



# Backing Up Your Data



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# Your Presenter



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- IT professional for almost 40 years
- No affiliation with any product

# What We'll Talk About

- Why do we need backups?
- Backup techniques



# The Problem

- All hard drives eventually fail
- Test performed by BackBlaze.com:
  - Data center with 41,213 hard drives
  - Some drives had a 26% failure rate



<https://www.backblaze.com/blog/best-hard-drive/>

# Other Ways to Lose Your Data

- Computer failure
- Accidental deletion
- Computer loss or theft (especially laptops)
- Fire or flood
- Malware





# Ransomware



**Your computer has been locked due to suspicion of illegal content downloading and distribution.**

Mentioned illegal content (414 Mb of video files) was automatically classified as child pornographic materials. Such actions, in whole or in part, violate following U.S. Federal Laws:

18 U.S.C. § 2251- Sexual Exploitation of Children (Production of child pornography)

18 U.S.C. § 2252- Certain activities relating to material involving the sexual exploitation of minors (Possession, distribution and receipt of child pornography)

18 U.S.C. § 2252A- certain activities relating to material constituting or containing child pornography

**Any individual who violates, or attempts to violate, or conspires to violate mentioned laws shall be sentenced to a mandatory term of imprisonment from 4 to 30 years and shall be fined up to \$250,000.**

Technical details:

Involved IP address: [REDACTED]

Involved host name: [REDACTED]

Source or intermediary sites: <http://pornerbros.com>

All suspicious files from your computer were transmitted to a special server and shall be used as evidences. Don't try to corrupt any data or unblock your account in an unauthorized way.

Your case can be classified as occasional/unmotivated, according to title 17 (U.S. Code) § 512. Thus it may be closed without prosecution. Your computer will be unblocked automatically.

In order to resolve the situation in an above-mentioned way you should pay a fine of \$300.

\$300

## Your computer has been locked!

HOW TO UNLOCK YOUR COMPUTER:

-  Take your cash to one of this retail locations:  
  
-  Get a MoneyPak and purchase it with cash at the register
-  Come back and enter your MoneyPak code to unlock your computer (5 attempts available)  
Code:    

1	2	3
4	5	6
7	8	9
Delete	0	Enter

Permanent lock on 05/01/2013 5:20 p.m. EST

# What If You Lost All Your Data?

- Documents
- Photos
- Videos
- Letters
- Spreadsheets
- Financial documents



# You Might Get Lucky #1

If the computer has failed but the hard drive is OK:

- A friend or computer shop can probably fish data off the hard drive
- Cost: \$0 - couple hundred





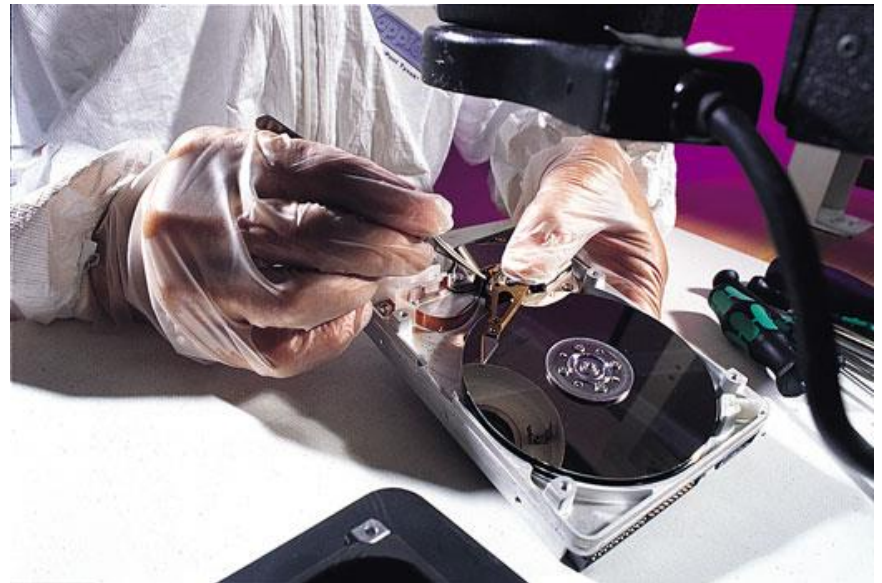


Recover data from hard drive

## You Might Get Lucky #2 (Sort of)

Even if the hard drive has failed:

- A data recovery service may be able to recover some or all of your data
- Very specialized work
- Very expensive



# Sometimes Your Luck Runs Out



# What Is a Backup?

- Backup: a copy of your data
- Ongoing process
- Most people don't make backups
- Nothing else will do



# The Chain of Events

1. You back up your data regularly
2. Something bad happens
3. You fix the underlying problem
4. You ***restore*** your data
5. Rinse and repeat



# The Ideal Backup

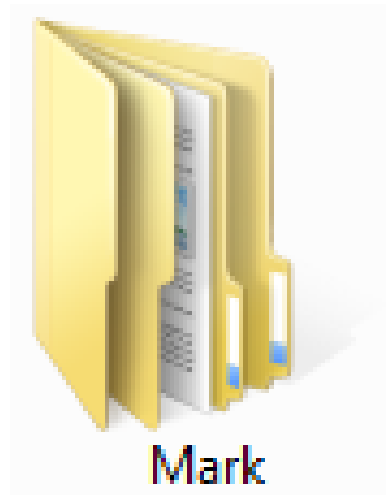
- Convenient
- Reliable
- Secure





# Make It Simple

- Keep your data together



# Backup Strategy #1

**Flash Drive or External Hard Drive**

# Copy Files to a Flash Drive or Ext. Hard Drive

- Make sure all important files are copied to an flash drive or external hard drive
- Easiest with synchronization software



## Synchronization Software: SyncBack Free

- Looks for new/changed files and copies to flash drive or hard drive
- Only copies files that are new or different



<http://www.2brightsparks.com/download-syncbackfree.html>



Backup to Ext. Hard Drive

## A Few Points

- Have ***at least*** two flash drives/hard drives and alternate between them
- Store external drives a physically apart from your computer as possible
- Be sure to schedule your backups





# Advantages / Disadvantages

## Advantages to Flash Drive/Ext Hard Drive

- Fast
- Easy

## Disadvantages to Flash Drive/Ext Hard Drive

- Susceptible to fire/flood



# Backup Strategy #2

## **Online Backup Service**

# Online Backup Services

- Software on your PC watches for files to change
- Changed files are copied to backup service over the Internet
- All data is encrypted






# Free Online Backup Services

- You may be able to use a free service if you have a very small amount of data (less than 8 GB)



# Cloud Backup Providers

Service	Data Amount	Cost per Year
 IDrive®	5 GB	Free
 bitcasa	5 GB	Free
 CYPHERTITE	8 GB	Free




# Paid Cloud Backup Services

- Enables you to back up huge amounts of data
- Most have plans for multiple computers





# Paid Cloud Backup Services

Service	Data Amount	Cost per Year
 <b>CARBONITE</b> <sup>™</sup> <b>ONLINE BACKUP</b>	Unlimited	\$60
 <b>BACKBLAZE</b>	Unlimited	\$50
 <b>CRASHPLAN</b>	Unlimited	\$60
<b>BACKUPLIZARD</b>	Unlimited	\$36
<i><b>A</b>Drive<sup>™</sup></i>	100 GB	\$25

# Status Email - Example

- CrashPlan Backup Report



Code42

Today at 6:35 AM

To me



CODE42

Support

Reporting period: February 11, 2015 - February 18, 2015

## Backup Status Report

Source → Target	Selected	Files	Backed Up %	Last Completed	Last Activity
LAKEMARY → CrashPlan Central	151.9GB t874.3MB	87k t197	100.0%	3.6 hrs	3.6 hrs

This is a message from Code42.

1 Main St SE, #400, Minneapolis, MN 55414 USA

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# Advantages / Disadvantages

## Advantages to Online Backups

- Very easy: Set it and forget it
- Immune to fire/flood
- Versioning

## Disadvantages to Online Backups


- Ongoing cost
- Initial backup can take days



## Backup Strategy #3

### **Internet Backup with a Friend**

# Internet Backup with a Friend

- Free service with  CRASHPLAN
- You and a friend back up to each others' computers
- Each computer must have enough disk space for all files
- Computers should be on most of the time
- Files are encrypted on other person's PC



# Advantages / Disadvantages

## Advantages to Internet Backup with a Friend

- Very easy: Set it and forget it
- Immune to fire/flood
- Versioning
- Free!

## Disadvantages to Internet Backup with a Friend


- Disk storage
- Computers should be on most of the time



# Final Advice

JUST DO IT.





Presentation and notes at:  
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