud Storage Services

In this lesson, we'll suggest a few cloud storage services you can use in your personal life or workplace. We'll cover business-oriented cloud storage options as well, so you'll be sure to find a provider that fits your team's workflow.

Before we get started, we need to preface this lesson with a warning about privacy. Though all of the cloud services we suggest are **secure**, not all of them are **private**.

The so-called **"Big Three"** of cloud storage — Google Drive, OneDrive and Dropbox — offer amazing functionality and high speeds. However, we always warn privacy-conscious readers against using them, as each has its own privacy issues.



Google and Microsoft are notorious for harvesting user data, and their user agreements allow them to freely scan your files. On the other hand, Dropbox has an **entire Wikipedia page** dedicated to its numerous privacy failures.

We will still review and discuss these services, as we believe they do have merit, especially as tools for collaboration. However, we urge you to use them with caution and not store sensitive data on them.

Without further ado, here is our short list of the best cloud storage providers:

sync.com

Top cloud storage pick for sharing, versioning, large files, privacy, iPhone and more.

Visit Sync.com

pCloud

Best online storage pick for Windows, Mac, Linux and music.

Visit pCloud

icedrive

Top cloud drive with great UX and excellent speeds.

Visit IceDrive

MEGA

Very secure service with the most free cloud storage (20GB).

Visit MEGA

IDrive

Best cloud storage-online backup hybrid.

Visit IDrive

OneDrive

Best cloud storage service for Office integration.

Visit OneDrive

Google Drive

Top pick for integrated apps and students.

Visit Google Drive

KOOFR

Top pick for multiple cloud accounts.

Visit Koofr

Dropbox

Best pick for cloud collaboration.

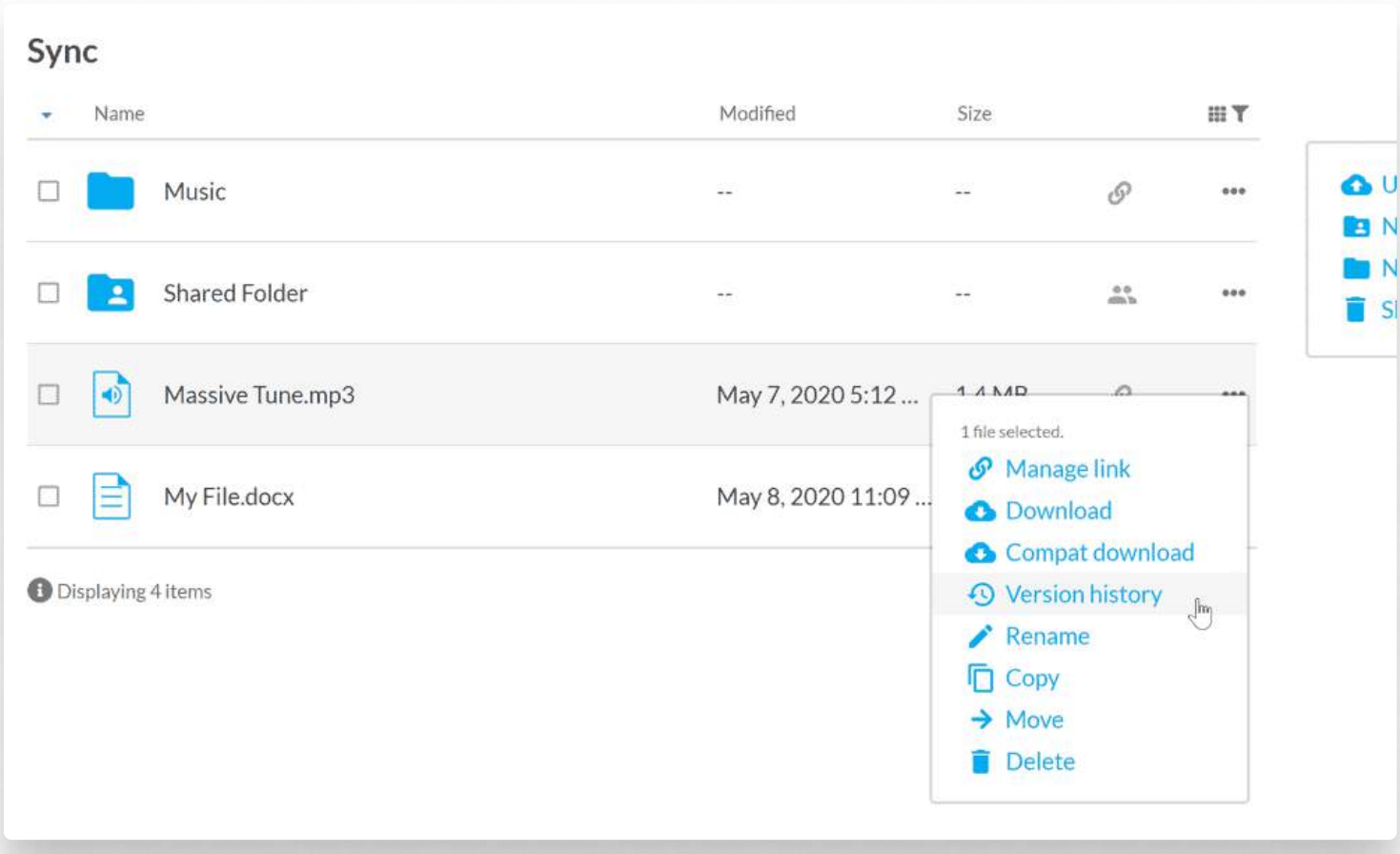
Visit Dropbox

box

Great pick for business cloud storage.

Visit Box

1. Sync.com — Best Secure Cloud Storage



More Details About Sync.com:

- Free storage: 5GB
- Number of devices: 5 on Individual plans

Pros:

- Excellent value
- Secure cloud storage
- Zero-knowledge encryption
- Easy to use

Cons:

- Slower than some rivals

Try Sync.com Today

sync.com

Sync.com is **our choice** for the best cloud service, achieving the top spot on many of our cloud storage lists. It's one of the most secure cloud services out there, and it keeps improving its service and adding new features as the company matures and grows. Sync also won our cloud storage pricing comparison.

Security & Collaboration in One Package

Sync.com comes with zero-knowledge encryption as the standard. This means that if there is a security breach or the authorities demand access to your account, the intruder would see only scrambled data because you're the only one with the encryption key.

To add to this, Sync.com offers advanced sharing controls, including passwords, download limits and expiry dates for sharing links. Plus, Sync.com allows you to create and edit Microsoft Office documents (including Word, Excel and PowerPoint documents) in a privacy-friendly collaboration environment without breaking its zero-knowledge encryption.

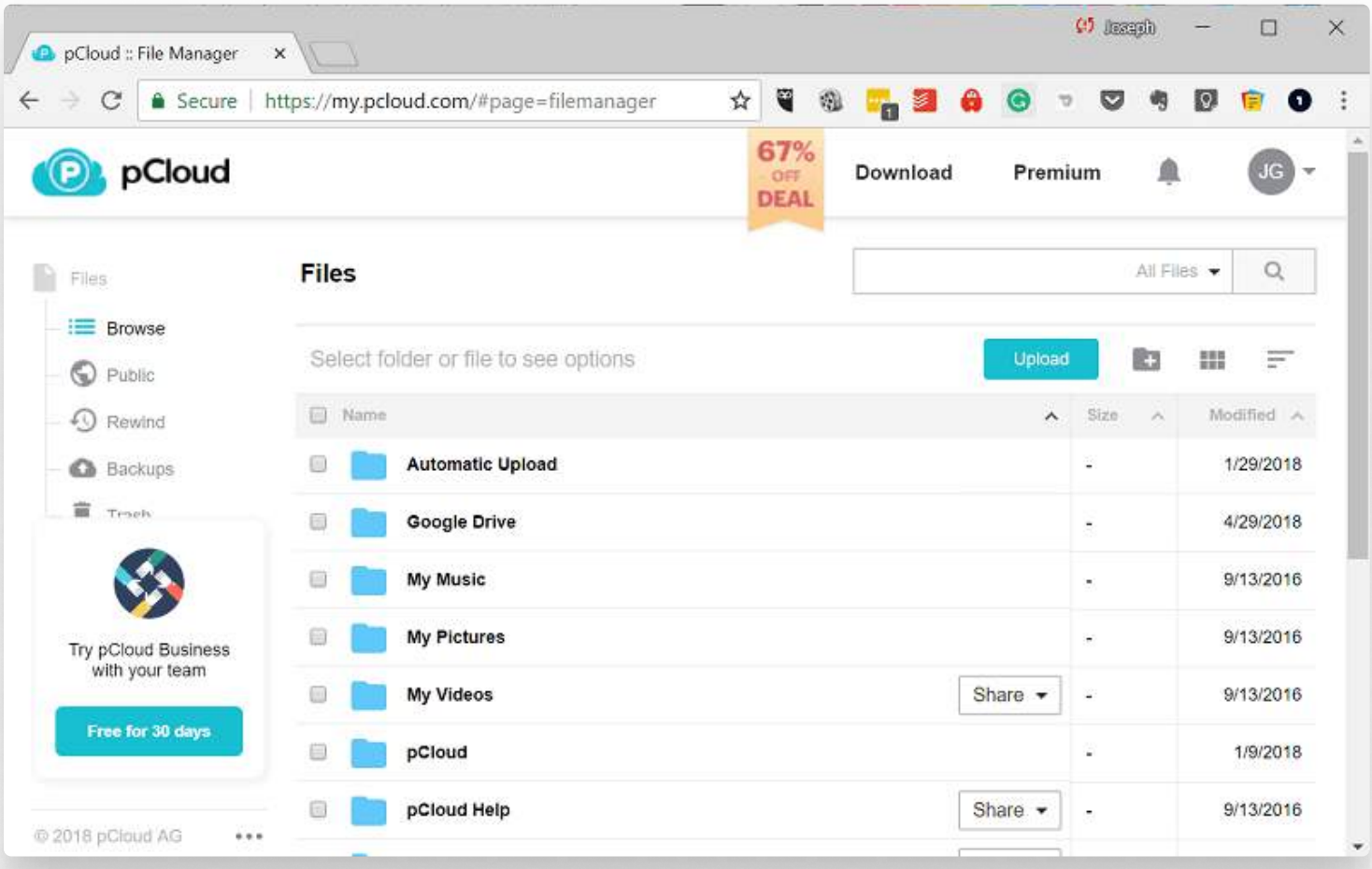
Sync.com Pricing & Free Storage

Pricing is where Sync.com truly shines. Sync.com comes with 5GB of free storage, which isn't much but is enough to try the service out. However, its paid plans are some of the cheapest around. In fact, there is no provider in our top 10 that offers 2TB of storage for a lower price.

The only flaw we can find with Sync.com is that it's slow. In fact, it was one of the worst performers on our list of fastest cloud storage providers. If you're impatient, Sync.com might not be for you.

However, all in all, Sync.com is a great online storage provider at a price you'll be hard-pressed to beat. It also has a good number of features, as well as support for Windows 10 and Mac users. If you want to learn more, take a look at our **Sync.com review.**

2. pCloud — Best Multi-Platform Cloud Storage



More Details About pCloud:

- Free storage: 10GB
- Number of devices: unlimited

Pros:

- Excellent value
- Choice of encryption levels
- Clever virtual drive
- EU servers available
- Lifetime plans

Cons:

- Zero-knowledge encryption isn't free
- No document editing integration

Try pCloud Today

pCloud

You'll often see us praise pCloud in our cloud storage reviews, and it's not hard to see why. It has a number of unique features wrapped in a sleek and secure package. Plus, it offers great pricing in line with Sync.com.

Top-Shelf Media & Sharing Capabilities

pCloud is a great option for media lovers thanks to the features in the embedded pCloud music player, which automatically creates playlists by artist, album or folder. Its video player is also fairly advanced, even letting you change the playback speed and convert video files to other formats.

If you're running out of media storage space on your device, pCloud's virtual drive will come in handy. pCloud can mount a virtual drive on your device (similar to Local Disk (C:)) that uses your cloud storage instead of your hard drive's storage.

If you're a creator who loves to post on social media, pCloud lets you back up images that you previously uploaded to your socials as part of its backup feature. This feature also lets you back up your entire device to the cloud, or even move all your files from another cloud service to pCloud

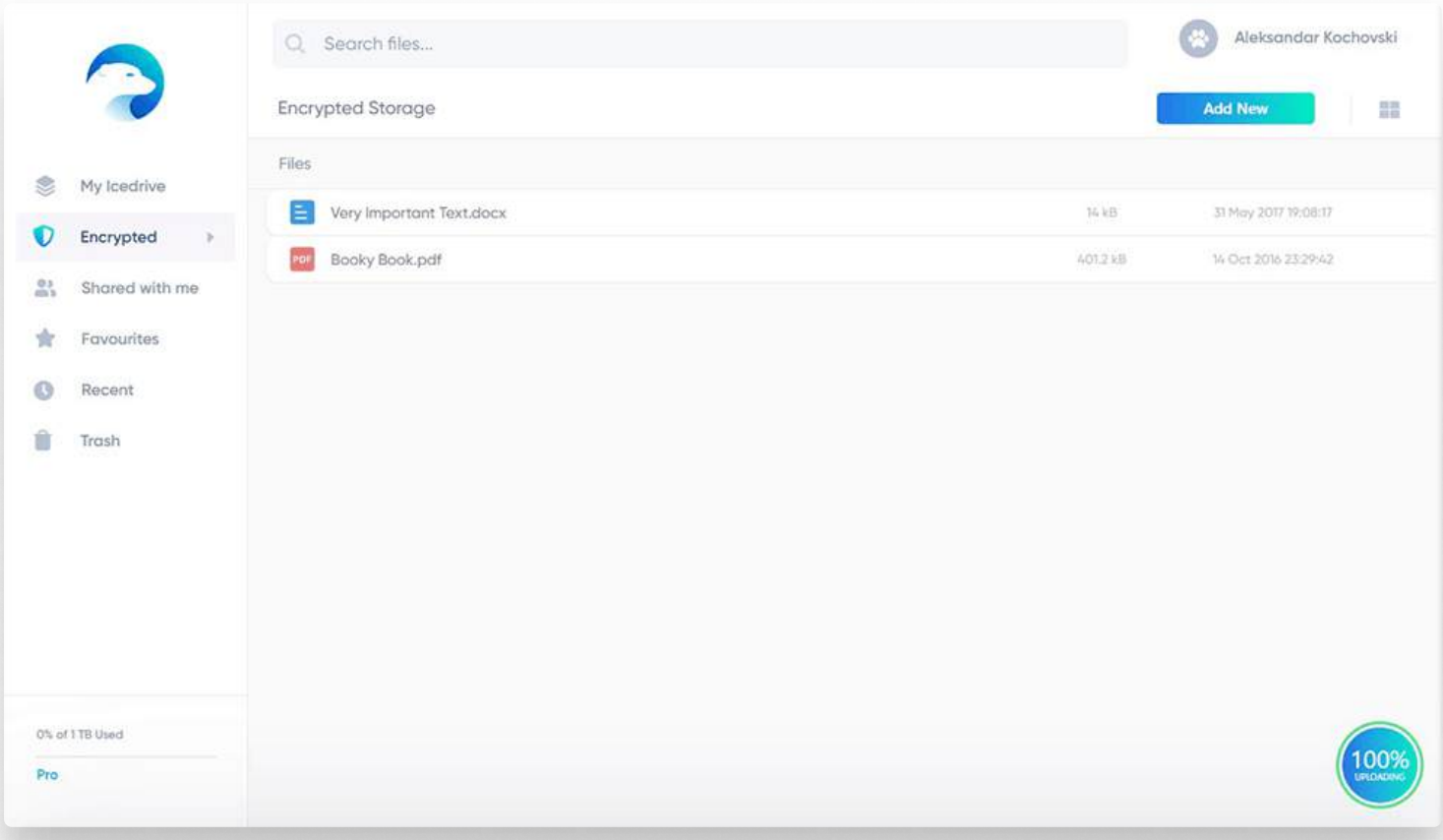
What Is pCloud Crypto?

pCloud doesn't offer zero-knowledge encryption out of the box, which is a downside. You have to pay extra for this protection, which is called pCloud Encryption. It is included for free with business plans, though. However, pCloud Encryption is a little different from the kind of encryption you'll see other providers offer.

pCloud Encryption provides a specific folder (called "crypto") to store files you want to protect with zero-knowledge encryption. pCloud's servers can still read anything not stored in the "crypto" folder, allowing you to preview files or play content from within the app.

In addition, pCloud offers a way to save money by signing up for a pCloud Lifetime account. This account provides online storage that remains yours forever. Read more about it in our **pCloud review.**

3. Icedrive — Fast Online Cloud Storage



More Details About Icedrive:

- Free storage: 10GB
- Number of devices: unlimited

Pros:

- Secure Twofish algorithm
- Zero-knowledge encryption
- Preview encrypted files
- Lifetime plans

Cons:

- Zero knowledge unavailable on the free plan
- Limited choice of plans

Try Icedrive Today

icedrive

You may not have heard of the newest entry on our list: Icedrive. That's not surprising, given it has been in operation since only 2019. However, it's been making waves, with highly competitive pricing and some interesting features that set it apart from some of its more established rivals.

Novel Encryption Methods & Zero-Knowledge Security

One of the main factors that differentiates Icedrive from the other providers on our list is that it doesn't use the industry-standard AES 256-bit encryption. Instead, it uses an algorithm called Twofish.

Twofish was one of the final contenders for the Advanced Encryption Standard contest at the turn of the century. Some consider Twofish to be more secure — if sometimes slower — than the eventual winner, Rijndael (now known simply as AES). Icedrive points out that the NSA backs the current standard; Make of that what you will, but don't let it scare you just yet.

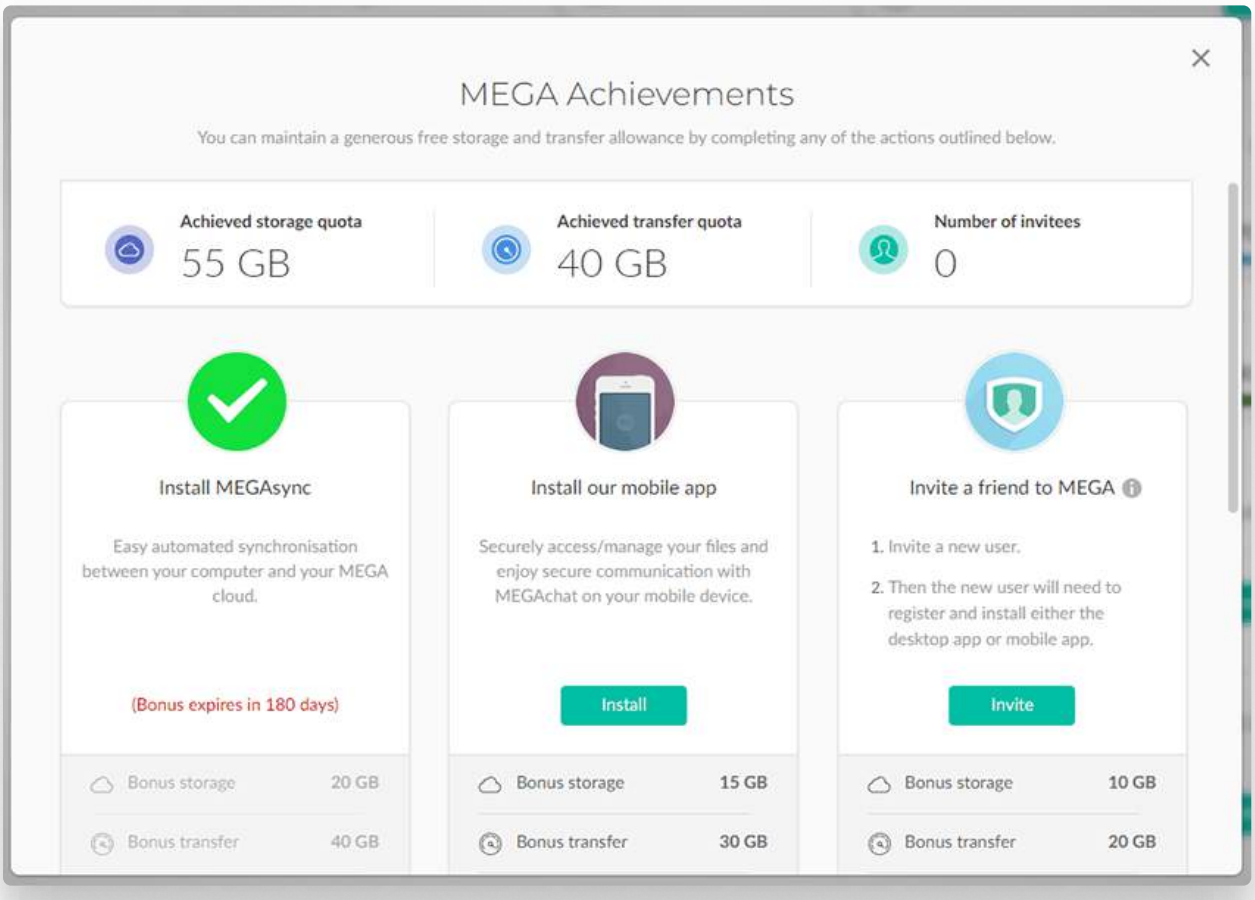
Paid accounts include zero-knowledge encryption as the standard, so files should be safe from prying eyes. Unlike most other zero-knowledge providers, Icedrive lets you preview certain files by streaming them in encrypted form to your computer, where they are then decrypted on the fly.

Icedrive also offers two-factor authentication (2FA), and it has a no-nonsense privacy policy that rules out most problematic behaviors. As a U.K.-based company, Icedrive is governed by stringent GDPR regulations.

Icedrive Online Storage Pricing & Lifetime Plans

One of Icedrive's biggest selling points is the price, and it's also one of the few providers to offer a lifetime subscription option. Keep in mind that a lifetime subscription may be a risk, especially given how new Icedrive is. Still, if you're looking for a highly secure provider and need less than 1TB of storage space, then Icedrive is a great option. Check out our **Icedrive review** for more details.

4. MEGA — Best Free Cloud Storage



More Details About MEGA:

- Free storage: 20GB
- Number of devices: Unlimited

Pros:

- Zero-knowledge encryption
- No U.S. servers
- Great free storage

Cons:

- Time-limited rewards
- Ownership concerns

Try MEGA Today

MEGA

If you're worried about privacy with free cloud storage providers like Google — our number-seven pick — consider a provider at the other end of the privacy spectrum: MEGA. MEGA's founder, Kim Dotcom, has had run-ins with the law, but he's no longer part of the company. MEGA's focus is security, so zero-knowledge encryption is the absolute standard.

A Truly Secure Cloud Storage Service

In terms of privacy, MEGA has servers in Canada, New Zealand, Japan and Europe — in fact, it's one of the best cloud storage options for Europe. All of these locations have reasonable privacy laws. That is exactly why no data is held on American servers.

Because MEGA uses zero-knowledge encryption, it can't read any files you store, but it does keep some of your metadata, such as IP logins, to monitor access. However, we'd be remiss if we didn't mention the recent report that found serious problems with MEGA's encryption process. Still, we feel confident recommending it as an overall secure and private service.

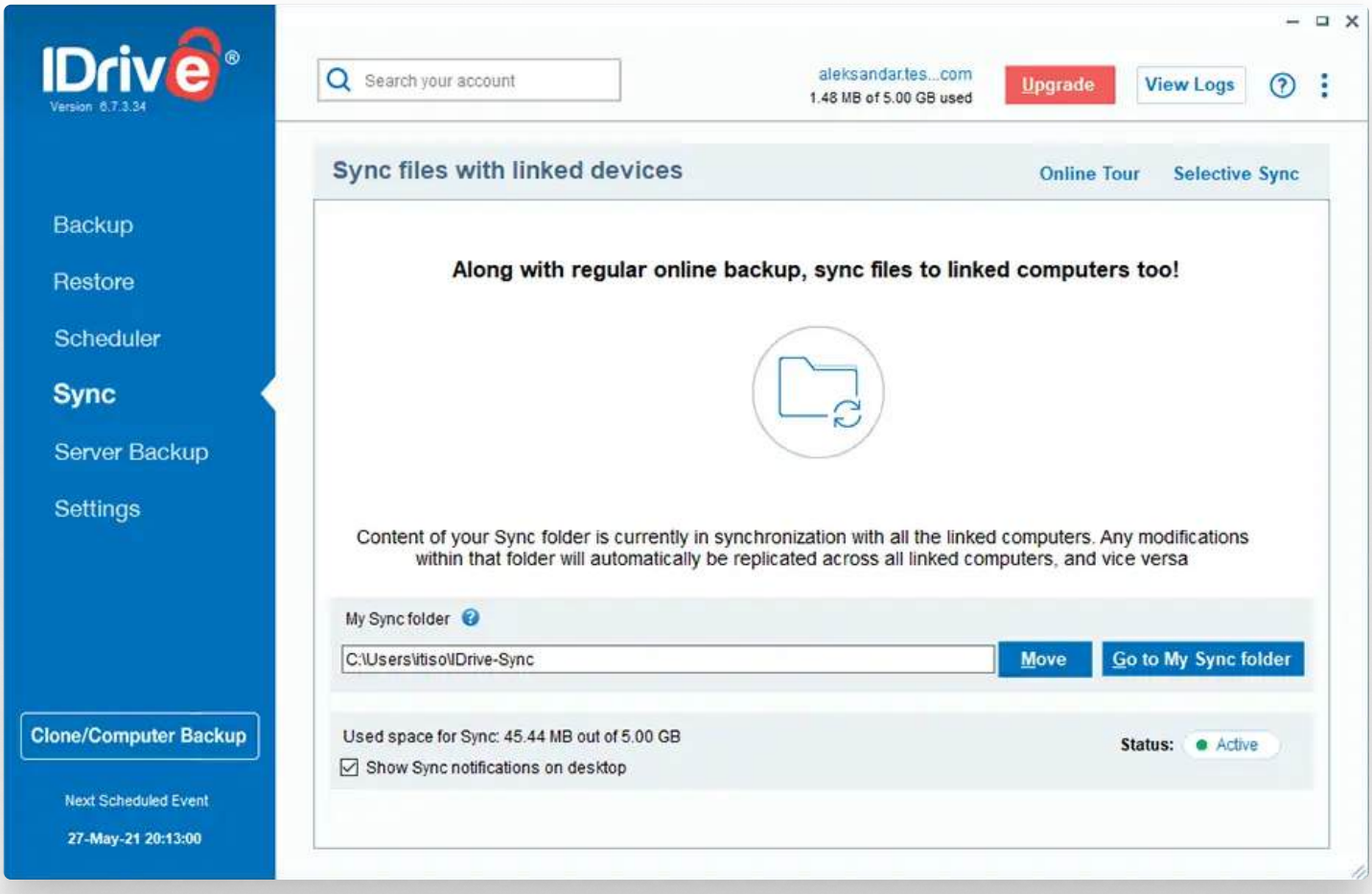
There is also some controversy about how much of MEGA's stock is owned by people under the influence of the Chinese government, which could be a concern for some users. You can read more about this in our **MEGA review.**

20GB Free Storage

MEGA is a good option for users who want a free cloud storage account. In 2021, it increased its free file storage space from 15GB to 20GB. Plus, you can extend your free space by completing various tasks — like installing the desktop and mobile apps — but that extra space expires after a year.

Though its paid plans aren't the cheapest cloud storage options out there, the base 20GB still blows its free cloud storage rivals away, earning it the fourth spot on our list. The good news is that even if you don't pay for a MEGA subscription, free accounts get full access to the privacy and protection that MEGA's encrypted cloud storage provides.

5. IDrive — Best-Value Cloud Storage



More Details About IDrive:

- Free storage: 10GB
- Number of devices: Unlimited

Pros:

- Both backup and cloud storage
- Easy to use
- Packed with features

Cons:

- macOS app lacks features

Try IDrive Today

IDrive®

IDrive is a unique option that offers a hybrid solution for both cloud storage and online backup. It's actually our number one pick for online backup, owing mostly to its incredibly affordable prices and wealth of features.

Hybrid Cloud Storage & Backup With IDrive

In addition to backup features like disk imaging and courier recovery — which we won't spend too much time on here — it also boasts proper file sync and share features that earn it a spot on this list.

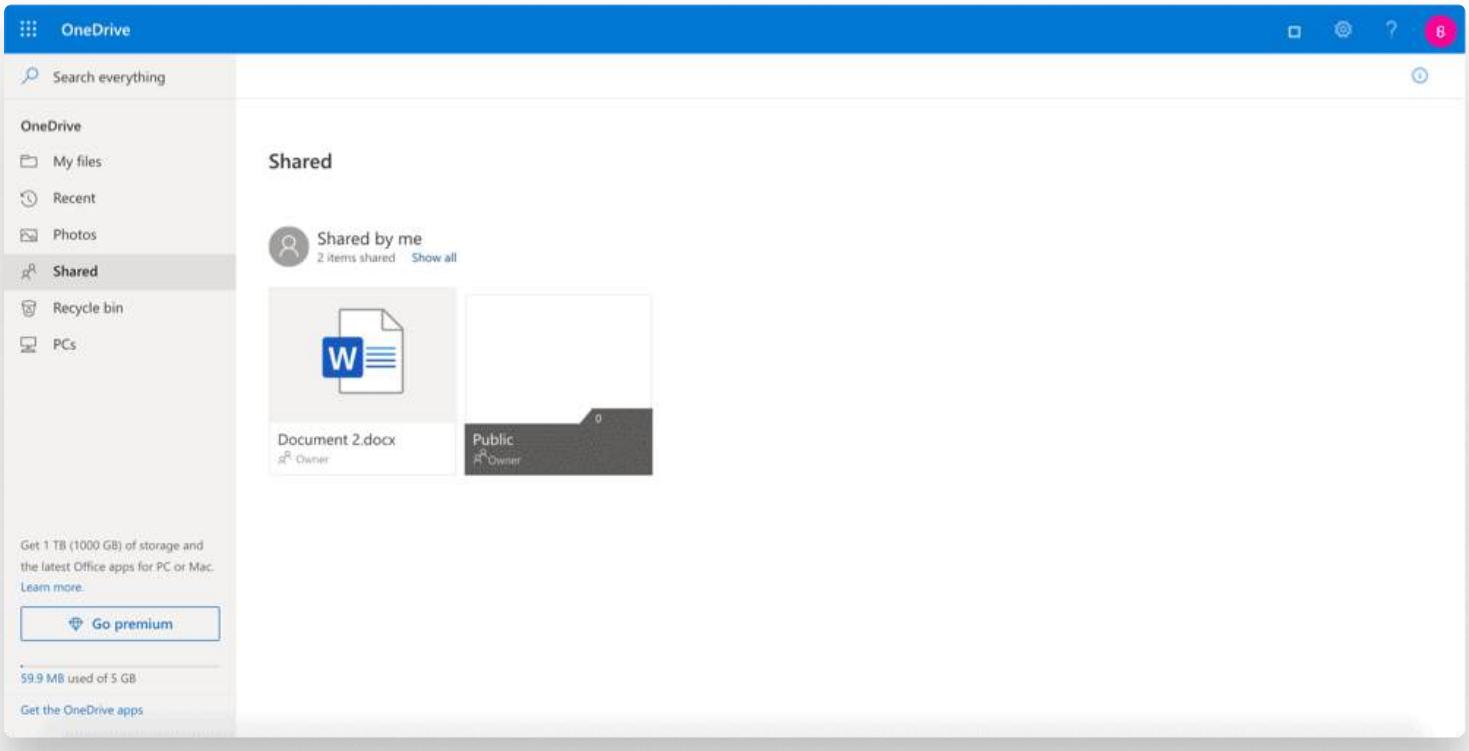
You can designate any folder on your device as a sync folder, and you can move them wherever you want. There's also "selective sync," which can save you a lot of time and bandwidth if you want to exclude certain large files. Its file-sharing features include access privileges, passwords, download limits and durations for the shareable links you create.

Though IDrive works great as traditional cloud storage, online backup is its bread and butter. Unlike other entries on this list, IDrive is an excellent solution for backing up your entire device automatically, since you won't have to manually move items you want to protect to a sync folder.

Affordable Cloud Storage Pricing Plans

One of the best aspects of IDrive is how much storage you get for such a low price. IDrive offers a huge discount for the first year you subscribe, and its personal plans are incredibly generous. IDrive also offers a 10GB free plan, which is great for testing it out. Check out our **IDrive review** for more details.

6. OneDrive — Best Personal Cloud Storage



More Details About OneDrive:

- Free storage: 5GB
- Number of devices: Unlimited

Pros:

- Excellent collaboration tools
- Great integrated apps
- Large variety of features
- Generous free storage

Cons:

- No zero-knowledge encryption
- Limited file versioning

Try OneDrive Today

OneDrive

There are big names in cloud computing, and then there's Microsoft. There's no market in computing that Microsoft hasn't tried to dominate. Its OneDrive online storage service offering therefore comes as no surprise. It has seamless integration with other Microsoft services, such as Office, and is even integrated into Windows itself.

Collaborate Easily With Microsoft Office & OneDrive

The biggest selling point for OneDrive users is Office integration — or rather, the collaboration benefits that come with a combined Office and OneDrive service. A Microsoft 365 Personal subscription — previously Office 365 — includes 1TB of OneDrive storage, as well as full desktop versions of Office apps, with Word, Excel, Outlook and PowerPoint thrown in.

These Office apps make collaborating on documents simple. You can share any of your documents stored in the cloud, and multiple users can work on them together in real time. Any changes are instantly visible to all other co-authors and automatically saved to the cloud.

With a Microsoft Personal subscription, you can install Office on up to five different devices, allowing you to share the service across an entire family or household.

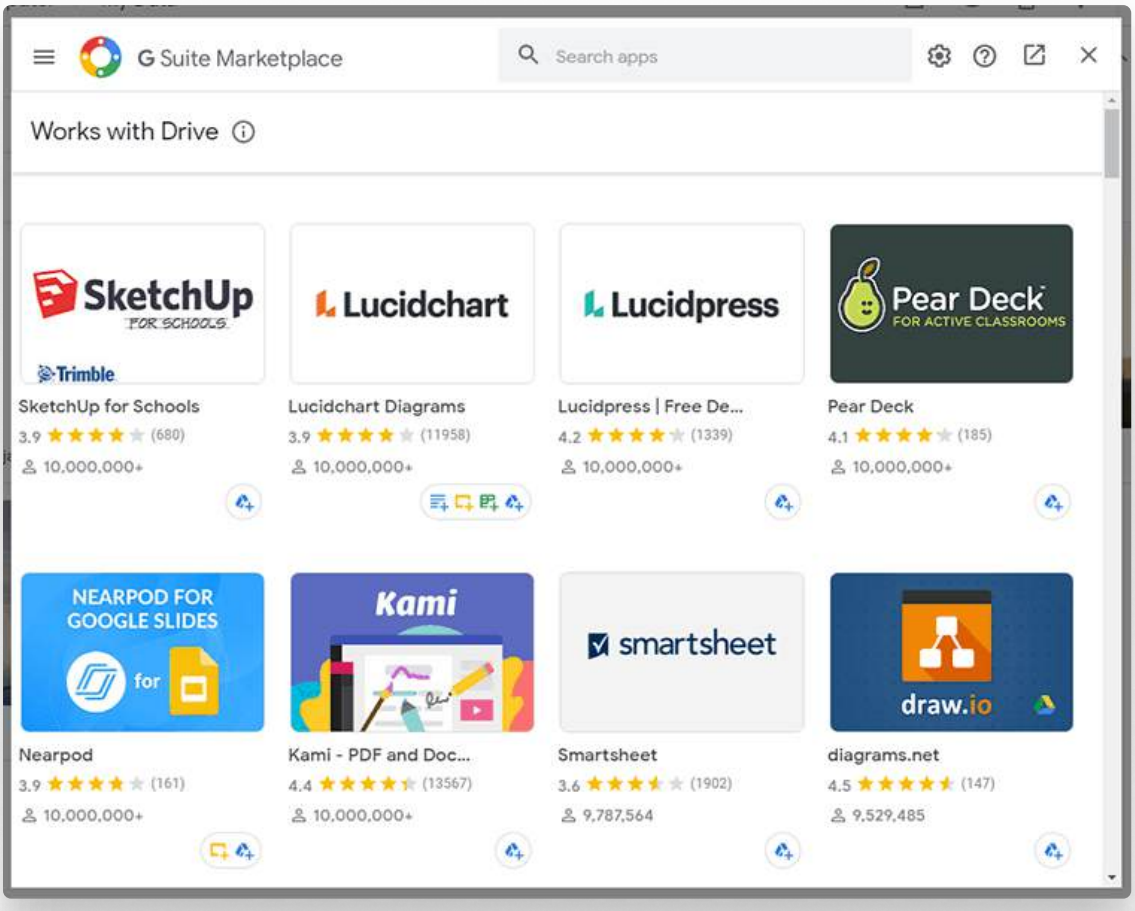
The collaboration features come at a cost, though. OneDrive doesn't have zero-knowledge encryption, so your information is visible to Microsoft and anyone else who gains access to its servers, legally or not. Of course, we also can't ignore the fact that as a U.S. company, Microsoft servers are based stateside, so your data is subject to intrusive laws such as the Freedom Act.

OneDrive Family & Business Plans

OneDrive is a great choice for families looking to store photos on a shared pricing plan. You can take things a step further with a Microsoft Family 365 subscription, which gives each user 1TB of storage, for up to six people. This can save you a small fortune on storage and productivity apps for the family, making it a good value.

OneDrive also has some excellent business options that make it our favorite good-value product on our list of the top providers for enterprise file sync and sharing (where online storage providers like Egnyte reign for business). With Office and Windows integration, as well as solid pricing, OneDrive is certainly a provider we can recommend with confidence. You can learn more in our **OneDrive review.**

7. Google Drive — Best File Cloud Storage



More Details About Google Drive:

- Free storage: 15GB free
- Number of devices: Unlimited

Pros:

- Excellent collaboration tools
- Great integrated apps
- Generous free storage

Cons:

- No zero-knowledge encryption
- Privacy concerns

Try Google Drive Today

Google Drive

If you want an experience similar to OneDrive, you may want to try Google Drive. Like Microsoft's service, Google offers storage that integrates well with its own suite of office applications. These apps serve to replace the Microsoft Office experience in full, and they do so pretty well.

An Endless List of App Integrations

You can collaborate in real time using Google Docs, leave comments and roll back changes thanks to Google's built-in versioning features. Only OneDrive and Dropbox rival Google Drive for collaboration.

There's an entire marketplace of other Google Drive apps, so you can integrate additional productivity apps, grammar checkers and more. You can also use Google Drive with other apps, including Google Calendar and Google Keep, a simple note-taking app. You can quickly see how it compares to other basic platforms like Simplenote.

Google Drive Free Storage & Pricing

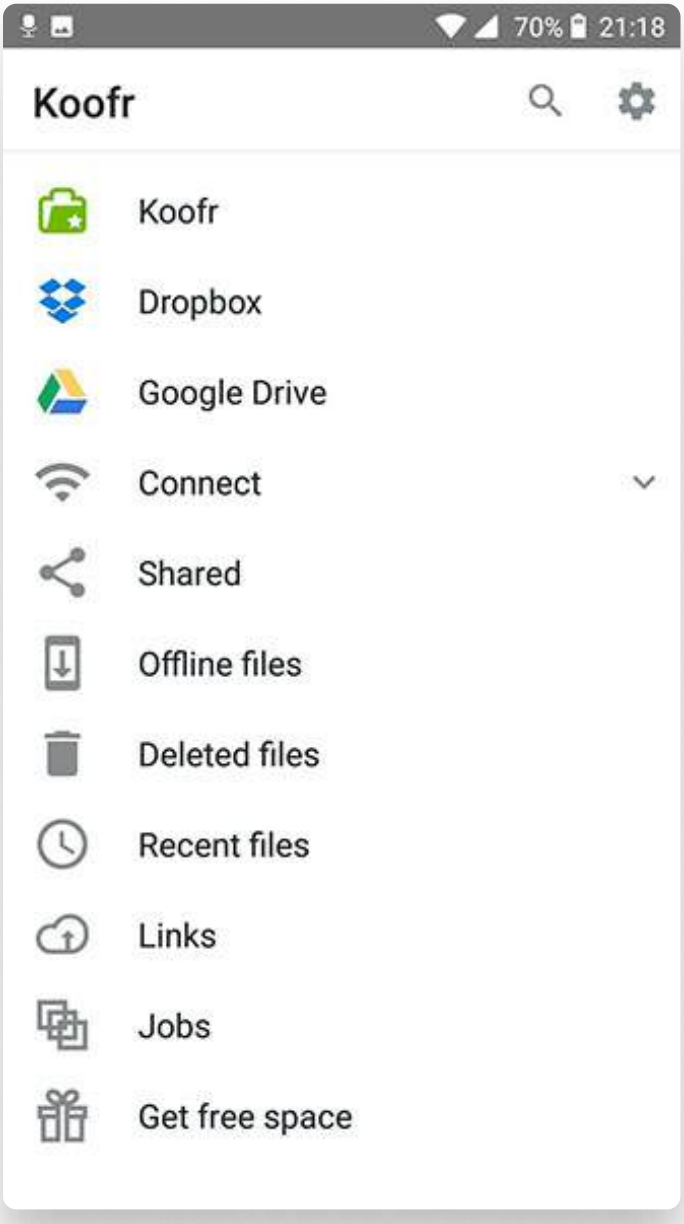
These kinds of integrations make Google Drive our top choice as the best online cloud provider for integrated apps, but it shines in other areas, too. If you have a Gmail account, you're already using Google Drive and get 15GB of free storage right off the bat. The pricing is reasonable if you require more storage space.

Google Drive is the best cloud storage for students and free users, and for good reason. Unlike some of the other providers we'll mention, free users have access to almost all of the same features that come with paid subscriptions. Powerful collaboration options in a free product help rank Google Drive as one of the best on this list.

There are some downsides, though. As you can read in our **Google Drive review**, there's no zero-knowledge encryption, which is particularly concerning given that Google is not renowned for having the greatest policies regarding users' personal data.

The price you pay to access the collaboration tools and app integrations is Google scanning the contents of anything you upload to Google Drive. It has full permission to read, catalog and use that data. You'll need to decide for yourself whether you're willing to give up some privacy to benefit from the useful tools that Google offers.

8. Koofr — Top Online Provider for Multiple Cloud Accounts



More Details About Koofr:

- Free storage: 10GB
- Number of devices: Unlimited

Pros:

- Links to other cloud accounts
- Zero-knowledge vault
- Integrates with Microsoft Office 365

Cons:

- More expensive than some

Try Koofr Today

KOOFR

Though by no means a household name, Koofr does offer some features that set it apart from the other providers on our list. Koofr isn't the cheapest, but it has some inexpensive plans that offer 100GB of storage or less, as well as a free 10GB plan.

Koofr is a tad overpriced compared to offerings from Sync.com and pCloud, which offer double the storage for a similar price. If you don't need a huge amount of space but want to have all your cloud accounts in one place, then it's worth taking a look at Koofr.

Manage Multiple Cloud Storage Services

One of the most useful features is the ability to link Koofr to other cloud storage services. Currently, you can connect accounts from Dropbox, OneDrive and Google Drive, allowing you to mix and match your services in one place.

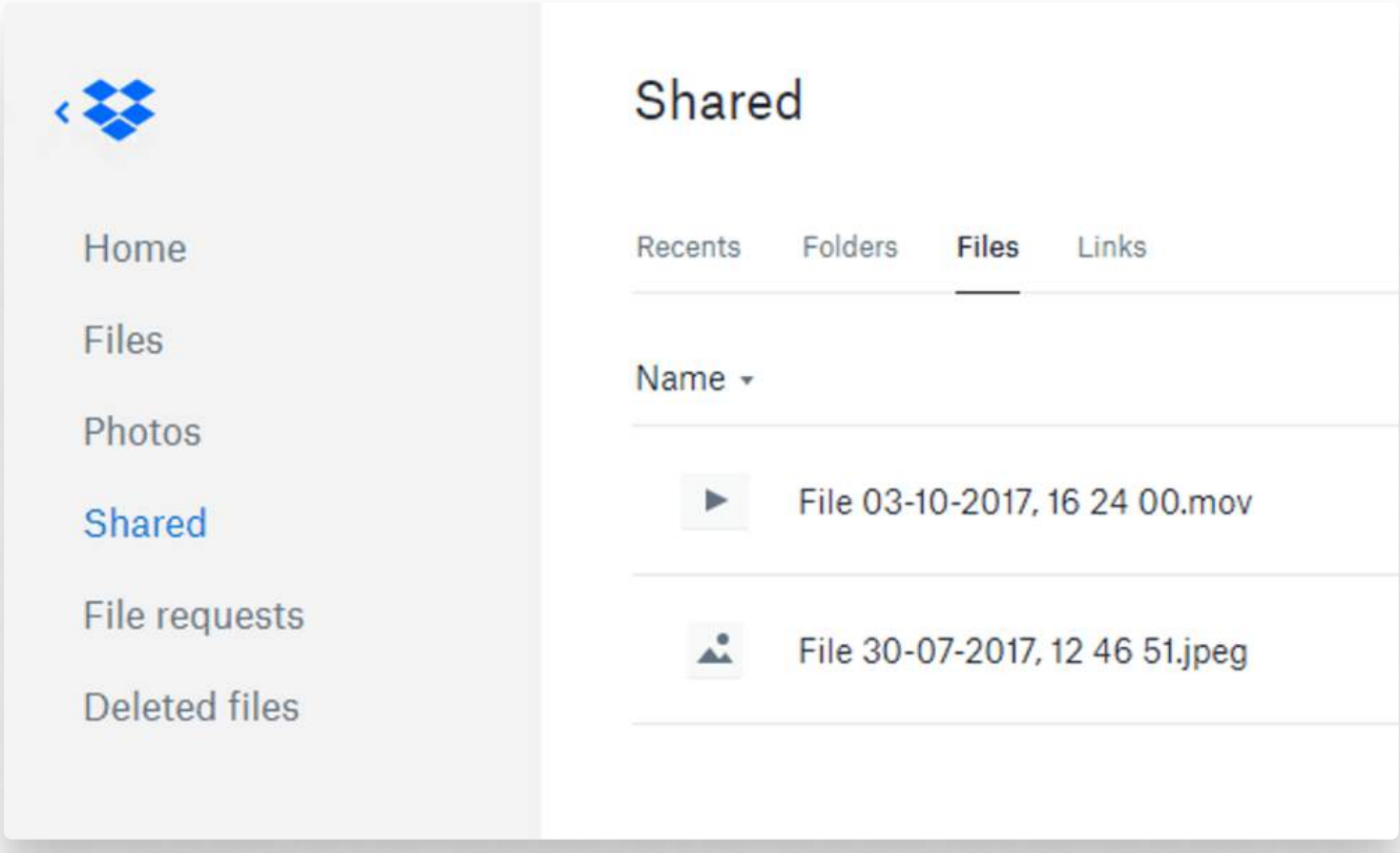
Once you've connected your accounts, you can access all your remote files at once, letting you move and copy files between each of your linked accounts, as well as search for files across all platforms. Any files stored in your other cloud accounts won't count against your Koofr storage quota.

Great Privacy & Security

Besides its unique cross-platform features, Koofr offers zero-knowledge encryption, localized to a secure vault. Plus, Koofr's servers are based in Germany, so your data falls under strong EU privacy laws. Koofr also offers 2FA to help keep your data safe in the event that your password is hacked.

Koofr integrates with Microsoft Office 365, though with a few limitations. Free accounts can create Office documents, but only paid accounts can edit them. Plus, Koofr doesn't let you set editing permissions for files — only for folders — so you can't collaborate well with other people on documents. Still, with other big platforms available, this is a minor blip in a unique offering. Read more in our **Koofr review**.

9. Dropbox — Best Cloud Data Storage



More Details About Dropbox:

- Free storage: 2GB
- Number of devices: 3 to unlimited

Pros:

- Collaboration with both Office and Google
- Smart sync

Cons:

- No zero-knowledge encryption
- Not the cheapest
- Privacy concerns

Try Dropbox Today

Dropbox

Dropbox was the first cloud storage service to really bring the idea into the mainstream. More than a decade after its launch, it's still going strong, with only Google Drive having a larger market share. Dropbox also has the name recognition that providers like Sync.com can only dream of at present.

Unfortunately, Dropbox is also more expensive than some of the other providers on this list, and the free plan comes with only 2GB of data. If you're looking for information on Dropbox's business storage plans, which are paid per user, you can find out more in our **Dropbox Business review**.

One of the Best Cloud Storage Services for Collaboration

One reason why Dropbox is still so popular is the excellent collaboration it offers, which is why Dropbox Business is one of our top recommendations on our shortlist of cloud storage for collaboration.

You can launch and collaborate on both Microsoft and Google documents with Dropbox, making it a good solution for users who need to use both services. Both formats work seamlessly, allowing you to co-author documents in real time, which are then automatically saved to the cloud.

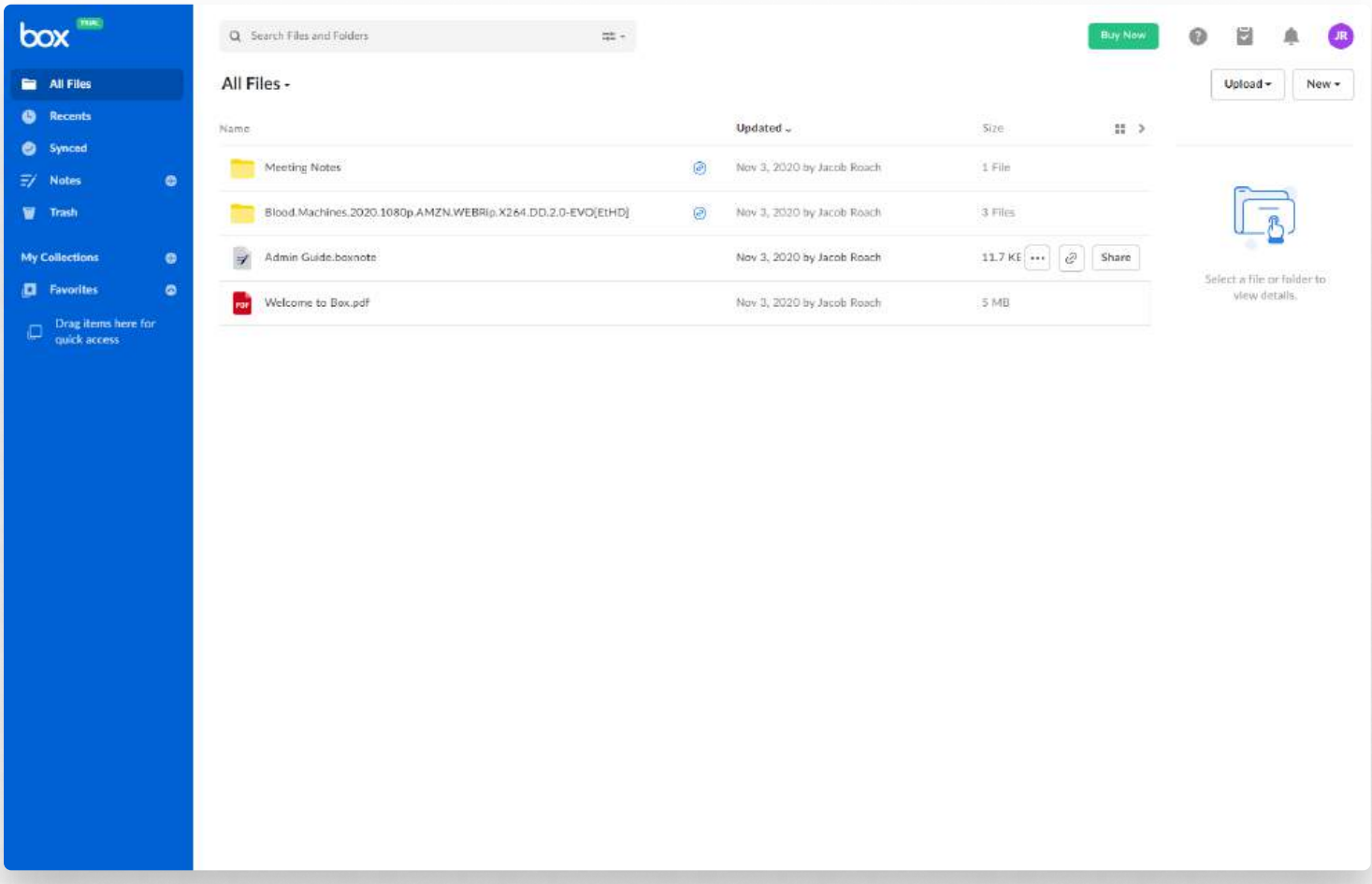
The excellent collaboration tools come at a cost in two ways. First, this integration is only possible because Dropbox's servers can access your files due to the lack of zero-knowledge encryption. Dropbox has had security breaches in the past, which we discuss in our **Dropbox review**. This could be a red flag for some users, and for good reason.

Save Hard Drive Space With Dropbox Smart Sync

To help users save space, Dropbox introduced "smart sync," which allows you to set all of your files and folders to be stored either locally or online only. The online-only files still show up in your Dropbox folder, but they don't take up any space.

For many users looking for the best cloud storage with sync, Dropbox continues to be a good choice. Its pricing and lack of encryption— along with its history of data breaches — could put you off, but features like "smart sync" show that Dropbox continues to innovate, and it remains one of the best services for users who are looking to collaborate on documents.

10. Box — Best Online Cloud Storage for Businesses



More Details About Box:

- Free storage: 10GB
- Number of devices: Unlimited

Pros:

- Strong collaboration options
- Google Workspace and Microsoft Office integrations
- Great security

Cons:

- Primarily business focused
- Expensive
- Private key management costs extra

Try Box Today

box

Box is a cloud storage provider that focuses on businesses, but it offers two plans for personal users — one free and one paid. Due to its business focus, Box is packed with advanced features. It has everything from strong collaboration options to two-factor authentication, note-taking and project management, making for a solid feature list.

The one feature that is conspicuously absent is private key management — the main requirement for zero-knowledge privacy. Box charges extra for this feature, and the company reveals the price only if you contact them directly.

Collaboration With Box

Box's clear standout feature is the long list of collaboration options it offers users. Of course, the two most important integrations are included — namely, Google Workspace and Microsoft Office — but Box goes far beyond these two popular options.

Instead of forcing you into these other apps to make changes to documents, Box lets you edit and collaborate on documents directly from its own software, even on the mobile version. If you ever find yourself needing to edit text or a spreadsheet while on the move, Box is one of the few cloud storage options that let you do so directly from your mobile device.

Pricing That's Hard to Swallow

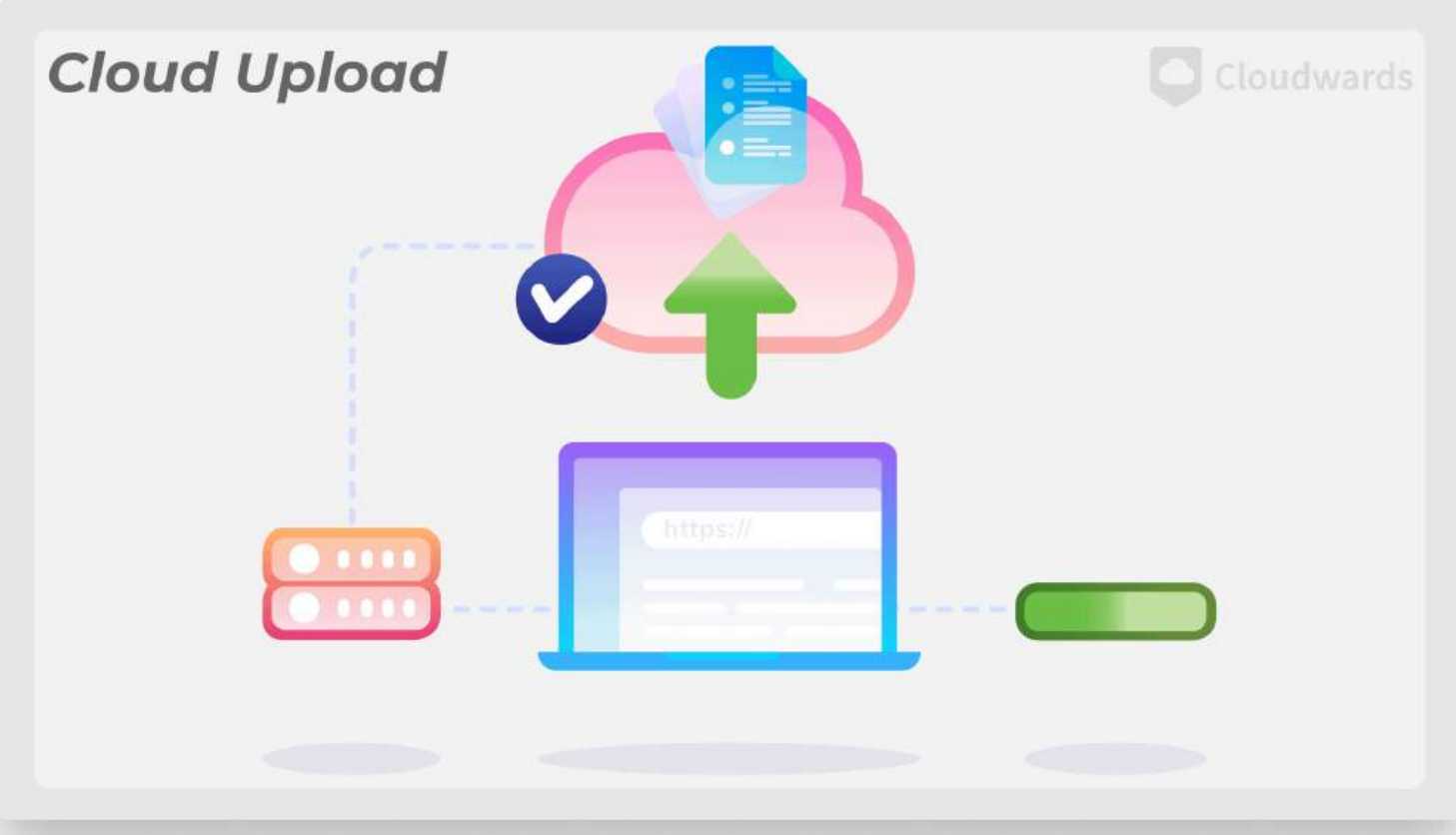
Box is great for businesses, but its personal plans are pricey. Additionally, only two plans are available for personal users. The first is free, offering 10GB of storage and most of Box's features. The paid plan is a terrible value for the money if all you want is storage.

If you're more concerned with collaboration and security than you are with price and storage space, then Box is an excellent cloud storage solution. If that's not the case, you're better off with any of the options presented above. For a deeper dive into the service's pros and cons, check out our **Box review.**

Instead of forcing you into these other apps to make changes to documents, Box lets you edit and collaborate on documents directly from its own software, even on the mobile version. If you ever find yourself needing to edit text or a spreadsheet while on the move, Box is one of the few cloud storage options that let you do so directly from your mobile device.

Cloud Storage Models

When you upload files from your device to your cloud storage account, they go to remote servers. You can store as many files as you like as long as you have the storage space. You can use cloud storage for personal or business use. The difference between these two types of use cases is typically the storage space the user requires.



It is common for cloud storage solutions to spread your data across multiple servers, though you'll rarely ever notice. This method provides redundancy, which helps prevent data loss should one of the servers go offline. There are several models for cloud storage: public, private, hybrid and multicloud.

	Public	Private	Hybrid	Multicloud
Cost	Very good, using a pay-as-you-go model	Good, though upfront infrastructure and continuing maintenance costs could add up	Average, as you pay for a service and maintain your own data storage infrastructure	Could be costly with more than one provider, depending on organizational requirements
Performance	Typically good but dependent on provider uptime	Usually very good, as downtime is limited since there's no need to connect to remote servers	Generally good, particularly with localized cached data	Can vary due to the need to depend on multiple remote servers that require internet connectivity
Security	Good but dependent on the provider's security measures	Good for security, as hardware and software are localized	Typically has good security, with a mix of internal and provider security measures	Security conflicts may exist with multiple cloud providers
Scalability	Very scalable	Some scalability issues are possible	Very scalable	Moderately scalable; could be cost-prohibitive
Reliability	Internet connection dependent	Very reliable, as the infrastructure is on-premise	Local data is readily available; off-site cloud storage is dependent on internet connectivity	Primarily internet connection dependent, mitigated with a mix of private cloud capabilities

Public

Public cloud storage is perhaps the most common type of cloud storage, or at least the most familiar type. Public cloud **users share server space**, and public cloud storage providers can adjust server capacity based on demand.

Private

Private cloud storage works similarly to public cloud storage, with the main difference being that **server space is not shared with outside organizations or individual users**. Anyone who uses private cloud storage has their own servers and data centers to store and manage data. Organizations can negotiate with public cloud providers to procure dedicated server space.

Hybrid

A hybrid cloud storage solution is like a combination of public and private cloud models. Larger businesses and organizations are most likely to use a hybrid configuration. With a hybrid cloud storage model, organizations have more flexibility in deciding where to store their data. Sensitive data could go on private servers, while team project files could go on public servers.

Multicloud

A multicloud model **combines more than one cloud storage service using public or private models, or a combination**. There are a few reasons why an organization — or even an individual — would choose a multicloud model, such as relying on one provider for certain features it offers while also using a provider in another country if the organization has a global workforce.

Data Security in Cloud Storage

Physical devices are prone to failure, and laptops can easily be lost or stolen. Keeping a cloud backup of your files is key to any good data protection strategy, which is why cloud security is crucial. In this lesson, we'll go over the most important aspects you need to know about cloud security.

Encryption

Encryption is a process that makes sure data is readable only to those who have the correct encryption key. Most cloud storage services offer some form of encryption; it's a key aspect of cloud security. Encryption can be complicated, but we won't bore you with the details.

In short, encryption scrambles files into random strings of characters. Files must go through an **encryption protocol** to become encrypted. This protocol uses an **encryption key**, which is a randomized string of characters. **The seed for the randomization is usually your password**. It's crucial that only you know your password and that you use a unique one for each account.

At-Rest and In-Transit Encryption

Most cloud services nowadays encrypt your data. They usually encrypt it twice: **at rest and in transit**, each of which serves a different purpose. At-rest encryption is what we usually refer to when discussing encryption. If your files are encrypted while they're stored on a cloud company's servers, that's at-rest encryption

In-transit encryption refers to encrypting your data from the moment it leaves your device until the moment it reaches the cloud server. Not all cloud service providers encrypt data in transit, which can leave your traffic vulnerable if you're on an unsecured network such as public WiFi.

Encryption Protocols

There are many encryption protocols, ranging from the old DES to the newer Twofish and AES. AES is the most secure one in the group — or at least the most commonly used one, as you can read in our AES guide. It has several levels of security depending on the key length, which can be 128, 192 or 256 bits

Though AES-256 is the gold standard of cloud security, other security protocols like Twofish are also acceptable, as long as they're proven to be secure and have no known vulnerabilities. AES-128 is technically less secure than AES-256, but both are practically uncrackable. These protocols are typically used for data at rest.

During transfer, cloud storage services tend to use the TLS protocol to protect files from eavesdropping. It establishes a secure connection by performing a handshake between two machines using a cipher, authentication and a key exchange, and then encrypts the data using AES

Zero-Knowledge Encryption

Zero-knowledge encryption is the biggest boon you could get from a secure cloud service. This is more of a privacy feature, though it's tied to the strictly technical aspect of a service's security.

We also refer to it as:

- Client-side encryption
- End-to-end encryption
- Private encryption

Generally, a cloud service will hold your encryption key to provide faster service. This also means you lose some privacy, because the service will be able to decrypt and read your files.

However, **if a cloud service is zero-knowledge, only you have access to your encryption keys**. All encryption happens on your device, and the service receives only encrypted files. When you want to access them, you'll need your encryption key to decrypt the files.

You also need to keep in mind that **zero-knowledge services can't reset your password**. To mitigate the risk of losing your password, consider using a password manager.

We mentioned that non-zero-knowledge companies hold your encryption key to provide services more easily. This is because zero knowledge can interfere with basic features like file previews. Zero-knowledge encryption is most disruptive to collaboration; genuine innovation is required to make it work in a zero-knowledge environment (Sync.com does this with its Office integration).

This is one reason why zero knowledge isn't universally adopted. Another reason is that large companies like Google (by far the largest personal cloud storage provider) actually want to be able to decrypt your files and possibly even scour them for data or hand them over to authorities if subpoenaed.

Authentication and Single Sign-On

Two-Factor Authentication (2FA) & Multi-Factor Authentication (MFA)

Two-factor authentication — or two-step verification, as some services refer to it — adds an extra level of security to your online accounts. Whenever you log in to a website, instead of using a single factor (like your password), you'll use two factors (like your password and a single-use code sent to your email).

This means that as long as you have 2FA enabled on your online account, no attackers will be able to access that account, even if they have your password.

The general idea with 2FA is that you need to authenticate with both **something you know** and **something you own**. The something you know is your password in nearly all cases, while the something you own could be a number of different items. It could be a code sent to your email or phone, or a hardware device.

There's also multi-factor authentication (MFA), which ties in a number of different elements to give your login attempt an overall risk assessment. This holistic approach uses several factors to determine whether a login attempt is legitimate, though simple cloud storage services rarely offer this.

Single Sign-On (SSO)

A single sign-on service — or SSO for short — is a service that lets you log in to different platforms using only one set of credentials. If you're a business owner, this means fewer lost passwords for your employees.

An SSO service can help simplify the login process for the applications your company uses and save your employees valuable time. It provides one-click access to applications without needing to log in to each app separately. An administrator can create and manage the employees' user identities for more control over their work.

Though cloud storage services don't normally offer SSO themselves, they may be compatible with third-party SSO apps. If you're a business owner, you might want to look into an SSO-compatible cloud service.

Server Security

Cloud-based security sometimes means physical security. Cloud services secure data on physical servers, which also need to be protected. For instance, businesses may choose to utilize cloud storage for CCTV footage, while they use cloud services to secure data on physical servers.

Cloud services are less likely to provide data about their server security, but it's a plus if they do. For example, Sync.com's servers are under 24/7 surveillance and are protected against natural disasters. Data centers should be physically protected from break-ins or natural disasters, and cloud services should have disaster recovery plans in place.

Ransomware Protection

Ransomware is no joke. It's a type of malware that finds your sensitive files and encrypts them so you can't access them. If you want to access your files again, you have to pay the hackers a ransom to get the decryption key — that is, if they deliver it at all. It's better to not fall victim in the first place. That's where cloud services come into play.

Some online backup solutions include ransomware protection with their software, like **Acronis Cyber Protect.**

Access Controls & Permissions

A single user having access to all company files stored in the cloud can spell disaster if a rogue employee decides to misuse, leak or delete them. This is why business-oriented cloud storage will often have a separate dashboard for user access controls.

You'll usually see these levels of permissions:

- **Viewer** → Can view but not edit, modify or delete files.
- **Commenter** → Can view and leave comments on files.
- **Editor** → Can edit and alter select files.
- **Content manager** → Can edit and alter all content in the cloud.
- **Administrator** → Can edit and alter all content in the cloud, as well as manage all users' access.

There are other, more granular permissions as well, such as allowing or disallowing a person to share a file, or letting them create new files within a folder, but these are usually specific to the cloud storage platform.

Data Backup and Recovery in Cloud Storage

A BACKUP CAN HAPPEN IN TWO WAYS...

You can either store your data locally...

"or use a" cloud backup provider

Any backup you perform is better than not having one at all, whether it's online or offline. However, there is a methodology you can use that takes advantage of both systems: **the 3-2-1 backup rule**.

Backing up your data is one of the best decisions you can make to prevent data exposure. A local backup uses devices like an external hard drive or network-attached storage. Conversely, a cloud backup stores your data on remote servers using a free or paid service. The 3-2-1 backup rule uses both methods.

One of the easiest ways to satisfy the 3-2-1 backup rule is to use a cloud backup service, though a cloud storage service will do the job just fine, too. You can combine these services with a local storage backup, or use multiple services to ensure redundancy.

What Is the 3-2-1 Backup Rule?

The 3-2-1 backup rule is a strategy that recommends having three copies of your data backed up. **The first copy is your primary critical data backup**. The other **two are redundant backup copies**. You should use two different methods to back up your data, such as local and online backups. Then, you should have one copy designated for disaster recovery.

Cybersecurity professionals widely consider the 3-2-1 backup strategy to be the best practice for protecting data and recovering from an unexpected disaster. Though not a foolproof way to protect data, the 3-2-1 rule does help mitigate risk and provides a method for quickly recovering data.

Perhaps the most important aspect of the 3-2-1 backup plan is that it helps ensure there isn't a single point of failure in your backup strategy. With multiple copies of your data in more than one location, a singular disaster event is unlikely to result in the complete loss of your data.

The 3-2-1 Backup Process Broken Down

There are three rules that make up the 3-2-1 backup strategy. They are not a requirement, as any backup is better than nothing. However, it is good practice to follow these three rules:

Three copies of your data → These three copies include one primary backup and two copies of the data.

Two different storage types → Ideally, you'll use two different storage types to hold your backed-up data. One location could be local internal storage or an external hard drive. The other location could be a cloud backup provider. Keeping the two backup copies in the same place won't do you much good.

One off-site location → One of your two backup copies should be kept off-site and away from your physical location. This is a disaster-recovery approach to ensure your data isn't lost due to an unavoidable catastrophe. Using a cloud backup provider is a good example, as it uses a tape-based backup sent to an off-site location.

Section 3: Cloud Storage Management Strategies

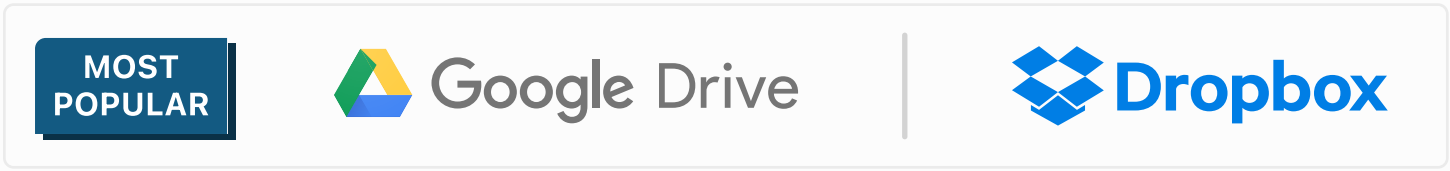
This section will focus on managing your personal cloud storage, assessing your needs and selecting the right cloud service. We'll take a deep dive into cloud storage pricing as well to give you the best possible shot at finding the perfect cloud storage service.

Plus, small business owners and managers will be treated to an extra segment right at the end of this final section, which includes tips and advice on data management and risk avoidance for businesses.

Data Synchronization and Collaboration

One of the most attractive and useful aspects of cloud storage is its ability to sync files across multiple devices. This is useful for having quick access to your personal files, but it also lets you seamlessly collaborate with others.

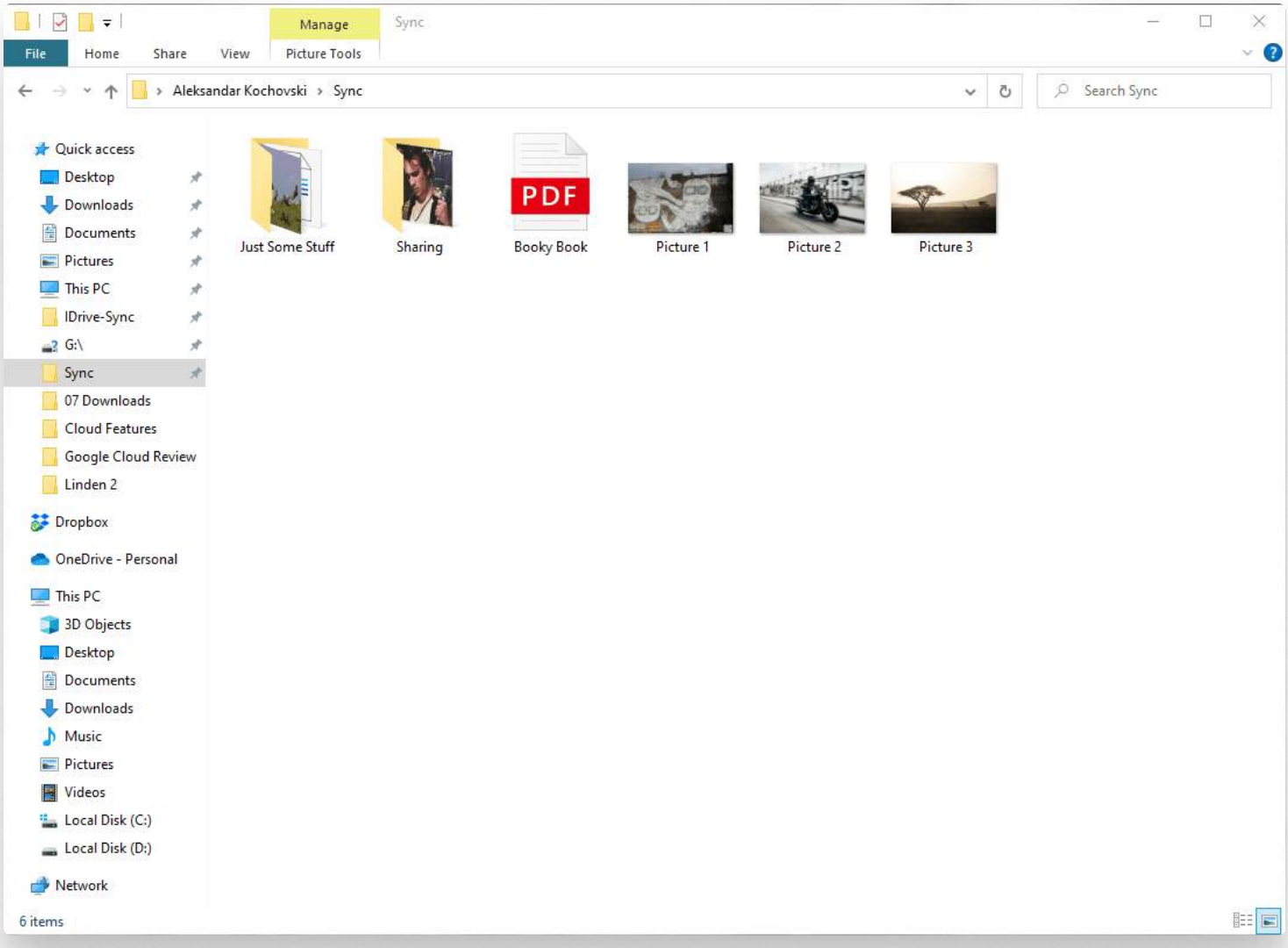
In this lesson, we'll provide a practical guide to file synchronization using two of the most popular cloud storage services out there:



We'll touch on some specifics of this particular software, but the guiding principles are nearly identical among all cloud storage services.

The Sync Folder Method

There are several ways to sync files. The oldest one is the sync folder method, which Dropbox was the first to introduce. In this model, all your cloud files are synced to a folder on your computer. Anything in your cloud account is downloaded to this folder, and anything you paste into the folder is uploaded to your cloud account and then synced across all your devices.



This method is the easiest to use — you simply treat your sync folder like any other folder, and whatever you add to it gets uploaded and synced. However, the sync folder method has a significant flaw in that it creates a lot of redundancy. If you have an established folder structure that you use regularly, the sync folder won't be part of it.

Say you have a folder titled "work" on your personal laptop where all your work files go. You use this folder when you work from home, and it contains files you want to sync to your office computer.

However, to back it up, you must manually copy it over to the sync folder every time you make a change. What's worse, this means you must have two copies of the folder on your computer, taking up double the space. What's more, you could simply forget to copy over the changes after making them, so you wouldn't have the latest version of the file on your office computer. Lucky for you, there are solutions to this.

Sync Any Folder

To alleviate this issue, some providers allow you to **choose which folders to sync**. This means you can designate any folder already on your device to sync to the cloud. However, this isn't a perfect solution. These files will be synced to a sync folder when you go to another device, so you'll have to work from within the sync folder on that device (a perfectly reasonable option).

Selective Sync

Selective sync aims to solve some of the redundancy issues the sync folder model creates. It allows you to **set certain files or folders to "online-only."** This means they appear only in a web browser and don't get synced to your devices. This works to save you some hard drive space, especially for files you don't need to access frequently.

The one issue with selective sync is that you can't see all your files online. **Dropbox** solves this issue with its "smart sync" feature, which leaves a "ghost" version of the file in your sync folder. Files marked for smart syncing aren't downloaded to your computer, but you can see them as a sort of download shortcut. You click on them to download and access them.

Uploading Files to the Cloud via a Web Browser

The simplest way to upload files to the cloud is through the provider's website. All cloud storage services have a web interface where you can see all of your files directly from your browser.

However, some zero-knowledge cloud storage services require you to use their application to upload files. The web version might not be able to encrypt files on-device, which breaks the zero-knowledge principle. Your files will still sync to all devices and to the cloud, and they will still be encrypted, but the provider may also be able to access those files.

How to Sync a Folder to Cloud Storage on Desktop

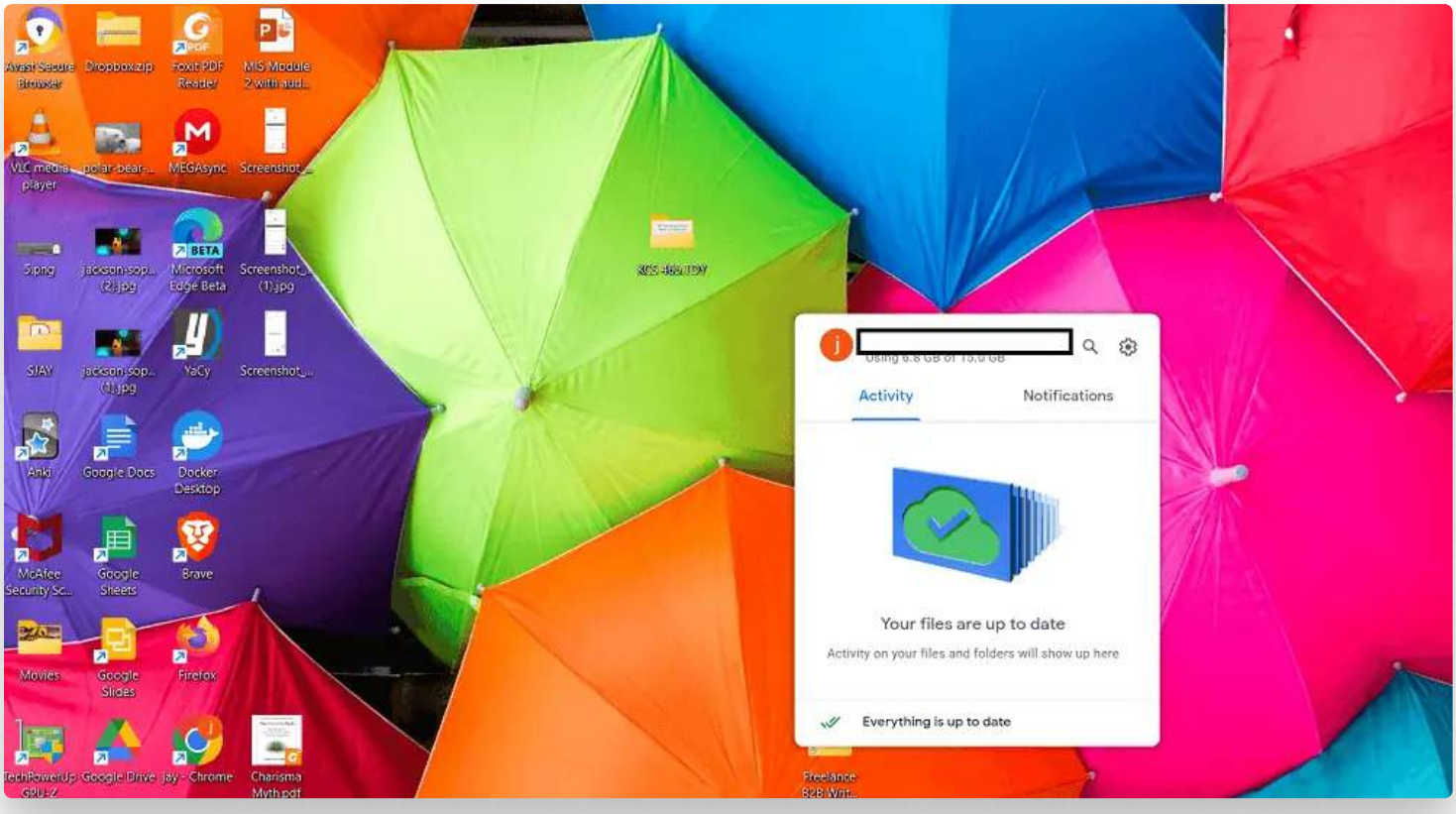
The only way to set up true automatic syncing on your devices is to use a cloud storage application. We explain how to do this below.

1. Locate the Google Drive App in the “Hidden Icons” Menu

Click the caret up icon in the Windows system tray to reveal hidden icons. **Tap on the Google Drive icon** in the tray. If you’re using another service, you should be able to open its app using the same method, though you can also just launch the application.

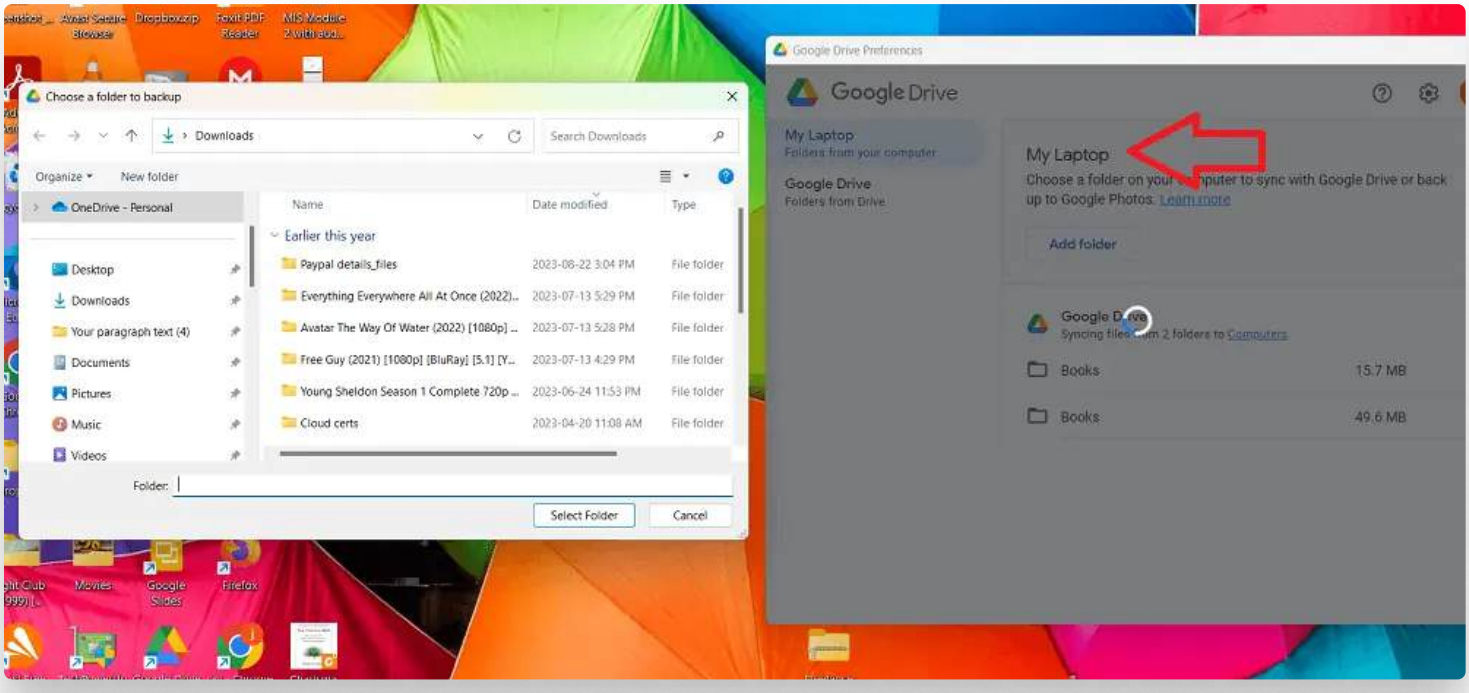
2. Click the Gear Icon

A small window will pop up on the screen. **Click the gear icon** at the top-right corner of the window. **Select "preferences"** from the menu that appears on the screen.



3. Open Cloud Storage Preferences

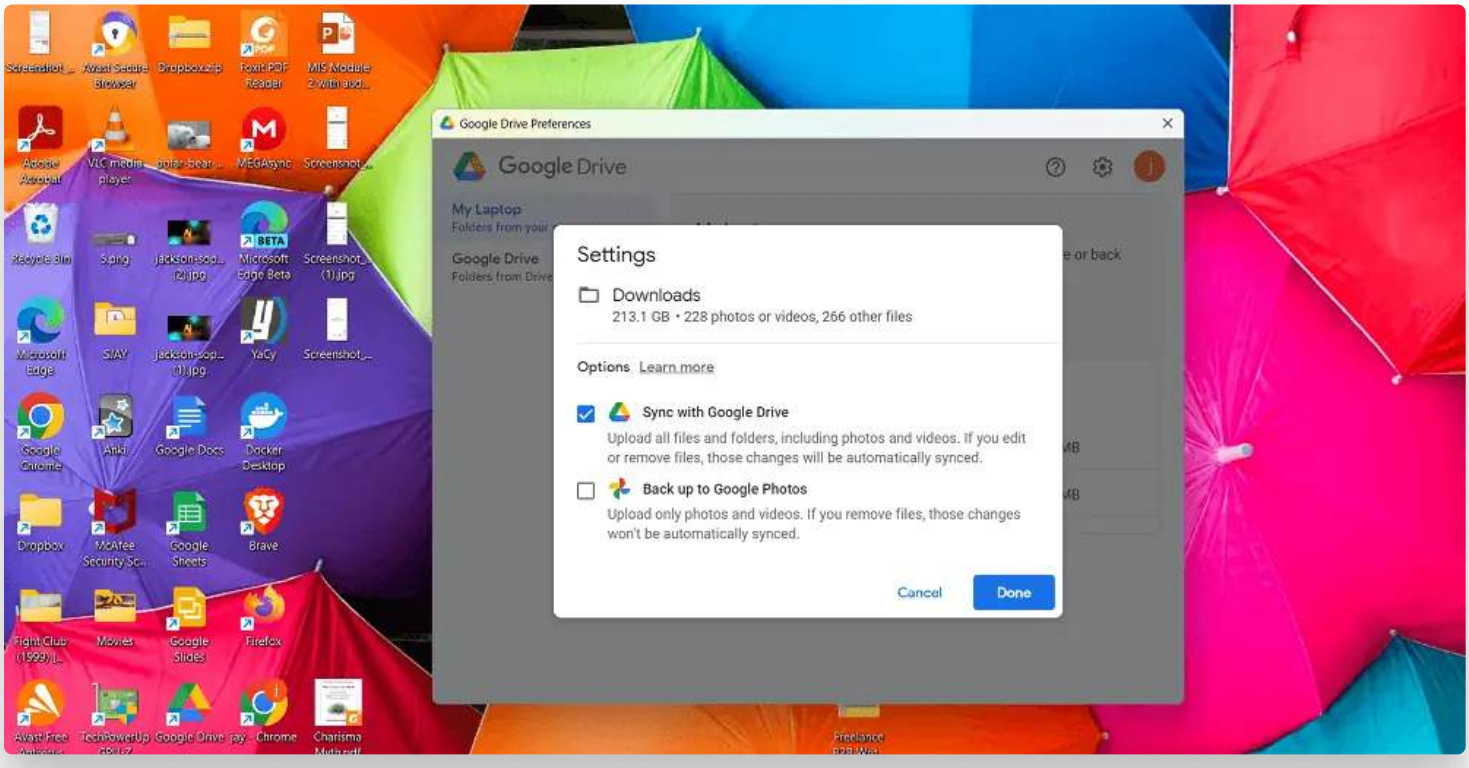
Click “my laptop.” This will open Google Drive’s “preferences” tab. **Click “add folder.”** Then, **select the folder** you want to upload. **Click “select folder.”**



4. Choose an Option

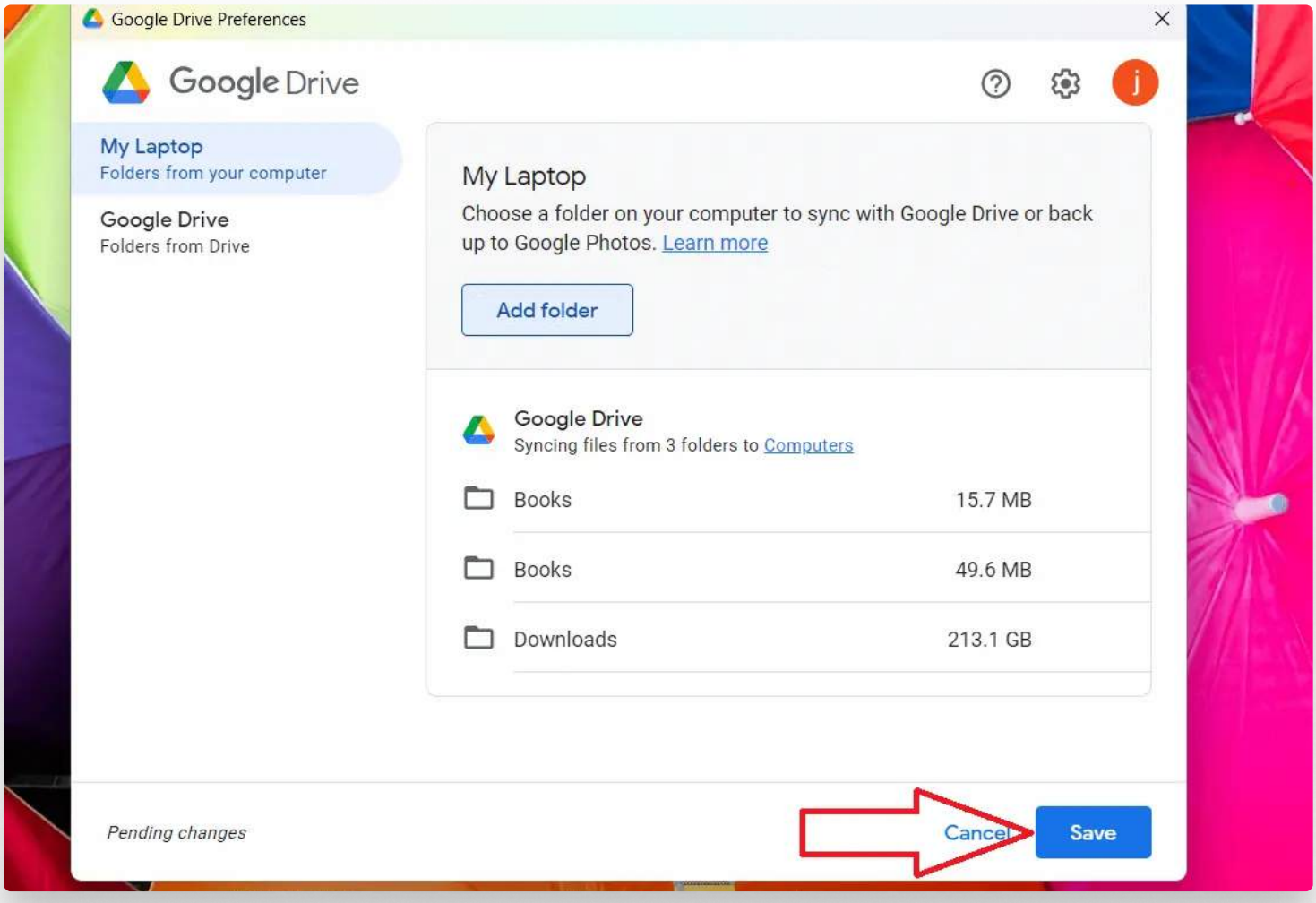
You can **choose either to sync all the files and folders** stored in the folder to Google Drive, or to **sync just photos and videos** to Google Photos. In Google Drive, checking both boxes means photos and videos backed up to Photos and Drive will be uploaded twice, taking up more storage space. After you've chosen, **click "done."**

Note: This step is unique to Google Drive, though other services may have a similar step prompting you to select other types of sync preferences.



5. Save Your Changes

Click "save," and the upload will begin immediately. Remember that once you've done this, the folder will automatically make changes in the cloud whenever you make changes in the folder on your device.



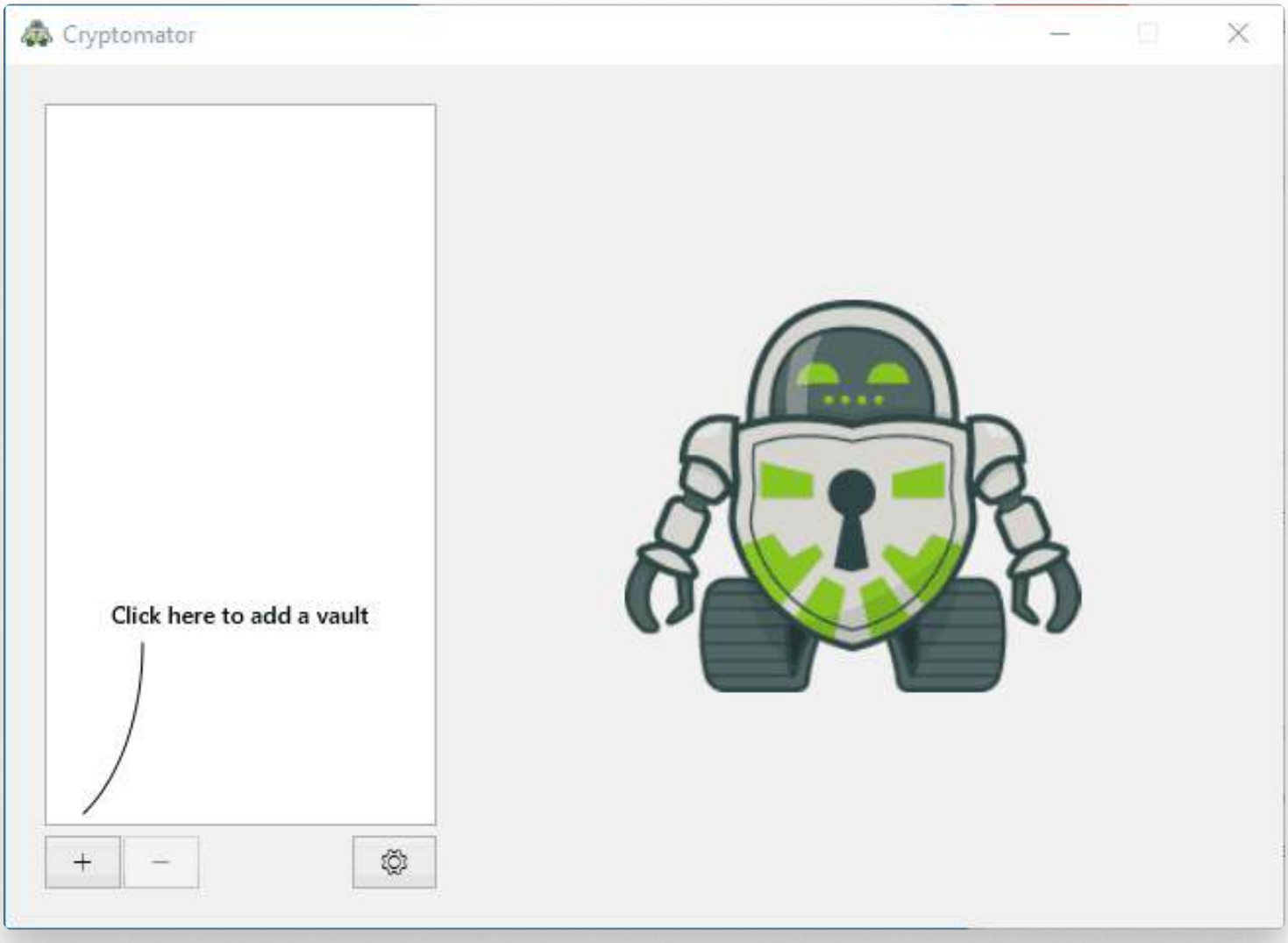
The Role of Manual Data Encryption in Cloud Storage

We touched on encryption and why it's important to choose a zero-knowledge cloud storage service, but your use case or budget may best fit a cloud service that does not offer zero-knowledge encryption

This is where third-party encryption services come in handy. These services encrypt data while it's still on your device before sending it to the cloud server. Our top recommendation for this is **Cryptomator**, though **VeraCrypt** is a good open-source alternative for the more technologically minded. Both are free, so you can keep your files safe without spending a dime.

Be warned that using third-party encryption will render your files unreadable in a web interface or cloud storage application — you'll have to access them via the encryption application itself. Another important caveat is that, as with everything zero knowledge, if you lose your password, you lose access to your files. There's no way to recover your password once it's set.

How to Use Cryptomator to Encrypt Your Cloud Storage

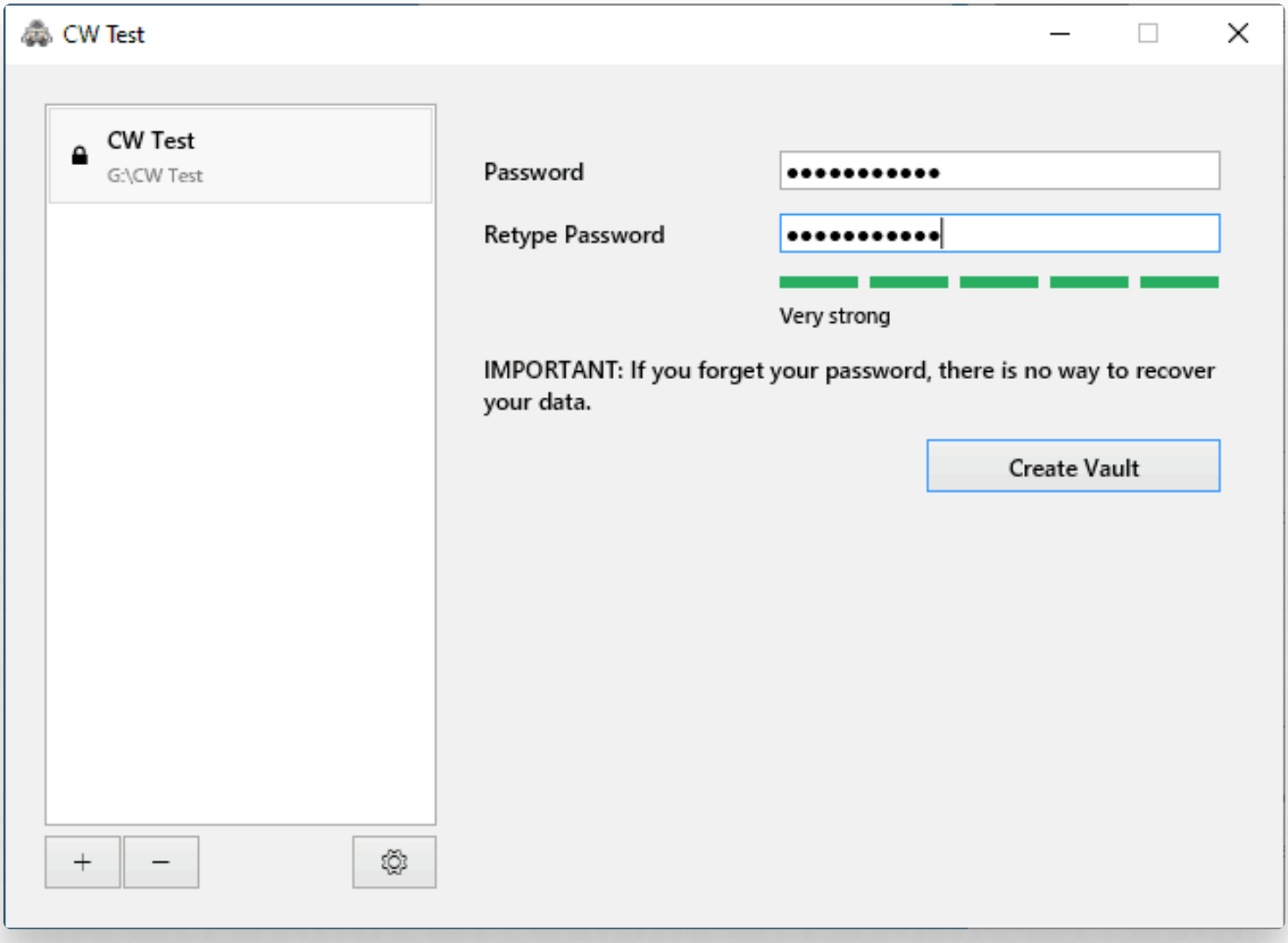


The Cryptomator interface is as simple as they come. After installing it, you're greeted with a blank list and an arrow telling you to add a vault. Cryptomator works by creating virtual drives on your computer, which you can open and decrypt using the Cryptomator software.

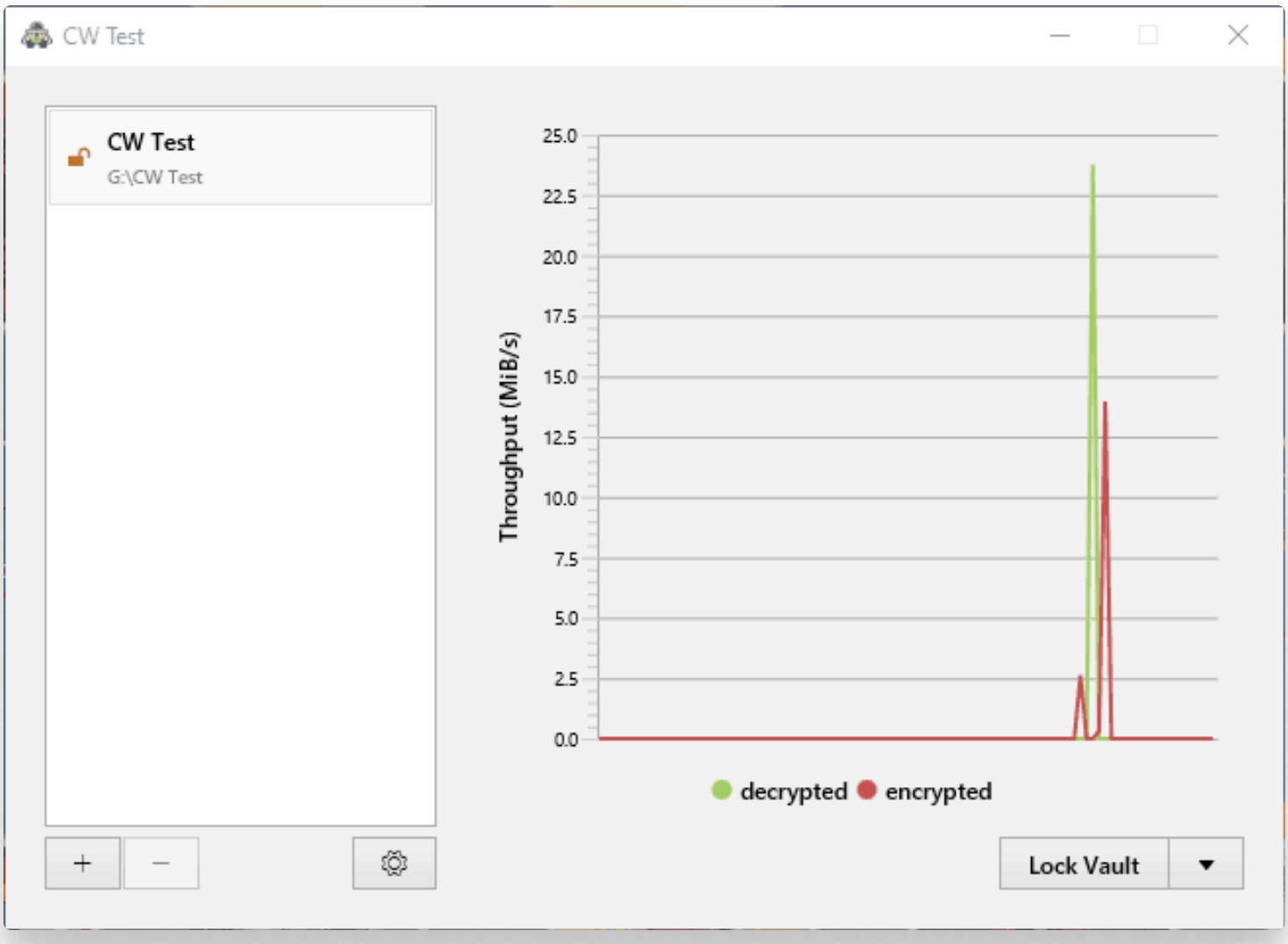
You don't need to go too deep when specifying the details of your vault. All you need to do is:

- Click the "+" icon
- Choose a name
- Choose a location
- Add your files

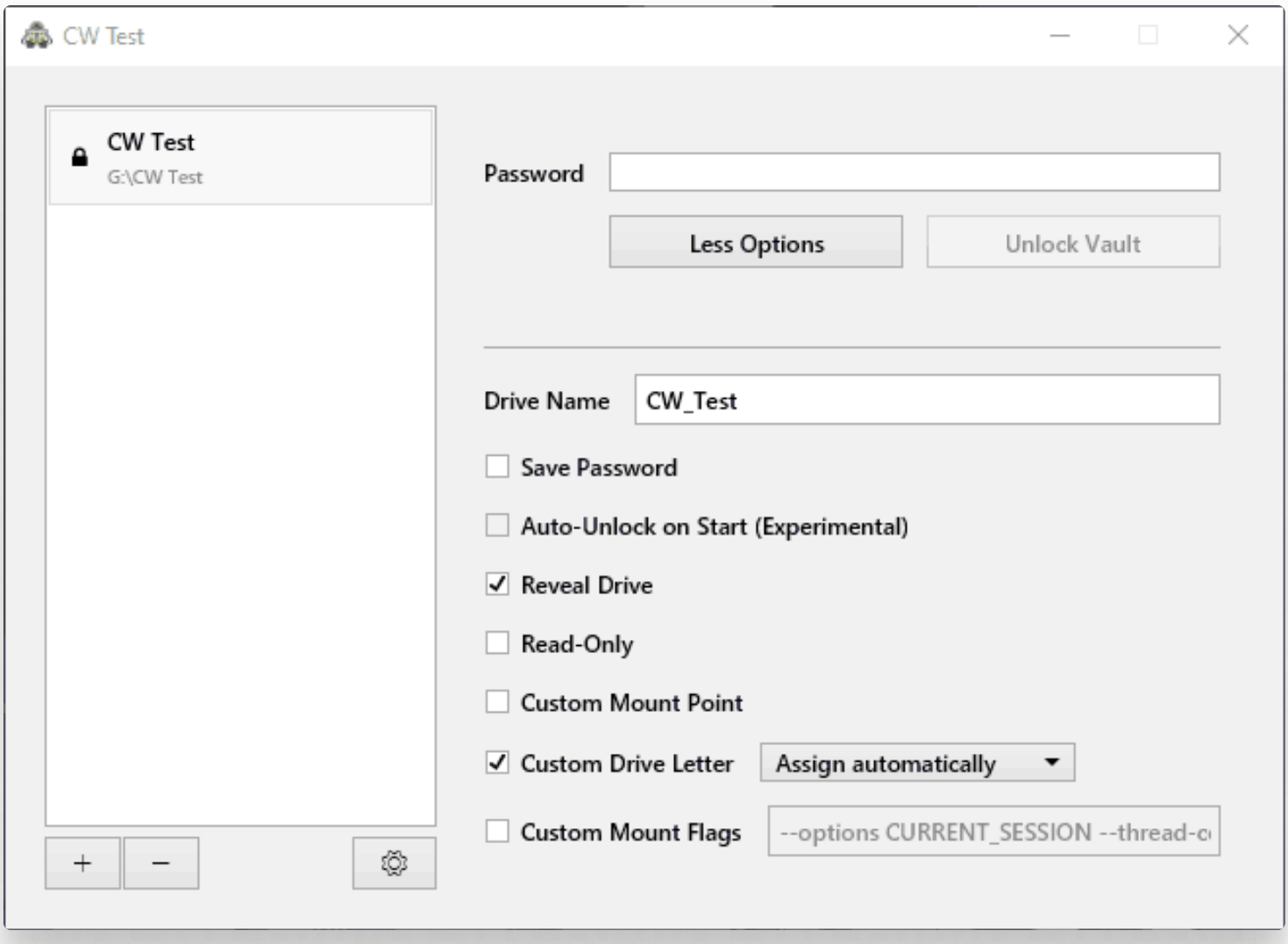
After doing so, you can **set the password** for your vault. Cryptomator emphasizes that it's important to remember your password.



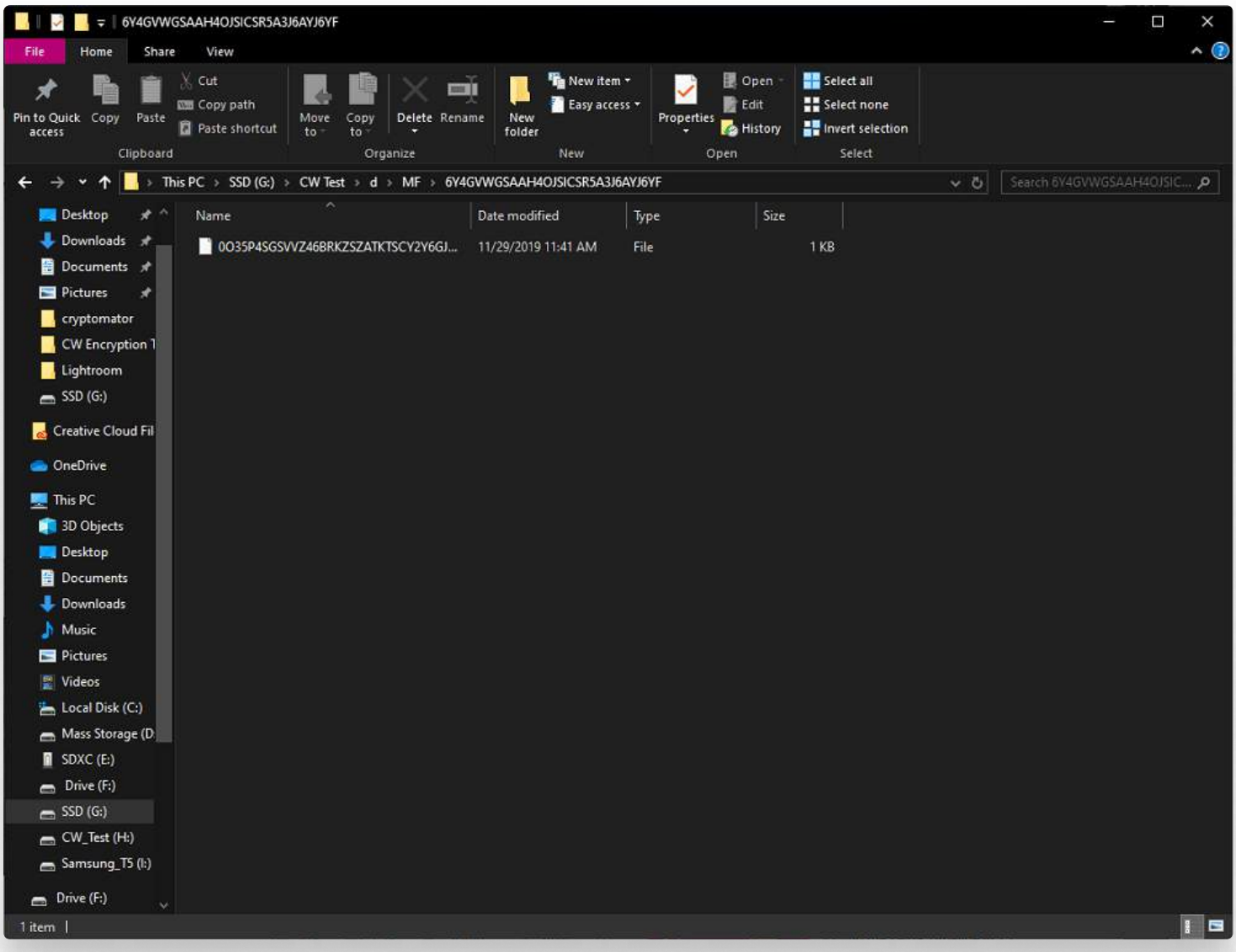
Cryptomator will automatically lock the vault. On Windows, entering the password will mount the vault like a hard drive and open Windows Explorer. From there, encrypting your files involves **dragging them to the mounted drive and clicking "lock vault"** when you're done. Cryptomator will show a graph of your files as they're being encrypted and decrypted.



After locking your vault, there are a few options you can play with. Cryptomator allows you to rename the drive and assign it a different letter, mount it at a custom point and auto-unlock it at startup. None of these features are particularly noteworthy, but it's nice that Cryptomator gives you a few options in the way of customization.



It’s worth noting that Cryptomator can discover vaults stored on other machines. For example, if you’re moving to another computer, you can transfer your encrypted folder over and unlock it with any Cryptomator app. Below, you can see an example of how folders look once they’re encrypted.



Cloud Storage Cost Breakdown

Note: Please be aware that this lesson discusses specific prices for providers, which are always subject to change. This lesson is meant to highlight best practices and guiding principles, so please check the specific pricing for your chosen cloud storage service.

Cloud storage services stick with you for a long time, so you need to know what you’re committing to before buying. In this lesson, we’ll discuss what to look out for when choosing a cloud data storage service and how best to judge if a service is worth the money. Keep reading to learn more.

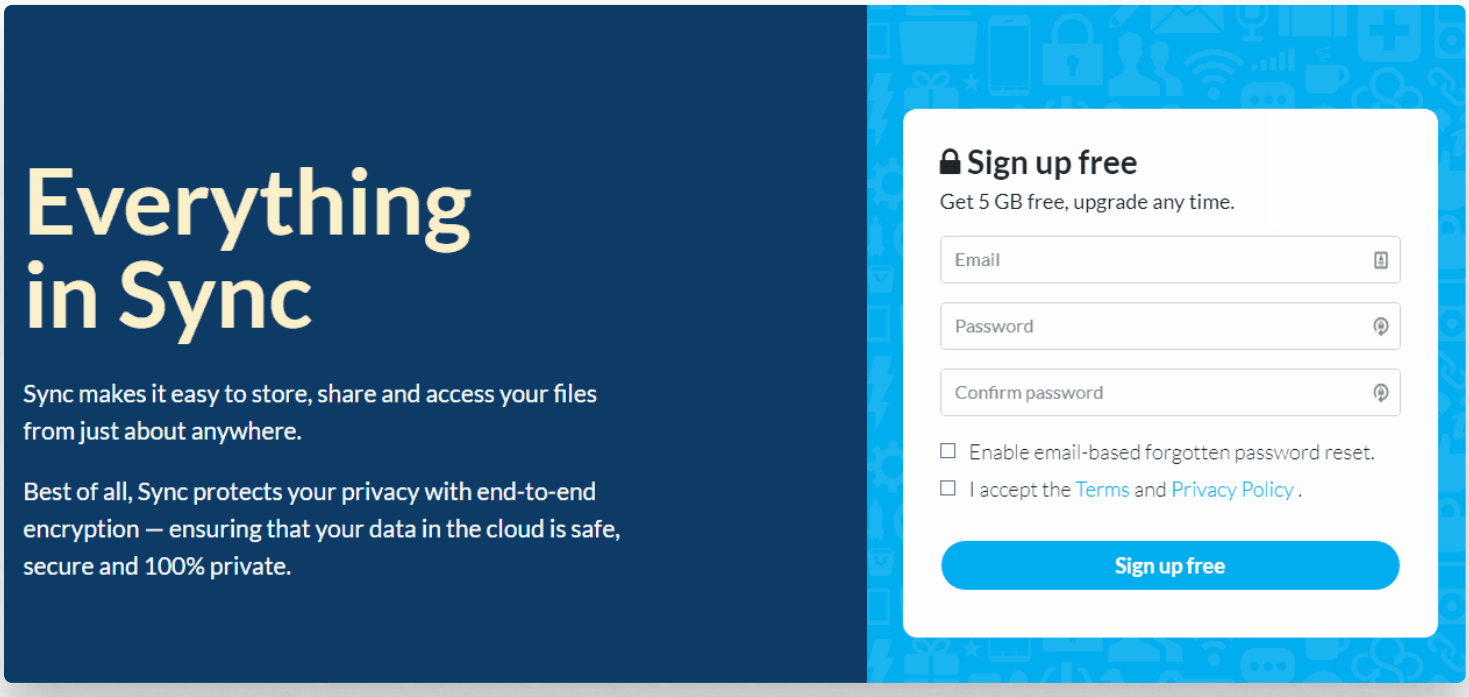
Cloud Storage Pricing: Understanding Value

At first glance, it seems a bit obvious. Low cost is good, high cost is bad -- but this isn't always the case, mostly because of **value**. You need to know what you're getting for your money.

Sometimes value comes in the form of increased privacy; sometimes it's an irreplaceable feature or just all-around good performance from the product. However, all of this can be pretty vague without looking at the context. You need to know what different services cost to really understand a service's value or know if you can get a better deal with another service.

Case Study: Sync.com

Our best-value pick is Sync.com. In short, this service offers ultra-secure zero-knowledge encryption. It has excellent sharing features and even lets you securely edit Office documents. Best of all, it does all this at the lowest market price for a major company, at just $8 per month for its 2TB plan.

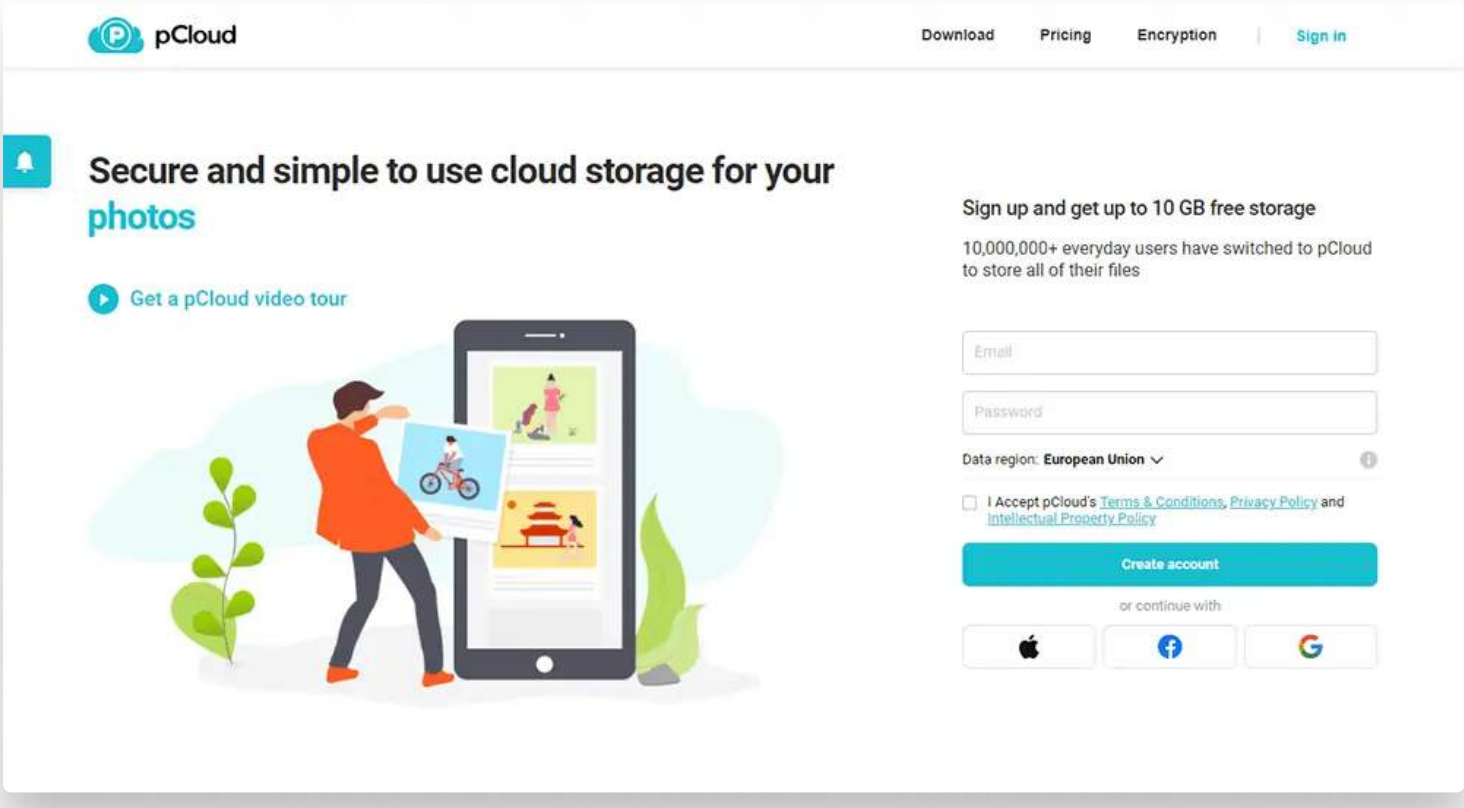


It does have one downside — you have to pay for a year-long subscription in advance. There's no way to pay monthly, apart from with the Solo Professional plan. This may exceed some people's budgets. However, as you'll see in the "lifetime plans" segment, you'll probably want to pay an upfront cost.

Try Sync Free sync.com

Value & Pricing Comparison: Sync.com vs pCloud

Let's contrast Sync.com with pCloud, a service that regularly ranks first or second on our lists. pCloud actually offers more features than Sync.com at a similar price of around $8.33 per month for the 2TB annual plan, but it falls short because of one detail: zero-knowledge encryption.



pCloud's major failure is that it offers the most important security feature, zero-knowledge encryption, as a paid add-on. It's called pCloud Encryption, and it costs $4.16 per month on the yearly plan. pCloud's value suddenly starts to drop against Sync.com, which includes zero-knowledge encryption across the board.

Pricing & Value Comparison: Sync.com vs IDrive

IDrive isn't exactly a cloud storage service; it's an online backup platform that offers quick-access storage as a side feature. The service offers excellent backup features, but it doesn't offer any extra cloud storage features apart from storing your files and letting you share and access them remotely. Still, the service is secure and reliable.

Looking at the price tag alone, it's dirt cheap. In fact, it blows proper cloud storage options out of the water. You can get 5TB of storage for as low as $69.65 per year. However, because it has more limited cloud storage features, IDrive has less value for someone who doesn't also need its backup features.

We can't stress enough how important context is for determining the value of a cloud service. As a starter, we recommend using the quiz at the top of our **best cloud storage** article to give you an idea of which services to take a closer look at. Then, peruse our individual reviews to discover which one suits you best.

Monthly vs Yearly Plans: Online Storage Comparison

Pricing plans can vary greatly between online storage services. However, once you've looked at a few, you'll start to notice some patterns.

For example, you'll see that most services offer monthly and yearly payment options, and the yearly option usually comes at a discount.

In the table below, you'll notice that most providers follow the same pattern of offering a 17% discount on yearly plans. The services we listed all feature on our list of best cloud storage. We excluded services that don't have both monthly and yearly plans, as well as Box, which doesn't have a personal plan larger than 100GB.

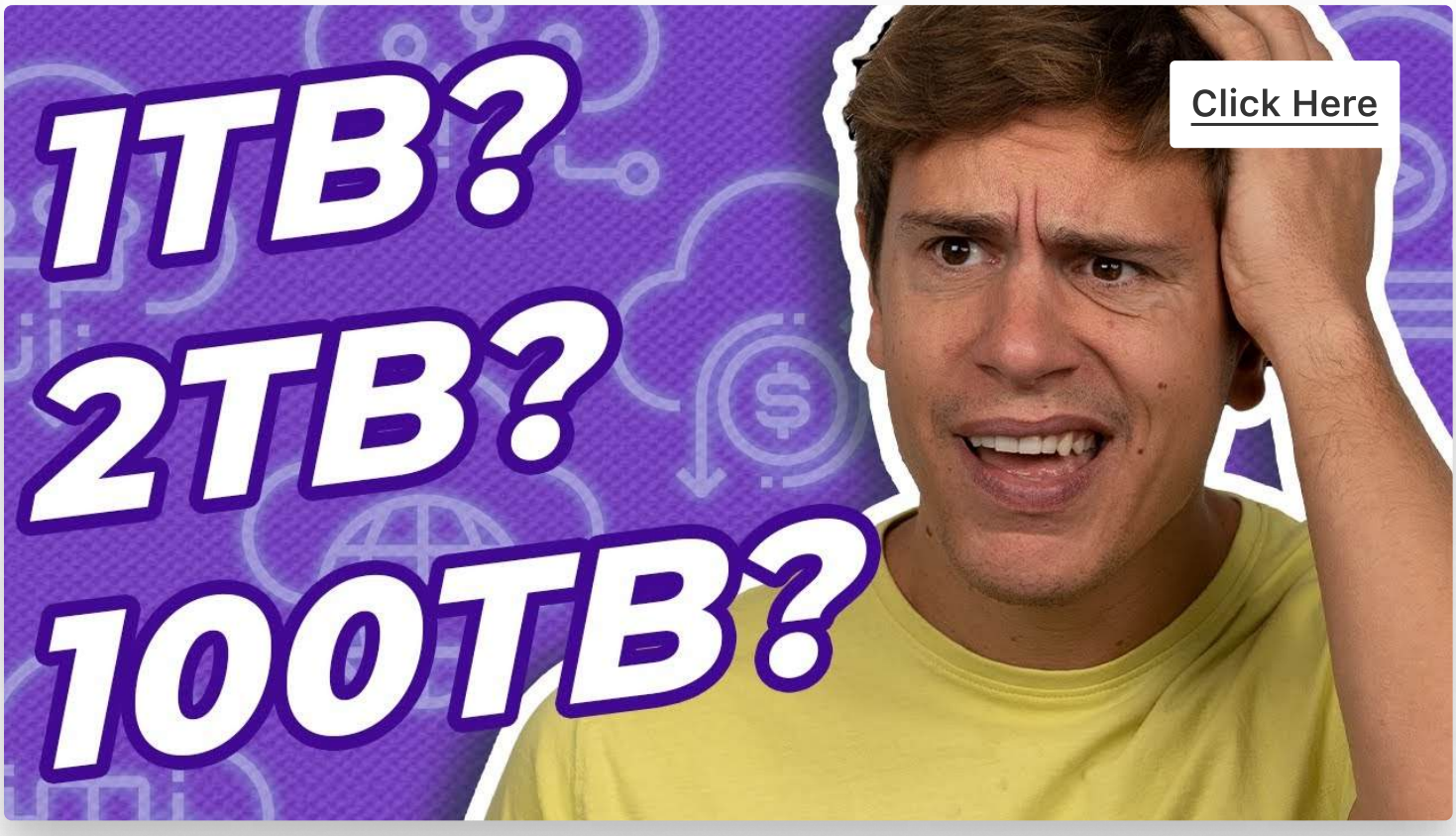
Service	Price Per Year (Monthly 1TB Plan or Closest)	Price Per Year (Yearly 1TB Plan or Closest)	Annual Savings
1. pCloud	2TB for $119.88 ($9.99 per month)	2TB for $99.99 ($8.33 per month)	17%
2. Icedrive	1TB for $95.88 ($7.99 per month)	1TB for $71.88 ($5.99 per month)	25%
3. MEGA	2TB for around $132* (around $11* per month)	2TB for around $108* (around $9* per month)	17%
4. OneDrive	1TB for $83.88 ($6.99 per month)	1TB for $69.99 ($5.83 per month)	17%
5. Google Drive	2TB for $119.88 ($9.99 per month)	2TB for $99.99 ($8.33 per month)	17%
6. Dropbox	2TB for $143.88 ($11.99 per month)	2TB for $119.88 ($9.99 per month)	17%

*Estimated price converted from euros; this price will vary depending on the exchange rate.

Data Storage Capacity

Most services offer similar storage capacities. Nearly all premium plans offer 2TB. Some offer smaller amounts of storage — usually 500GB or 200GB — and some offer larger capacities of 5TB or more.

This makes it easy to compare different online storage options to ascertain their value, since you'll have an apples-to-apples comparison most of the time. The video below discusses this, as well.



If a service offers an odd amount of storage, like Icedrive's 3TB plan, you can look at its price per terabyte or gigabyte for comparison. For example, Icedrive costs $10.99 per month on the one-year plan, which comes out to just $3.66 per terabyte, or $7.33 for 2TB of storage space — a bit cheaper than pCloud's 2TB plan.

The following table shows some of the most popular cloud services and how they compare in terms of cost per terabyte.

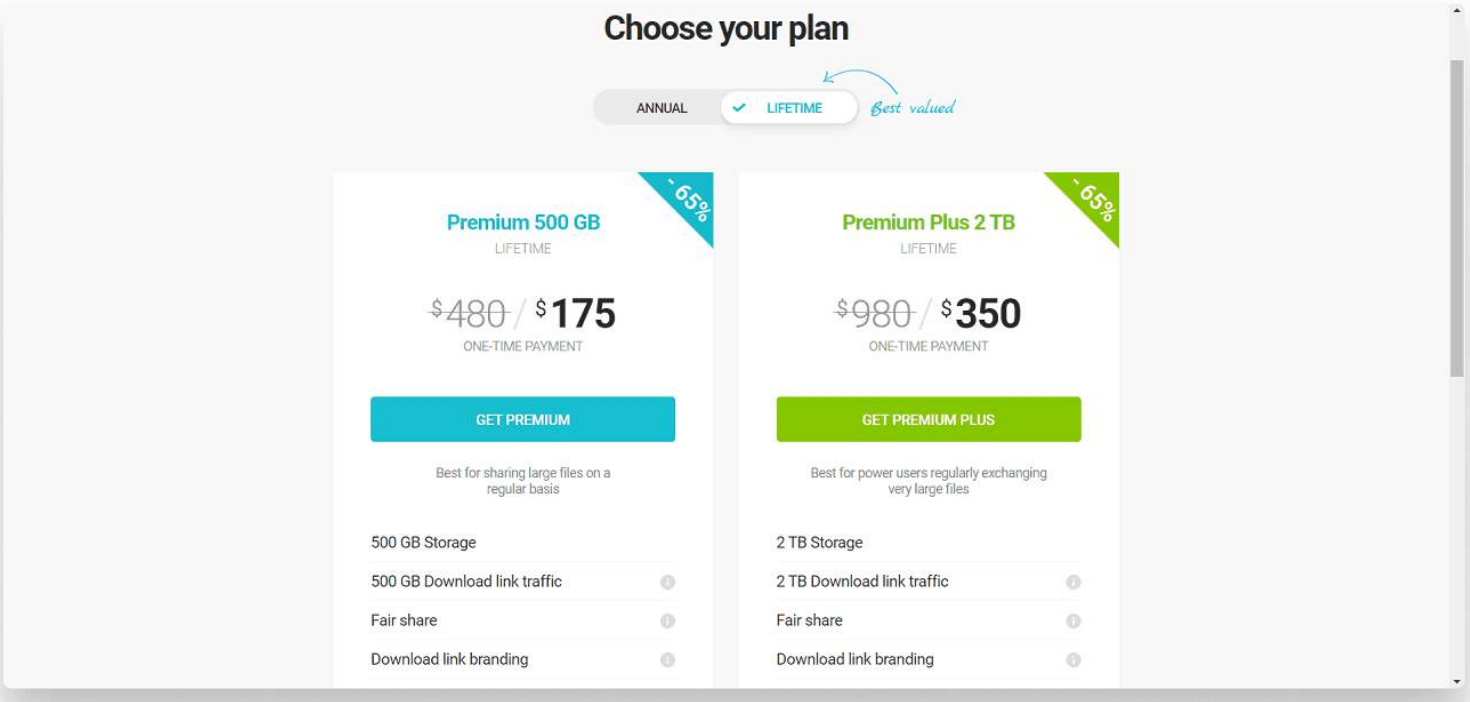
Service	Price Per 1TB (Yearly 1TB Plan or Closest)
1. IDrive	$1.16 per month
2. Sync.com	$4 per month
3. pCloud	$4.17 per month
4. Icedrive	$5.99 per month
5. Google Drive	$4.17 per month
6. MEGA	$4.49* per month
7. Dropbox	$4.99 per month
8. OneDrive	$5.83 per month
9. Koofr	$10.79* per month

*Estimated price converted from euros; this price will vary depending on the exchange rate.

Lifetime Plans: Costs and Subscription

Lifetime plans are a bit of a rarity in the cloud storage world, but they offer some of the best value you can find. They allow you to make a one-time payment for lifetime access to your account. These plans carry a higher upfront cost than yearly plans, though they tend to pay off in around three years.

Let's take pCloud again. Its 2TB lifetime plan costs $399, which ends up costing $8.31 per month over four years. Compared to its monthly cost of $8.33, this basically means that after four years have passed, your storage is free. When considered that way, free storage space for life doesn't sound half bad.



Very few services offer lifetime plans. pCloud and Icedrive offer them, as does a very young service called **Filen** (though its lifetime offers aren't always available). Koofr also has lifetime plans, but only via a StackSocial offer, and it doesn't officially offer them on its website. That pretty much sums up every respectable cloud storage option that has a lifetime plan.

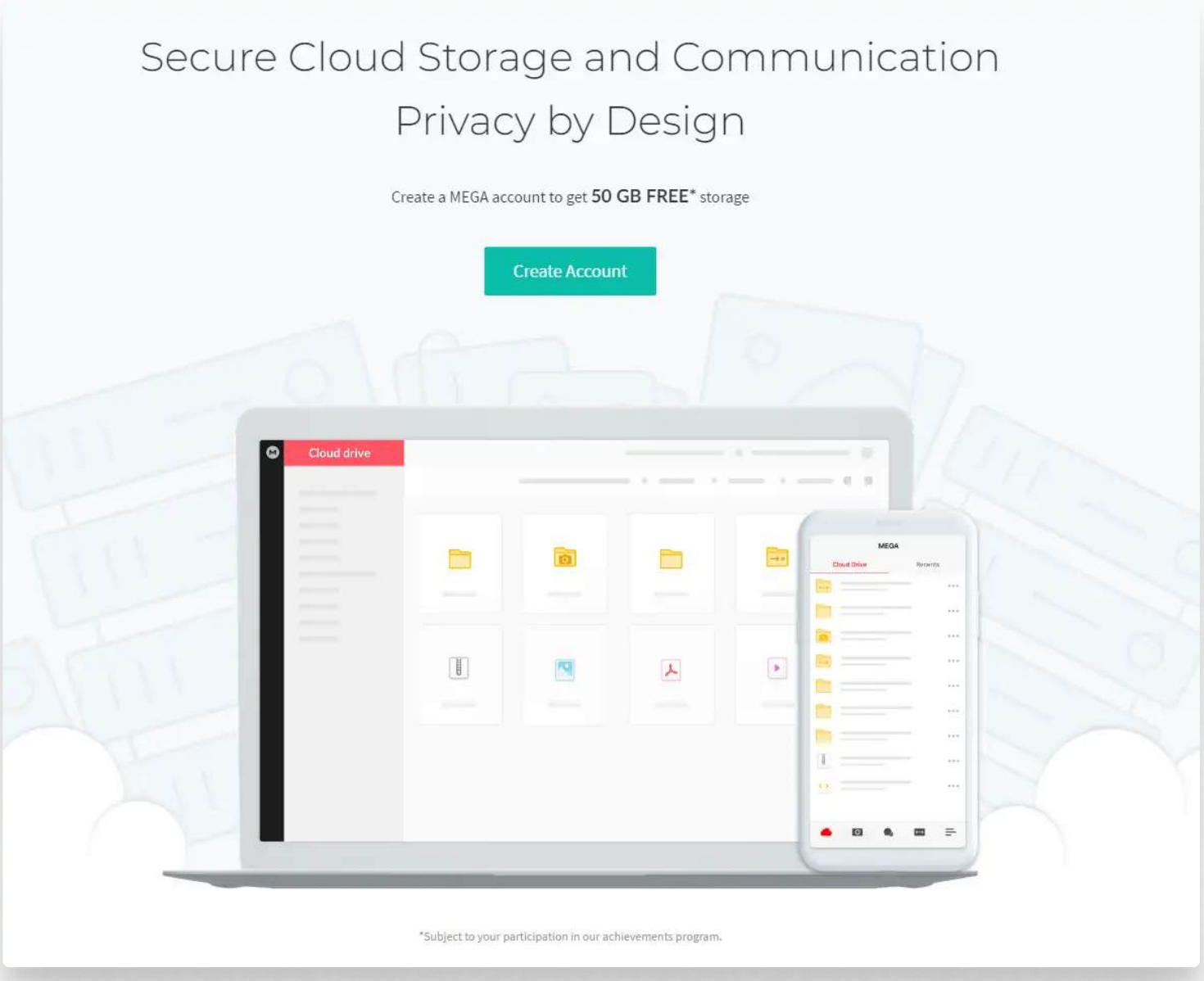
Get 2TB Lifetime Storage pCloud

You'll find a comparison of lifetime plans and how long it takes to break even in the table below.

Service	Price Per Month (1TB Plan or Closest)	Lifetime Price (1TB Plan or Closest)	Time to Break Even
1. pCloud	2TB for $8.33 per month (one-year plan)	2TB for $399 (one-time payment)	4 years
2. Icedrive	3TB for $10.99 per month (one-year plan)	2TB for $479 (one-time payment)	4 years
3. Koofr	1TB for $10.79 per month*	1TB for $159.99 (one-time payment)	1 year, 3 months
4. Filen	100GB for $11.99 per year	100GB for $29.99 (one-time payment)	3 years

Free Cloud Storage Plans & Trials

Free cloud storage is the most attractive feature for many users. People often just want a place to store some photos or documents and don't really need 2TB of storage space. In this case, though, more is always better. In general, you won't see a free plan breaking 50GB very often, and even that is usually a reach.



To give a few examples, Icedrive and pCloud each offer 10GB of free online storage. Sync.com gives you only 5GB free, and Dropbox offers a measly 2GB. Google Drive does better than all of them, with 15GB free, though you sacrifice some privacy when using it. MEGA has always been known for its massive free plan, which used to sit at 50GB, but now it gives you "only" 20GB.

A good rule of thumb is that if a product is free, you're the product. Providers that offer 1TB or more for free are likely harvesting user data, and your account will probably be deleted at some point. Reputable services, including the ones below, will use paid plans to supplement the cost of offering a free plan, which often serves as a taste of the full, paid option.

The table below compares the free plans for some of the services we mentioned in this lesson.

Service	Free Storage
1. MEGA	20GB
2. Google Drive	15GB
3. pCloud	10GB
4. Icedrive	10GB
5. Box	10GB
6. Koofr	10GB
7. Sync.com	5GB
8. OneDrive	5GB
9. Dropbox	2GB

Deals: The Cheapest Through Referrals

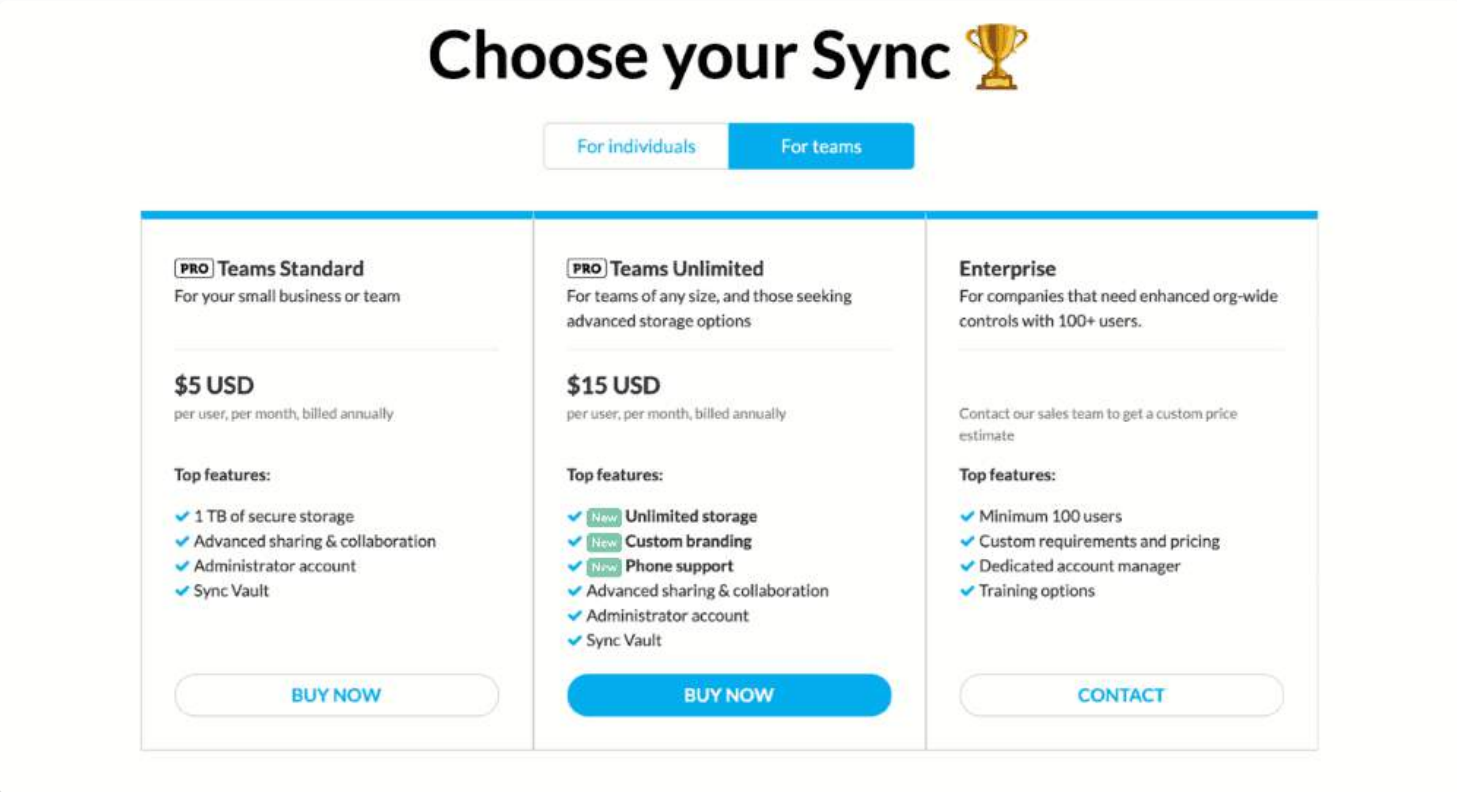
Most services let you expand your free storage via referrals. You can send someone a referral link, and when they create an account, you'll get some additional free storage. Though sometimes temporary, this extra storage is usually permanent. You'll likely find the referral link in your profile settings.

As an example, **Filen** has a very good referral program that lets you get up to 40GB of permanent free storage with just three referrals. Here's how it works: When you refer someone, you both get 10GB of storage. This means that if someone refers you and then you refer two other people, you'll get 40GB for free. Read our **Filen review** for more information.

Unlimited Storage: Online Backup Software Only?

Unlimited storage is usually reserved for businesses, so most of these plans have a minimum required number of users. However, if you have a friend with whom you're willing to split the bill — or are comfortable with footing the entire bill yourself — you could go for it even as a private user.

For example, Sync.com's Teams plan gives you unlimited storage for just $15 per user per month, with a minimum of two users. This comes out to $30 per month if you choose to pay for both users. Unfortunately, this offer is really the only affordable option for personal users.



Unlimited storage is more common in online backup software like Backblaze B2, but backup solutions aren't cloud storage and don't let you easily access your files the way cloud storage does.

Cost Optimization in Cloud Storage

In this lesson, we'll explore strategies to minimize expenses associated with cloud storage services for consumers and small businesses. The following tips are a synthesis of the previous section, transformed into a practical “cheat sheet” that you can use to get the most bang for your buck.

1. Choose the Right Plan

Assess your actual storage needs: To avoid paying for more cloud storage than you need, regularly review your usage and adjust your plan accordingly.

Compare annual vs monthly billing: Despite the higher upfront cost, annual subscriptions cost less per month than monthly subscriptions.

Consider family or team plans: If you need multiple accounts, family or team plans can often be more cost-effective than individual plans. Some let you split your storage between multiple isolated accounts, while others give each team or family member their own allotted storage.

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2. Leverage Free Storage

Use multiple free accounts: Most, if not all, cloud storage providers offer free storage. You can subscribe to multiple cloud storage services and split your storage, preferably by type (documents in one account, photos and videos in another, etc.). This is recommended only for personal users, as businesses need to keep files in one place.

Take advantage of promotions: Providers may offer extra storage for referrals or micro tasks. Device tie-ins are also not uncommon, with some providers offering free storage if you purchase a certain device.

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3. Optimize Your Storage Usage

Regular cleanups: Periodically review and delete unnecessary files, especially large ones like old backups, unnecessary videos and duplicate photos.

Compress files: Before uploading large files, consider compressing them to save space, especially when it comes to photos and videos. Some mobile cloud apps allow you to upload photos from your phone in reduced quality to save storage space.

Use built-in tools: Some services offer tools to help you identify and remove large or unnecessary files. For example, Google Drive has a "storage" view that shows your largest files and folders.

4. Explore Alternative Services

Compare pricing: Cloud storage services don't change their pricing very often, but some offer discounts for holidays and anniversaries. Check competing services regularly to see if there's a better offer.

Look for specialized services: If you mainly store specific types of files, like photos, a specialized service might offer better value. For instance, Amazon Photos offers unlimited full-resolution photo storage plus 5GB video storage for all Prime members.

5. Maximize Free Add-ons

Use included productivity suites: Services like Google Drive and OneDrive come with free online office applications, potentially replacing the need for paid office software.

Utilize integrations and other collaboration features: You can take advantage of built-in collaboration tools to avoid paying for separate project management or communication software. For example, Dropbox and Google Drive offer a wide selection of third-party plugins and add-ons that integrate with those services.

Remember, **the cheapest option isn't always the best**. You should always consider factors like ease of use, reliability, security and integration with your workflow when making decisions about your cloud storage strategy.

End of Cloud Storage 101

If you're not a small business owner, congratulations: **You've just completed our Cloud Storage 101 course!**

If you do own a small business — or if you're just interested in this side of cloud storage — this lesson has practical advice for you to help manage your data effectively and avoid the issues commonly associated with data sprawl and mismanaging files.

Bonus Learning for Businesses: Data Governance and Compliance

In this final lesson for business owners, we'll cover data governance principles and compliance with industry standards.

How to Manage Your Business's Data Properly: Dealing With Data Sprawl

In the days before the internet, businesses kept their files in drawers and cabinets. Imagine if those drawers and cabinets were scattered around the building and you had to go to a different floor every time you needed to get a file. Nowadays, those **files are spread across laptops, tablets, cloud storage platforms and more**. This is known as data sprawl.

Companies in the digital age rely on a wide variety of devices, software, operating systems and cloud storage platforms to store and create data. All of the apps your staff uses every day end up proliferating content. These endless data sources contribute significantly to data sprawl, which threatens the security of company information.

Here are a few ways data sprawl can occur:

- Employees leaving important work files on home and mobile devices.
- Company files located across many different storage systems, data silos and cloud storage platforms.
- Multiple copies and versions of the same files existing on those various file storage systems network-wide.
- Using different operating systems — such as Windows, macOS and Linux — that utilize different file types.
- Tools and applications with proprietary file types, creating a large amount of data that's difficult to access across the network.
- Holding on to project-specific files and folders instead of archiving them, which clutters up your organization's storage.

What Are the Dangers of Cloud Storage Data Sprawl?

Data sprawl puts your company at risk of losing important information in the jumble of devices and storage systems it uses. Sensitive data can be forgotten on external hard drives or in difficult-to-access archives. That can lead to data duplicated in multiple locations, making it hard to know which version of the files you need.

Simply put, **data sprawl costs companies time and money**. An employee might put in the effort to create a new file, only to find out that Steve from accounting had that file on his old laptop. Bits of information on a subject could be scattered across different apps, making cross-referencing data a pain. Employees may waste valuable time searching for files that should be accessible.

Perhaps the greatest danger of sprawling data for a company is old data. Unused files that have been in your system for a long time may pose a data security risk if you're unaware that they contain sensitive information. If you inadvertently give someone access to that file, you could create a security risk for your company in the case of a ransomware attack.

How to Solve Data Sprawl in 5 Simple Steps

If data sprawl is such a problem, how can you solve it? We present a few easy steps below that your company can implement to manage data sprawl.

1. Move Your Data to the Cloud

Take control of data both new and old by moving it to the cloud. Your employees can use as many devices as they want to create data as long as it all ends up in the same place. Cloud storage is a solution that lets you store everything in one spot. Plus, cloud data is much easier to access since you don't have to physically use a different device to do so.

2. Use a Dedicated Enterprise Cloud Solution

Though vendors like Google Drive and Dropbox grab all the headlines, they're not exactly built for business. Enterprise file sync and sharing solutions, or EFSSs for short, are made with businesses in mind.

Egnyte **Connect** is a powerful tool for managing data sprawl thanks to its customizable metadata layers. These layers let you assign extra information to a file or folder, such as contract information, descriptions of the contents of an image or video, the geographic location of a project and more. These layers can make searching for files a breeze.

3. Integrate Applications Into Your Cloud Storage

We mentioned that every app ends up creating more and more content. What if all those apps could output that data into the same place? Cloud services can help with that by providing integrations with apps, whether office software like Microsoft Office or Google Workspace, or online collaboration tools like monday.com or Trello.

4. Provide Employees With the Tools and Access They Need

This is especially true for organizations reliant on remote work and a bring-your-own-device system. Your staff must receive adequate training for remote work, as it creates different vulnerabilities than office work. Plus, you should provide them with crucial software such as ransomware protection to close any gaps in data security and create a secure environment.

It's also a good idea to have decent access management policies in place to ensure employees don't leak data or handle it incorrectly. The best practice for access management is to give workers the least amount of access necessary to do their jobs efficiently.

5. Implement Proper Content Life Cycle Management

A big part of data loss prevention is managing the life cycle of your data. Simply put, the files that you're currently working on should be accessible to everyone who's working on them. After the project is complete, keep the files on hand for several months in case you need them. You can then safely archive them to a cold storage system.

Industry Compliance

Depending on your location and industry, you may need to comply with regulations such as the following:

General Data Protection Regulation (GDPR) for EU data

California Consumer Privacy Act (CCPA) for California residents

Health Insurance Portability and Accountability Act (HIPAA) for U.S. health data

Payment Card Industry Data Security Standard (PCI DSS) for credit card information

Most consumer cloud storage services are not automatically compliant with these regulations. It's your responsibility to ensure your usage meets compliance requirements. Here are a few best practices when it comes to ensuring compliance

1. Choose a Compliant Zero-Knowledge Cloud Service

Because industry standards like the ones we listed usually revolve around privacy and anonymity, zero-knowledge cloud services best lend themselves to complying with their requirements.

Not all zero-knowledge services pass all compliance checks, though. For example, HIPAA requires that services offer a business associate agreement (BAA). Make sure to check for relevant security certifications (ISO 27001, SOC 2, etc.) before making a decision about a service.

2. Utilize All Available Security Features

If you've been following along, you'll already be aware of some ways you might need to protect your company's sensitive data. Make sure to always enable **multi-factor authentication** and properly implement **access control**, regularly reviewing and updating **permissions** based on the company's needs.

3. Maintain Your Data

As we outlined in the data governance lesson above, it's absolutely crucial to maintain the health and hygiene of your data and **avoid data sprawl**.

4. Understand Your Service

Look into the service's **privacy policy** and **terms of service** to ensure it is fully capable of complying with the necessary standards. Your company's legal aid could be of help with this task. In addition, check where the service's servers are located, as data stored in another country will be subject to that country's laws.

5. Keep Your Software Updated

It goes without saying that you need to keep all software updated to the latest version, with all security patches installed. Malware — and ransomware in particular — can be devastating to a business. Updating your software will ensure all known vulnerabilities are patched out.

Conclusion

Congratulations on completing our cloud storage course! Throughout this course, we explored key concepts of cloud storage, examined the underlying technology and shared practical advice on choosing a cloud storage service. We also touched on small business uses for cloud storage and dove into strategies for business data management.

As you move forward in your cloud computing journey, remember that the landscape is constantly evolving. New technologies, services and best practices emerge regularly, offering both challenges and opportunities. Stay curious, keep learning and don't hesitate to innovate as you apply these concepts in real-world scenarios.

Author - Aleksandar Kochovski

Snapshot

- Aleksandar Kochovski is an editor and writer for Cloudwards, where he focuses on cloud storage, online backup and VPNs.

Background & Education

- Aleksandar Kochovski is a seasoned writer and editor at Cloudwards, with a focus on cybersecurity. With nearly four years of writing experience and three years of editing expertise, Aleksandar has a knack for breaking down intricate cybersecurity concepts into easily digestible content. His mission is to educate Cloudwards' audience about the perils of the online realm and offering solutions to protect themselves. Apart from his writing and editing roles, Aleksandar has also written YouTube video scripts and coordinated graphic design projects for Cloudwards. Outside the professional sphere, Aleksandar's eclectic hobbies range from nurturing bonsai and powerlifting to enjoying board games and penning poetry.

- Aleksandar holds a Master's Degree in Architecture from the University of Ss. Cyril and Methodius, Skopje, Macedonia, and has previously worked as an assistant professor of architectural planning and interior design at the European University of Skopje. While he hasn't pursued additional training in cybersecurity, his academic foundation has equipped him with the skills to delve deep into intricate subjects, ensuring thorough research and clarity in his writings on online privacy.