CHINOOK ARCH
REGIONAL LIBRARY SYSTEM

CLOUD COMPUTING

CLASS 4 OF 7 IN THE FUNDAMENTAL DIGITAL LITERACY SKILLS PROGRAM

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INTRODUCTION

If you use a computer - whether a traditional desktop or the latest smart phone - chances are you have used the cloud. It accounts for a lot of our current computer use, from creating and storing documents on Google Docs to streaming television shows on Netflix. However, it can be intimidating to use something you do not necessarily understand. Just what does "the cloud" mean? Where is the data actually stored? And who has access to that data, including your private files?

Chinook Arch Regional Library System and the Government of Canada hope that this class and accompanying information will help put to rest some of your concerns about using the cloud, and give you the confidence to continue exploring the Internet and the many increasing uses of cloud-based computing.

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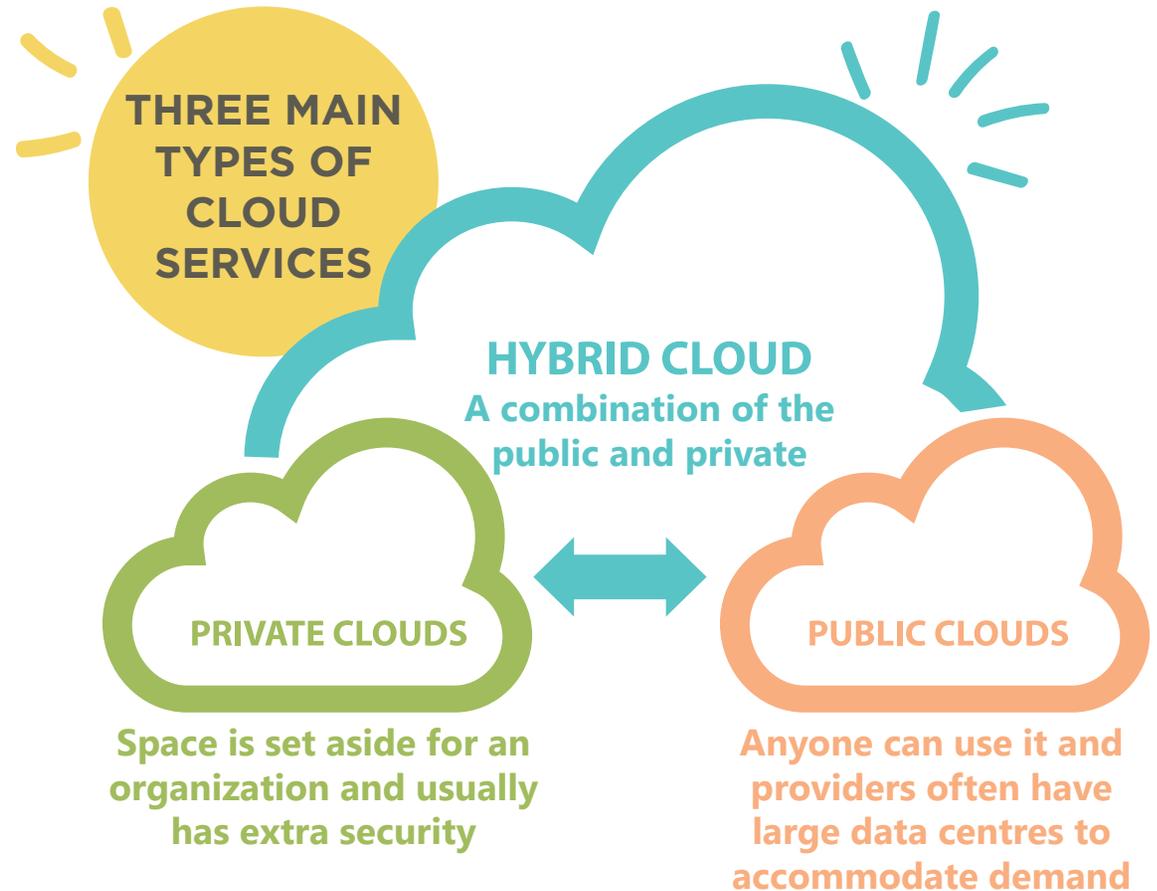
Canada

WHAT IS **THE CLOUD?**

"The cloud" is a metaphor for the Internet, a virtual space created and shared by the combined connectivity of computers around the world. Cloud computing means sharing resources, software, and information through a network connection – you cannot have the cloud without the Internet. Thanks to the cloud, computers and computer devices act like entry points to the Internet and applications, instead of independent machines that require extra, costly hardware.

The cloud lives on large numbers of physical machines that cloud computing providers maintain and control.

CHARACTERISTICS

- On demand self-service means immediate use
- Broad network access through the established Internet
- Resource pooling means many users can access the same resources
- Quick adjustments means resources can be changed as your needs do
- Measured service means you usually only pay for what you use

THREE MAIN TYPES OF CLOUD SERVICES

HYBRID CLOUD
A combination of the public and private

PRIVATE CLOUDS

PUBLIC CLOUDS

Space is set aside for an organization and usually has extra security

Anyone can use it and providers often have large data centres to accommodate demand

WHY USE **THE CLOUD?**

There are many reasons why using the cloud is a good thing!

CONVENIENT

No special programs are required for your computer

STABLE

Despite how often technology changes, the one thing that remains the same is access to the Internet

LOW COST

You only pay for what you need or use

SECURITY

Your data is safe and recoverable should something happen to your computer

UNIVERSAL ACCESS

Access your data anytime, from any computer device

HIGH AVAILABILITY

There are many different programs and services, and demand for them keeps growing

You do not need to worry as much about the hardware specifications, like the built in space, when you get a new device since a lot of that workload has now moved to the Internet. That means computers can be lighter, more portable, and hopefully less expensive.

TYPES OF **CLOUD COMPUTING**

**Generally, cloud computing is divided into three types:**

Hosting

Where one company rents space on their own cloud services to another. This means that the cloud "renter" does not need to be responsible for maintaining their own web servers, and they can easily change how much space they need.

Cloud Streaming

Where media files (movies, tv, music) are hosted on a cloud server and users listen and watch through the Internet. This is one of the most popular uses of the cloud by people - just think of all the different streaming services there are! Many streaming services are subscription-based.

Cloud Storage
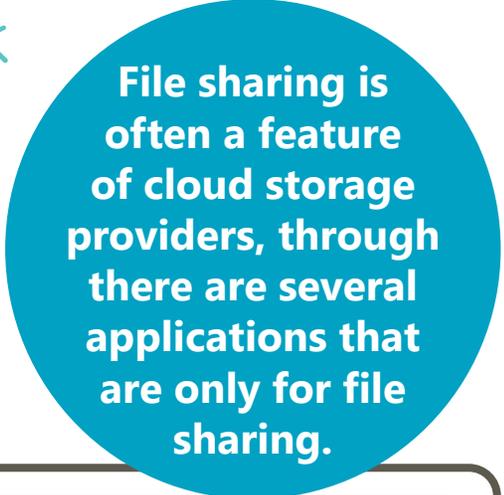
File sharing is often a feature of cloud storage providers, through there are several applications that are only for file sharing.
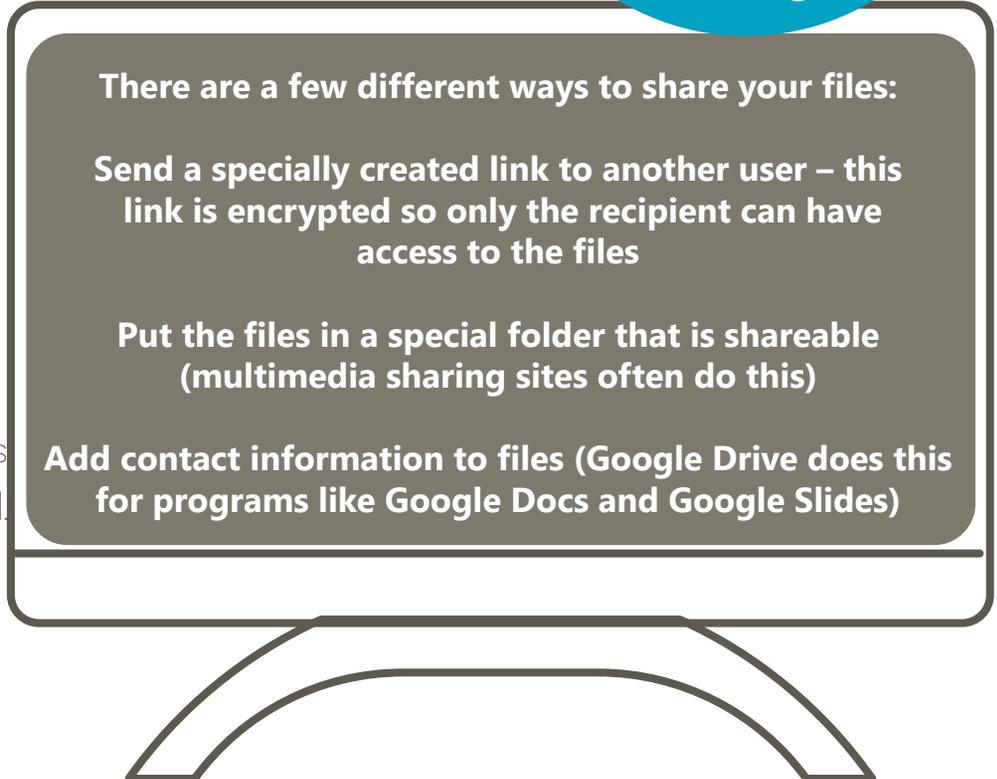
**There are a few different ways to share your files:**

Send a specially created link to another user – this link is encrypted so only the recipient can have access to the files

Put the files in a special folder that is shareable (multimedia sharing sites often do this)

Add contact information to files (Google Drive does this for programs like Google Docs and Google Slides)

CLOUD STORAGE

Most users interact with the cloud on a daily basis through cloud storage, and this is often what people mean when they talk about the cloud.
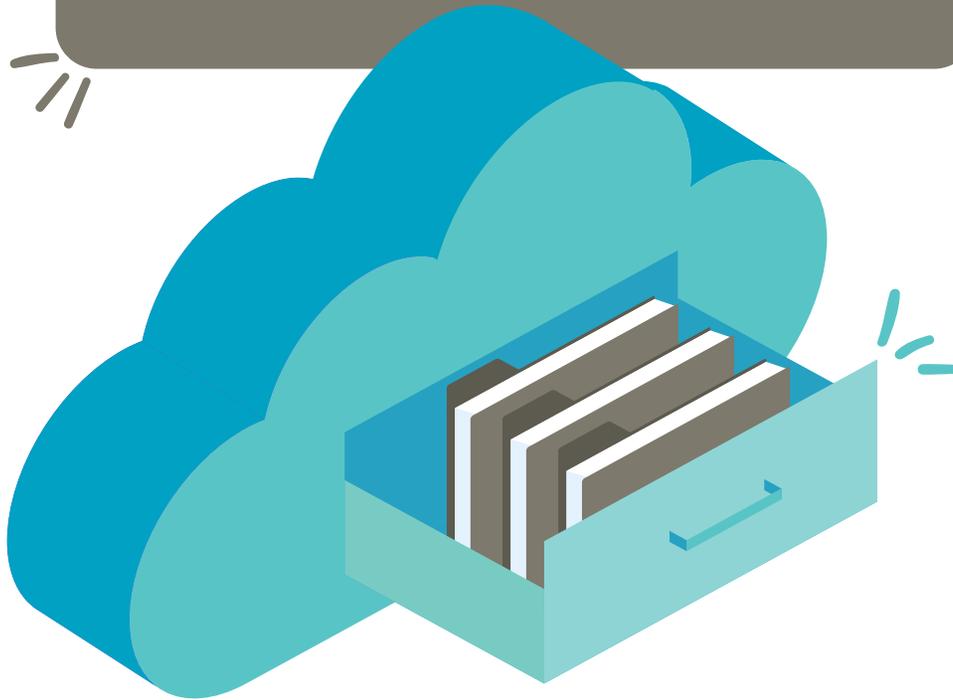
Benefits of cloud storage:

Convenience

Accessibility

Recovery

Cloud storage means you are saving your files (photos, documents, etc.) in a dedicated space on the Internet, rather than on your device. Think of it like a safety deposit box in a bank: the bank (the Internet) is accessible to the public, but you can purchase a safety deposit box to store your valuables that is kept separate from everything else.

DOCUMENT AUTHORING

The cloud allows users to create documents online, without needing to purchase and install special programs on your computer. Instead of using Microsoft Word, you can use Google Docs. By creating and storing documents in the cloud, users can access them from anywhere - you no longer need to travel with computers and flash drives that may or may not work.

Google Docs is part of the Google Drive, which is Google's special cloud service. There are more file types you can create, like spreadsheets (Google Sheets) and presentations (Google Slides).

OPEN GOOGLE DOCS (GOOGLE DRIVE)

1. Go to drive.google.com
2. Log in using your email and password (you don't need a Gmail email to use Google Drive!)
3. Double-click on a file to continue working on it, or click on the New button and select the type of file to create (document, spreadsheet, or presentation)

## YOU CAN ALSO ACCESS THE GOOGLE DRIVE THROUGH YOUR GMAIL ACCOUNT

1. After you log in to your Gmail, locate the Google apps icon along the top of the screen
2. Click on the icon
3. Look for the Drive icon

THE FUTURE OF THE CLOUD

It looks like the cloud is here to stay! The flexibility and accessibility of the cloud means that its use is applicable over almost all computer work, from social media to business organization.

As technology grows and expands, cloud computing will likely also expand with new jobs, services, platforms, and applications.

Hopefully, as the cloud relies on access to a reliable Internet connection, that means access to the Internet will also grow and become universal.
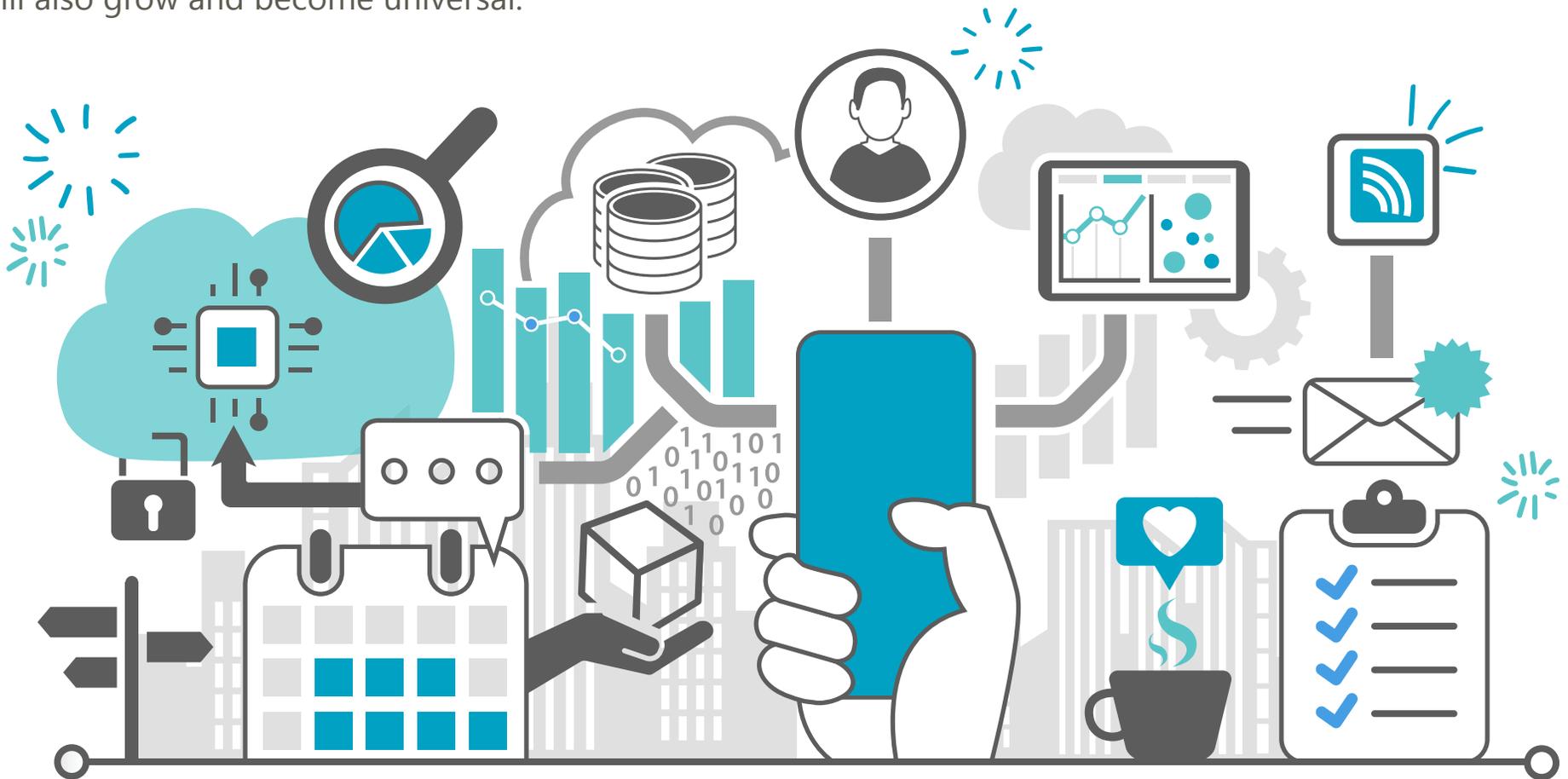
ISSUES USING THE CLOUD

The first issue that comes up when using the cloud is the fact that it relies on the Internet: if you cannot access the Internet, you cannot access your files or applications.

Another major issue is that of control. By storing your files with a company, you are giving up some amount of control over that data. Also, cloud storage companies often make copies of the data stored with them: this aids in recovering your data if something goes wrong, but it also means you might not actually fully delete your data if you need to.

Some security issues to keep in mind:

- **Privileged user access means some cloud computing companies outsource their services to other companies, giving them access to the saved data**
- **Regulatory compliance means traditionally companies are responsible to pass external audits and certifications, but not all do**
- **Data locations are not often public knowledge, so you do not know what country is storing your data and what kind of privacy laws they have**
- **Long-term viability can also be a problem, since companies can go bankrupt or be bought by others – try to make sure your data will be preserved or returned to you in an accessible format**

If you have very sensitive data, it might be a good idea to keep it on a hard drive instead of on the cloud.

The good news is that many cloud computing and cloud storage companies live and die by their reputations, so they have very strong motivation for maintaining security and reliability!

RESOURCES

Cloud-Based Computing:

- https://www.webopedia.com/TERM/C/cloud_computing.html
- https://apprenda.com/library/cloud/cloud-systems-and-technologies/
- https://www.vox.com/2015/4/30/11562024/too-embarrassed-to-ask-what-is-the-cloud-and-how-does-it-work

Cloud Storage:

- https://www.howitworksdaily.com/cloud-storage-what-is-it-and-how-does-it-work/

Comparison of Cloud Storage Providers (2019):

- https://www.cloudwards.net/comparison/
- https://www.trustradius.com/cloud-storage