



WHAT IS THE CLOUD AND HOW DOES IT WORK?

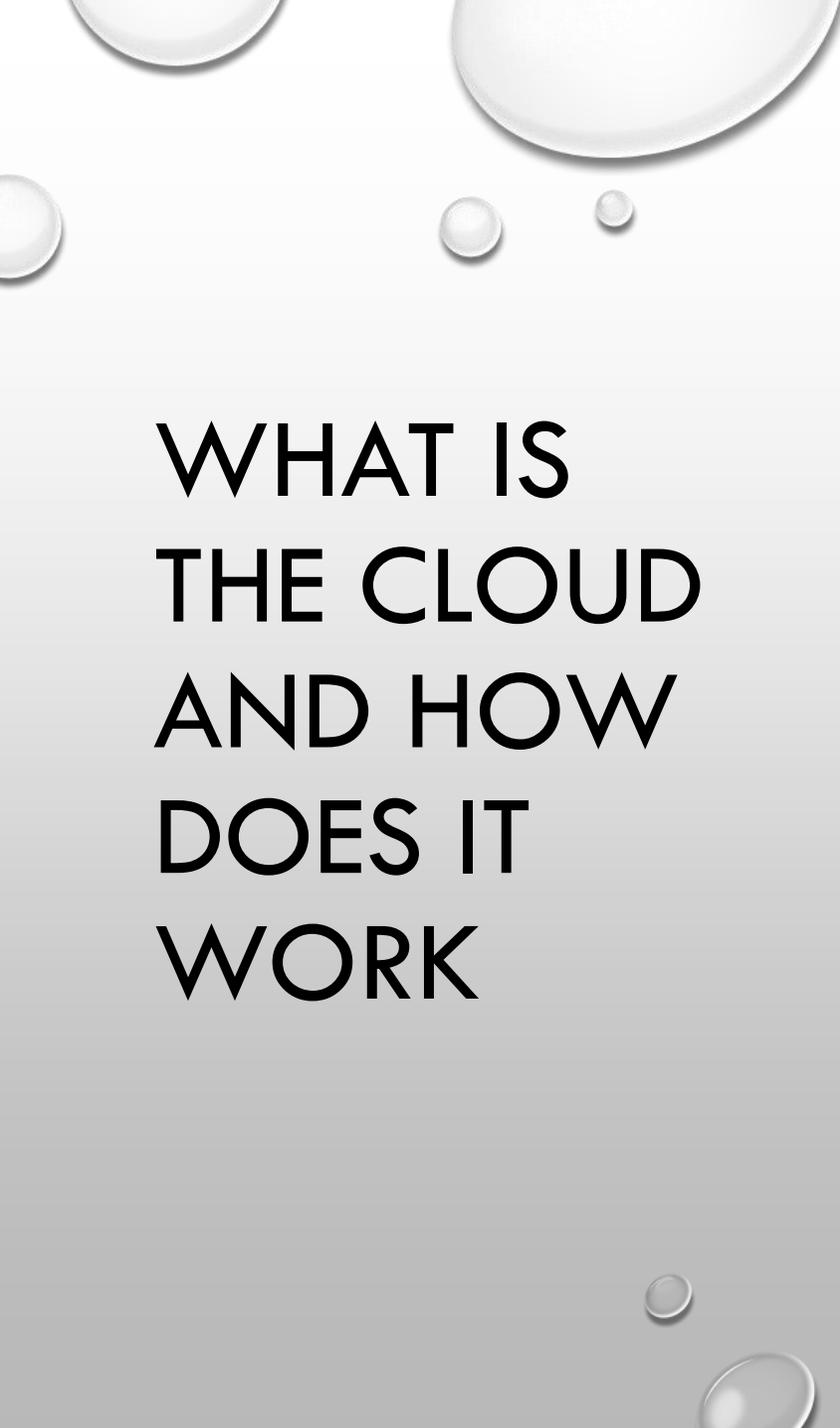
MANKATO COMPUTER TECHNOLOGY UNIVERSITY

WHAT IS THE CLOUD? A BASIC OVERVIEW

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# WHAT IS THE CLOUD

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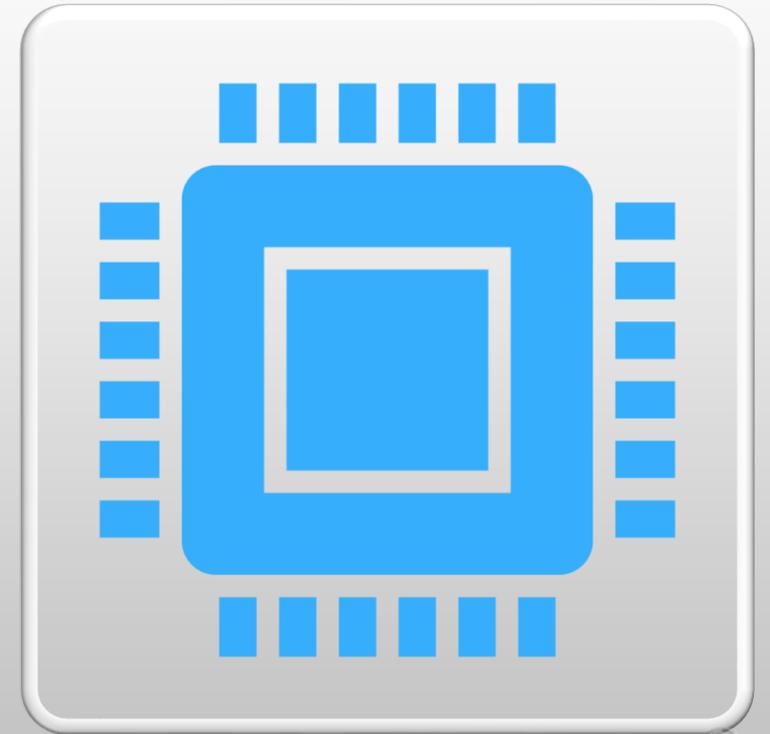
- **CLOUD** STORAGE INVOLVES STASHING DATA ON HARDWARE IN A REMOTE PHYSICAL LOCATION, WHICH CAN BE ACCESSED FROM ANY DEVICE VIA THE INTERNET. CLIENTS SEND FILES TO A DATA SERVER MAINTAINED BY A **CLOUD** PROVIDER INSTEAD OF (OR AS WELL AS) STORING IT ON THEIR OWN HARD DRIVES.

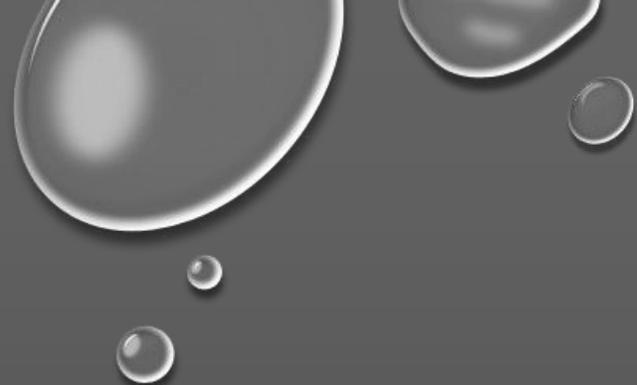
WHAT EXACTLY IS THE CLOUD?

- IN THE SIMPLEST TERMS, **CLOUD** COMPUTING MEANS STORING AND ACCESSING DATA AND PROGRAMS OVER THE INTERNET INSTEAD OF YOUR COMPUTER'S HARD DRIVE. THE **CLOUD** IS JUST A METAPHOR FOR THE INTERNET. ... THE **CLOUD** IS ALSO NOT ABOUT HAVING A DEDICATED NETWORK ATTACHED STORAGE (NAS) HARDWARE OR SERVER IN RESIDENCE

WHERE IS THE CLOUD?

- FIRSTLY WE NEED TO UNDERSTAND WHAT **CLOUD** COMPUTING ACTUALLY IS. IN A NUTSHELL, **CLOUD** COMPUTING IS ALL ABOUT STORING AND RETRIEVING YOUR PERSONAL (OR CORPORATE) DATA FROM YOUR OWN LITTLE AREA ON THE INTERNET. NOTHING IS STORED ON YOUR LOCAL HARD DRIVE AND IT IS ACCESSIBLE FROM ANY LOCATION, ANY DEVICE AND AT ANY TIME.





WHAT IS THE CLOUD AND HOW DO I ACCESS IT?

- THE **CLOUD** REFERS TO SOFTWARE AND SERVICES THAT RUN ON THE INTERNET, INSTEAD OF LOCALLY ON YOUR COMPUTER.
MOST **CLOUD** SERVICES CAN BE ACCESSED THROUGH A WEB BROWSER LIKE FIREFOX OR GOOGLE CHROME, AND SOME COMPANIES OFFER DEDICATED MOBILE APPS.

STILL CONFUSED BY THE CLOUD?



Here's all you need to know about the technology that has transformed computing.



With all the talk about 'the cloud' these days, you'd be forgiven for thinking that technology has somehow harnessed the weather to deliver all manner of clever applications, from catching up on missed TV programs to keeping your important

- 
- A blue background with several water bubbles of various sizes, some partially cut off by the edges of the frame. The bubbles are rendered with a gradient and a highlight, giving them a 3D effect.
- IN REALITY 'THE CLOUD' IS JUST A SHORTHAND TERM FOR 'CLOUD COMPUTING', WHICH ITSELF JUST REFERS TO THE IDEA OF USING SOMEONE ELSE'S COMPUTERS (USUALLY, BUT NOT ALWAYS, OPERATED BY A BUSINESS) ON THE INTERNET FOR THINGS WE PREVIOUSLY USED OUR OWN FOR LIKE STORING DATA AND RUNNING PROGRAMS.

1: THE CLOUD IS EVERYWHERE



Just like its meteorological namesake, the cloud is everywhere - or at least anywhere where there's a computer and an internet connection.



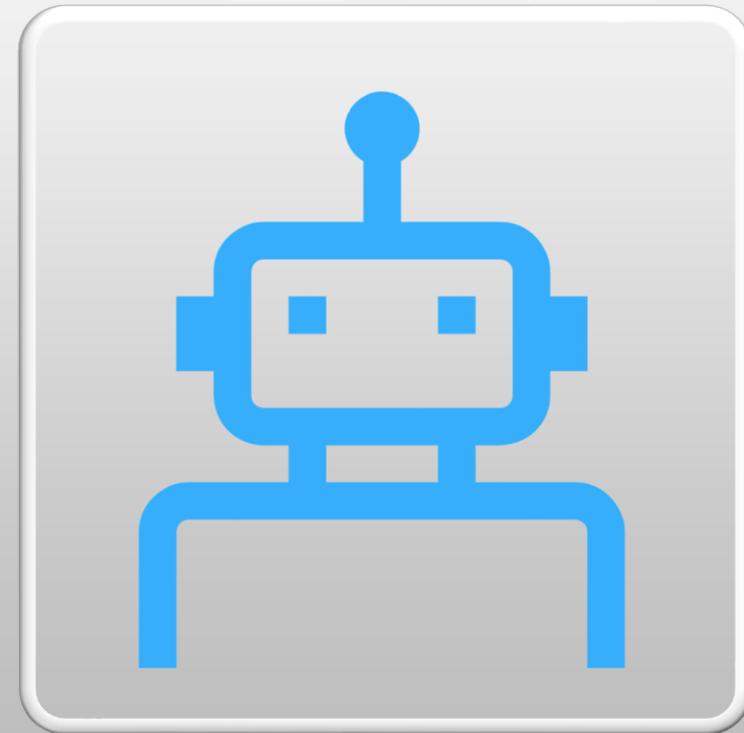
A cloud application usually runs on multiple (sometimes hundreds) of powerful internet-connected computers spread around the world.

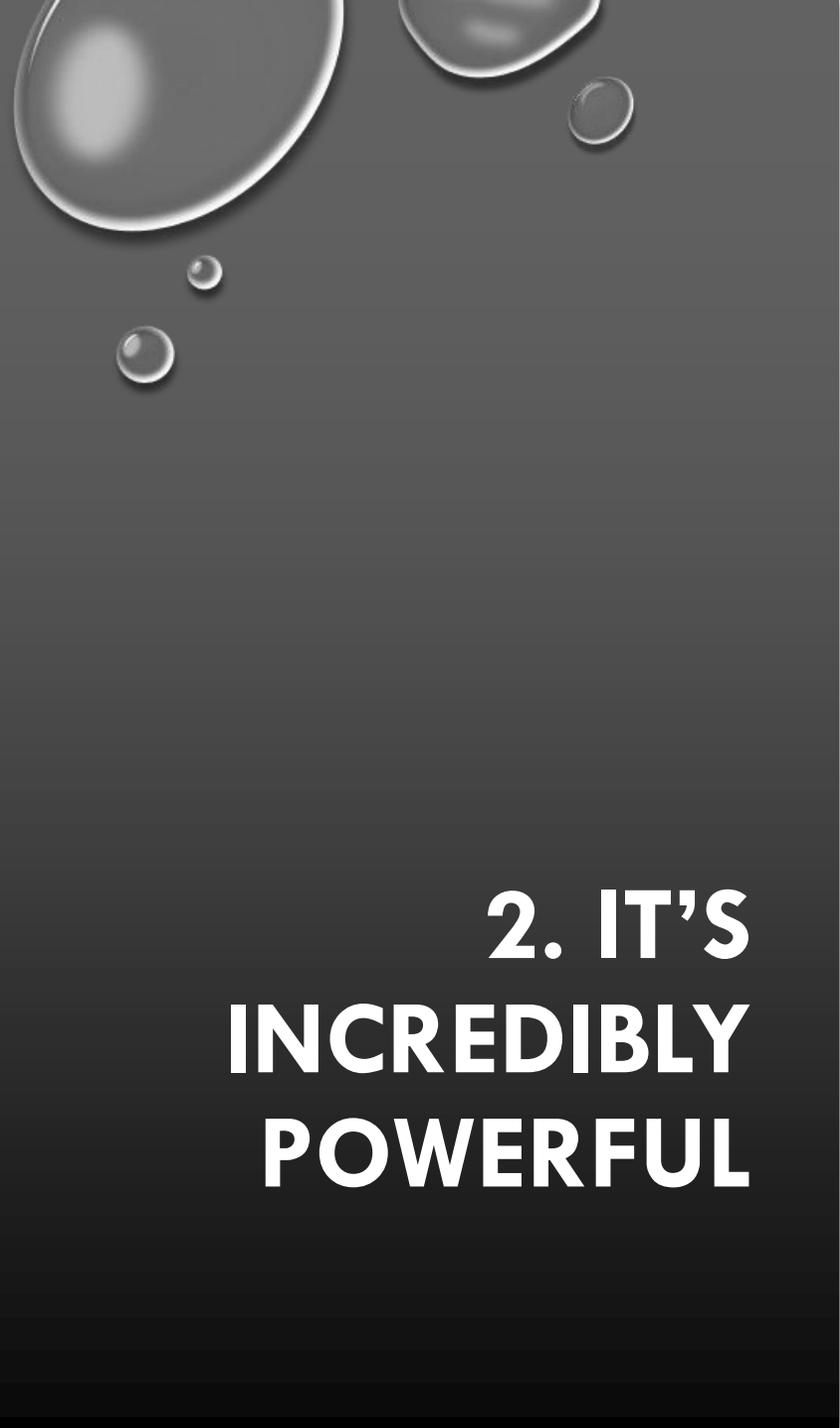


Not that you need to be aware of any of this - you just sign into the application using any web browser and it's available instantly.

2. IT'S INCREDIBLY POWERFUL

- THE REASON THE CLOUD HAS CAUGHT ON IN SUCH A BIG WAY IS THAT IT ALLOWS ORGANIZATIONS TO PROVIDE SOPHISTICATED APPLICATIONS THAT CAN BE USED BY LOTS OF PEOPLE AROUND THE WORLD ALL AT THE SAME TIME. AND WITH SOMEONE ELSE'S COMPUTERS DOING ALL THE HARD WORK, THE SPECIFICATION OF USERS' COMPUTERS BECOMES MUCH LESS IMPORTANT.





2. IT'S INCREDIBLY POWERFUL

- RUNNING AN APPLICATION LIKE MICROSOFT OFFICE, FOR EXAMPLE, NEEDS A POWERFUL PC WITH LOTS OF HARD DISK SPACE - SOMETHING NOT EVERYONE CAN AFFORD. THE CLOUD-BASED OFFICE SUITE GOOGLE DOCS, ON THE OTHER HAND, PROVIDES MUCH THE SAME FEATURES, EVEN ON VERY LOW-SPEC PCS.

2. IT'S INCREDIBLY POWERFUL

- THIS, TOGETHER WITH THE 'EVERYWHERE' NATURE OF THE CLOUD, ALSO MAKES APPLICATIONS MUCH MORE FLEXIBLE. IN THE PAST, DOCUMENTS AND APPLICATIONS WERE LOCKED ON ONE COMPUTER — UNLESS YOU CARRIED THEM AROUND (AND RISKED LOSING THEM) ON A FLOPPY DISK OR USB FLASH DRIVE.

2. IT'S INCREDIBLY POWERFUL



- NOW, CLOUD APPLICATIONS LET YOU ACCESS YOUR DOCUMENTS AND APPLICATIONS ANYWHERE WHERE'S THERE'S A COMPUTER WITH AN INTERNET CONNECTION. THAT MEANS YOU CAN USE THEM AT HOME, AT WORK, AT A FRIEND'S HOUSE AND EVEN ON YOUR SMARTPHONE.



3: NO-ONE OWNS THE CLOUD

- LIKE THE INTERNET, THE CLOUD ISN'T OWNED OR MANAGED BY ANY ONE ORGANIZATION - IT'S A COLLECTIVE TERM FOR A VARIETY OF APPLICATIONS OPERATED BY MANY DIFFERENT ONES.

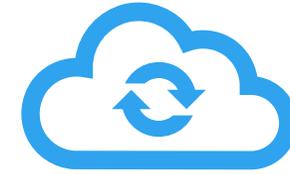
3: NO-ONE OWNS THE CLOUD

- OF THE DOMINANT FORCES, GOOGLE IS A MAJOR CLOUD PLAYER AS IS YOUTUBE FOR VIDEO SHARING. AMAZON AND MICROSOFT ARE ALSO MAJOR CLOUD COMPANIES, ALONG WITH A HOST OF OTHERS THAT OPERATE BEHIND THE SCENES TO MAKE CLOUD APPLICATIONS POSSIBLE. LOTS OF WELL-KNOWN APPLICATIONS ARE ALSO CLOUD-BASED.

4: MORE AND MORE APPLICATIONS ARE USING THE CLOUD



There are some genuine advantages to switching to the cloud.



Cloud file storage applications are a simple and effective way to keep your files safe and secure. By synchronizing ('syncing') automatically with one or more folders stored on your computer's hard drive, you always have a 'remote' cloud backup of your important files that you can access over any internet connection.

4: MORE AND MORE APPLICATIONS ARE USING THE CLOUD

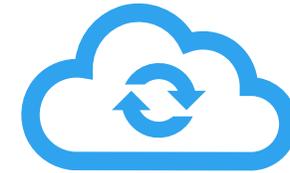
- RENTING OR BUYING VIDEO AND AUDIO FROM THE CLOUD ALSO MEANS YOU DON'T NEED TO STORE ANYTHING ON YOUR PC, SMARTPHONE OR TABLET - WHICH IS GREAT IF IT DOESN'T HAVE MUCH STORAGE SPACE. BETTER STILL, WATCH A VIDEO ON YOUTUBE AND YOU DON'T EVEN NEED TO WAIT FOR IT TO FINISH DOWNLOADING. INSTEAD, THE VIDEO 'STREAMS' FROM THE CLOUD TO YOUR COMPUTER STRAIGHT AWAY, SO YOU CAN ENJOY IT MORE OR LESS IMMEDIATELY.



5: THE CLOUD IS GENERALLY FREE



Many cloud applications are free (though you'll need an Internet connection to use them), but some require a paid subscription for a certain level of service.

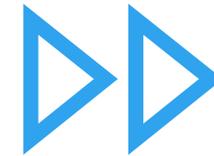


One attractive feature of many paid-for cloud applications is that payment is by monthly subscription, so you can pay for when you need access and stop when you don't. With a price tag of a few hundred dollars, for example, a boxed copy Adobe Photoshop was far too expensive most people. Photoshop CC (short for Creative Cloud), however, can be downloaded for nothing and used for a monthly fee, making it ideal for occasional home users.

6: THE CLOUD IS CONNECTED



All cloud applications need an Internet connection at some point, but not all require a constant connection - after all, mobile users can't stay connected at all times.



Some applications even offer an 'offline' mode for use anywhere, and you only need go online when you want to sync the files you've been working on back to the provider's cloud storage. Many don't depend on a fast internet connection, either - although your connection speed obviously affects how quickly you can download and upload files.

7: THE CLOUD USES DATA

- THE CLOUD DOES DEPEND ON DATA. THIS WILL SOON EAT INTO A HOME OR MOBILE BROADBAND TARIFF WHICH HAS A CAPPED DATA ALLOWANCE. THAT MEANS IF YOU ARE PLANNING TO USE CLOUD APPLICATIONS A LOT, SIGN UP FOR A BROADBAND TARIFF WITH UNLIMITED DATA.

8: THE CLOUD IS SECURE

- IN MANY WAYS, HOWEVER, STORING YOUR STUFF IN THE CLOUD IS EVEN MORE SECURE THAN KEEPING IT ON YOUR OWN COMPUTER. IF A COMPUTER IS STOLEN, FOR EXAMPLE, EVERYTHING STORED ON IT IS STOLEN TOO. WHEN THOSE FILES ARE ALSO STORED ON THE CLOUD, DOWNLOADING THEM TO A NEW COMPUTER IS SIMPLE.
- CLOUD APPLICATION PROVIDERS ALSO USE ENCRYPTION TO MAKE IT DIFFICULT FOR HACKERS TO GET AT.
- GOOGLE AND ITS BIGGEST RIVAL USE THIS APPROACH FOR PURCHASES FROM THE APP STORE. ALTHOUGH APPS, MUSIC AND MOVIES ARE STILL STORED ON YOUR SMARTPHONE OR TABLET, YOU CAN RESTORE EVERYTHING YOU'VE BOUGHT TO ANOTHER MOBILE DEVICE SIMPLY BY SIGNING IT INTO YOUR APP STORE ACCOUNT.



IS THE CLOUD SAFE?

- YES, YOUR DATA IS RELATIVELY **SAFE** IN THE **CLOUD**— LIKELY MUCH MORE SO THAN ON YOUR OWN HARD DRIVE. IN ADDITION, FILES ARE EASY TO ACCESS AND MAINTAIN. HOWEVER, **CLOUD** SERVICES ULTIMATELY PUT YOUR DATA IN THE HANDS OF OTHER PEOPLE. IF YOU'RE NOT PARTICULARLY CONCERNED ABOUT PRIVACY, THEN NO BIG WHOOP.

IS THE CLOUD FREE?

- THE **CLOUD** IS FULL OF **FREE** STORAGE, IF YOU KNOW WHERE TO LOOK. FROM BOX TO DROBOX, GOOGLE TO APPLE, THERE'S PLENTY OF **FREE** STORAGE TO BE HAD IN THE **CLOUD**. MANY COMPANIES USE **FREE CLOUD** STORAGE AS A WAY TO ENTICE USERS INTO THEIR **CLOUDS** IN HOPES THAT THEY WILL PAY MORE FOR ADDITIONAL STORAGE

DO YOU HAVE TO PAY TO USE THE CLOUD?



The **cloud** is generally free



Many **cloud** applications are free (though **you'll need** an Internet connection to **use** them), but some require a **paid** subscription for a certain level of service.

CLOUD STORAGE FOR BEGINNERS



OneDrive
5 GB



iCloud
5 GB



Google Drive
15GB



Dropbox
2 GB



IS GOOGLE DRIVE A CLOUD?

- **GOOGLE DRIVE IS A CLOUD STORAGE SERVICE, AND LIKE ANY CLOUD STORAGE SERVICE ITS MAIN PURPOSE IS TO EXPAND YOUR ABILITY TO STORE FILES BEYOND THE LIMITS OF YOUR HARD DRIVE.**



WHO OWNS THE CLOUD?

- THE **CLOUD** IS SIMPLY A COLLECTION OF SERVERS HOUSED IN MASSIVE, ACRE-FILLING COMPLEXES AND **OWNED** BY SOME OF THE WORLD'S LARGEST CORPORATIONS. THIS ESSENTIALLY MEANS THAT OUR DATA SITS ON COMPUTERS WE DON'T HAVE ACCESS TO. MICROSOFT, AMAZON AND APPLE HAVE ALL INVESTED HUGE SUMS IN CREATING HOMES FOR OUR PERSONAL DATA.

SHOULD I USE THE CLOUD?

- GET MORE SPACE FOR LESS MONEY. A FEE FOR UNLIMITED STORAGE IN THE **CLOUD** IS CHEAPER THAN BUYING AND MAINTAINING LOTS OF HARD DRIVE STORAGE SPACE. PEOPLE STILL BUY HARD DRIVES TO MULTIPLE LEVELS OF STORAGE IN THEIR HOMES AND OFFICES. BUT ANY PHYSICAL DEVICE YOU CAN DROP BECAUSE OF DIFFERENT REASONS.

