The Cloud

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Are you in The Cloud?

YES!

How can I be so sure?

- You use email
- You shop and/or bank online
- You Web surf for news, entertainment & information
- You access and view videos, YouTube, movies
- You stream music
- You participate in social media
- You use audio / visual communication services

How can I be so sure?

- You store your files online (limited device storage)
- You use online applications
- You back up your files online
- You collaborate with others online (work; other)
- You game play online
- And many more some you don't even know about

So what is The Cloud and how did it get started?

- Cloud computing = shared resources to optimize performance
- Began in the 1950's with dumb terminals & mainframes
- Originally wired; then added wireless (Wi-Fi, cellular, etc.)
- Began in business & academia; then homes, now everywhere
- Internet of Things (IoT); artificial intelligence
- Some aspects cost money; others are "free"
- But with all these advances, are there any risks?

Chicago man says he hacked celebrities

'Computer nerd' to plead guilty to swiping nude photos in Celebgate (Chicago Tribune; 8/31/16)

(This was a 2014 Apple iCloud hack, which also involved email accounts)



Top 10 breaches

^{myspace} 359,420,698 MySpace accounts 164,611,595 LinkedIn accounts in 152,445,165 Adobe accounts A bod⊙o 112,005,531 Badoo accounts 👱 🔞 VK 93,338,602 VK accounts ** 68,648,009 Dropbox accounts tumblr: 65,469,298 tumblr accounts 49,467,477 iMesh accounts iMesh 40,767,652 Fling accounts 👱 Fling.... 30,811,934 Ashley Madison accounts 👱 👱 Sensitive breach, not publicly searchable O Unverified breach, may be fabricated

So what are the risks?

- Your information may be stolen during transmission
- Your information may be stolen from Cloud servers
- Those with whom you interact may sell your data
- Your files may be lost if the provider goes out of business
- Ownership of stored information may not be clear
- Back-up copies may not be deleted when you delete a file
- Government agencies may access your information

Given the risks, should I simply avoid or abandon The Cloud?

Answer: It would be very difficult to do

Besides.....

Consider this:

In 2010, there were an estimated **5,419,000** crashes (**30,296** fatal crashes), killing **32,999** and injuring **2,239,000**. The **32,479** traffic fatalities in 2011 were the lowest in 62 years (1949). Records indicate that there has been a total of **3,613,732** motor vehicle fatalities in the United States from **1899** to 2013. (Wikipedia)

Yet we still drive, despite distracted drivers. Why?

- We must go to some other location
- Speed
- Convenience (timeliness, comfort, companionship)

And so we drive – but we take precautions. We buy safe cars. We maintain our cars. We wear seat belts. We practice defensive driving. We avoid night driving because of visibility & drunks. And, we hope for the best.....

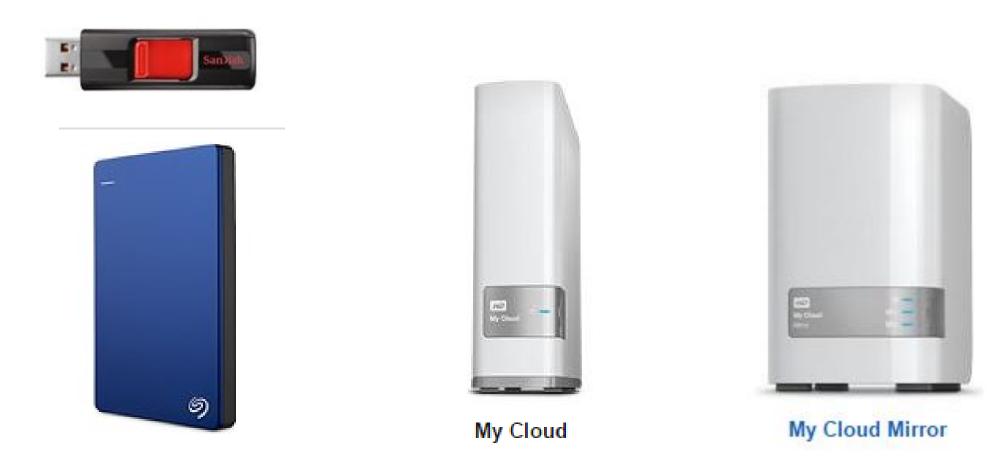
What other risks do we take every day?

- Eating
- Drinking
- Breathing
- Seeking medical care
- Investing
- Believing politicians
- Buying things for children / grandchildren
- Coming in contact with other people

What's the point?

- Life is based on a certain amount of trust
- Life also carries risks
- Common sense calls for enjoying life, with some caution
- The same idea applies to cloud computing
- Take stock of how we interface with the world through our devices & identify specific areas of possible concern
- Research, select and implement countermeasures starting with the highest priority and going from there

Create our own server



Other Options

- Unique passwords & user names; change frequently
- Use one-time credit cards (BofA ShopSafe)
- Implement two-factor authentication for login
- Research your providers; change where appropriate
- Consider an email client vs. webmail
- Encrypt everything phone, email, browser, hard drive
- Utilize a VPN (Virtual Private Network)
- Use Duck Duck Go as your search provider
- Use Ghostery / Disconnect to offset tracking cookies

Conclusion

- Search the Web / media for information about this topic
- One search will often provide useful link(s) to a new site
- Share information / new risks / countermeasures
- Ask yourself why you are
- Is this needed / beneficial or not?
- Is there a better way to accomplish the task?
- Seek a reasonable balance between paranoia & benefit