

White Paper: Cloud Storage

All your files, always safe, forever?

As we discussed in our [Blog](#), we still hear of data being lost due to human error or physical failure of old hardware. Nowadays there is no excuse for that. You don't have to fully embrace the Cloud to benefit from it, but the benefits in removing that physical stack of ageing hard drives, whirring away under your desk destined to one day fail and take their contents into the abyss, are huge.

In this short paper we cover the two main data silos in the cloud – Storage and Backup – as well as offer some practical considerations around security and connectivity to help you exploit this most affordable and simple part of the Cloud.

Storage vs Backup

The first concept to understand is the difference between Cloud Storage versus Backup. Simply put, storage is a live repository in the cloud where your files “live”. Backup on the other hand takes a copy of your files that reside day to day on your PC or server locally, and copy them into the cloud for safe keeping.

Initially we saw the cloud as a great big backup area to copy data into, mitigating against servers failing, and as a result online backup providers like MozyPro boomed.

Nowadays with connectivity broadly speaking being fast, cheap and reliable, this trend has shifted to more real-time usage of the Cloud as a living, breathing document store – removing the old server entirely with all document processing happening elsewhere.

Best in Breed







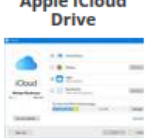
























































Around 2007 lots of companies started offering pure Cloud Storage – products like Google Drive in 2007 and DropBox in 2008 sprang up offering us all a much better place to dump our files. In 2011 Microsoft launched Office365. This presented a hybrid option – programs like Word and Excel installed locally on your PC (so run quickly) but all the saved files and data lives in Microsoft's huge cloud (so it's safe) – a great combination



Where to start!?

The best way to start is small scale. Trial a few different programs with some dummy data. A handy table from PC Advisor below shows the various features each of the main players in Cloud Storage offer. Of these, Microsoft OneDrive, Google Drive and DropBox are the most widely used, and all offer a free trial with a small amount of data included for free.

Download, install, put a small batch of files into the cloud sync folder, then repeat on some other devices and experiment with accessing your files, saving, deleting and restoring – instructions nowadays are always available and relatively simple to follow; the point is, try to break them to find out if they work for you!

Name									
Lowest Price	SEE IT	SEE IT							
Editor Rating	 EDITORS' CHOICE		 EDITORS' CHOICE		 EDITORS' CHOICE	 EDITORS' CHOICE		 EDITORS' CHOICE	
Area of Specialization	Backup	Simplicity, Ease of Use	Collaboration; Microsoft Office 365 Included With 1TB Purchase	Security	Security	Collaboration	Apple Device Users	Compatibility With Other Services; Business Use	Compatibility With Other Services
File Size Limit	Unlimited	Unlimited	10GB	Unlimited	100GB	5TB	15GB	250MB With Free Account; 2GB With Starter Account	10GB; Unlimited With Desktop Client
Free Storage	5GB	None	5GB	2GB	None	15GB	5GB	10GB	2GB
Online Editing									
File Versioning									
Windows App									
iOS App									
Android App									






OneDrive has the added benefit of being part of Office365, which also offers a free trial, and is the platform of choice here at Ethical IT

Pure backup services

Pure online backup products are great if you still have a server or NAS Box where you keep your files locally, and you want to take a backup copy stored off site. These apps usually encrypt your data end to end, so even if your cloud provider did get hacked, the data is likely to be pretty much useless to them anyway (note – always check encryption is enabled and set at the highest level possible, and ask the vendor about best practice!)

Typically, you install these programs in the same location as your data, then tell the program where your files are, and it will sync them all every day, hour or minute. See the Risks and Threats section below regarding Internet Connections for a warning about this, as it can impact your working day if not set up properly due to all the bandwidth being used!

Some of these also allow another copy to a USB drive to provide quicker restores if needed; very useful.

	Backblaze	CrashPlan	Carbonite	IDrive	SOS Online Backup
Free / Trial	Free Trial	Free Trial	Free Trial	Free 5GB	Free Trial
Operating System	Windows & Mac	Windows, Mac & Linux	Windows & Mac	Windows & Mac	Windows & Mac
Size	Unlimited	Unlimited	Unlimited	1TB	Unlimited
File Sharing	✗	✗	✓	✓	✗
Locked Files	✗	✓	✓	✓	✓
Mapped Drives	✗	✗	✗	✓	✓
Mobile Apps					
Restore Options	Client, Web, Flash Drive, USB HD	Client, Web, USB HD	Client, Web, USB HD (Premium version)	Client, Web, USB HD	Client, Web
Cost	\$5.00 / Month \$50.00 / Year \$95.00 / Two Years	\$5.99 / Month \$59.99 / Year \$114.99 / Two Years	\$59.99 / Year \$109.99 / Two Years \$149.99 / Three Years	\$59.99 / Year \$119.00 / Two Years	\$7.99 / Month \$79.99 / Year \$139.99 / Two Years

Data Source - [CloudStorageBuzz](#)

Risks and Threats

Security has traditionally been seen as a barrier to cloud services, and while this is the first item on the list to plan and address, it does not need to hold you back – the large providers invest huge sums of money in security and are likely to be far better protected than you or me. They need to be of course, because they are more likely to be targeted, but most data leaks still come from users themselves, and to that end some key considerations are as follows:



1. **Two Factor Authentication** – this framework provides an added layer of security for staff to use a second device such as a mobile phone to authenticate and prove their identity. If you use an Apple ID you will have used 2 Factor Authentication already; it's fairly simple to implement and – alongside a complex rotating password policy - goes a very long way to securing your data against theft through passwords being stolen; crooks would need to steal your password and your authentication device to get at your data.
2. **Encryption** – all cloud storage providers will do some degree of encryption and policies can be deployed to strengthen it further, rendering the data you leave in the cloud useless to thieves even if they do gain access to the cloud, because only your organisation can hold the keys.
3. **Legislation** - such as the new General Data Protection Regulation ([GDPR](#)) which applies to data you hold, the measures you or your cloud provider take to protect it, and how you remove personal data when asked to. Likewise the [EU-US Privacy Shield](#) which satisfies a number of concerns the EU had about European organisations using cloud services from US companies like Microsoft and Google – these two are key questions to ask of any potential supplier to ensure they and in turn you are covered.
4. **Connectivity** – your reliance on your internet connection just got even more important! It goes down and your whole operation could grind to a halt. Equally, if it slows down due to heavy usage of cloud services it may be just as disruptive. Our [guide to Internet Connections](#) is worth a read!



Business Benefits

All said and done, with the right planning and considerations, harnessing cloud storage is a no-brainer in most cases.

With charities often getting licenses like Office 365 for virtually zero cost, the benefits far out way the risks as long as they are mitigated.

Allowing your staff to work from anywhere, be flexible, agile, use their own devices if they prefer, never having to worry about backups or servers falling over – the list goes on and on.

With some early experimenting, and perhaps a little advice from experienced professionals such as Ethical IT, you can very quickly be up and running on a cost effective and future proof storage system.



Further Reading

Easy to read Guardian article from a few years back – the products are slightly newer now but the logic is accurate - <https://www.theguardian.com/money/2014/jan/16/cloud-storage-which-provider>

10 Online Backup solutions - <http://blogs.systweak.com/2016/05/top-10-best-online-cloud-backup-storage-services>

Would you like to discuss any of this?

At Ethical IT we are [here to help](#) Ask us about this subject or indeed any other current trends like [Office 365](#), [Charity Donation Schemes](#), [Remote Working](#), [Cloud Security](#) and more – we're all ears. Our Twitter feed also contains regular tips and tricks about these sorts of things, so please follow us [@ethicalituk](#).