

# Back Up and Recovery



Sue Kayton  
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We had a fireproof safe



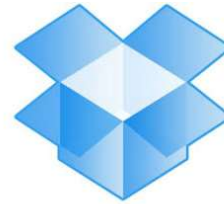
## Where to back up

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- On site (in house or office)
- Off site (in safe deposit box, neighbor)
- Cloud



Google Drive



**Dropbox**

## Cloud storage

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**Dropbox**



Google Drive



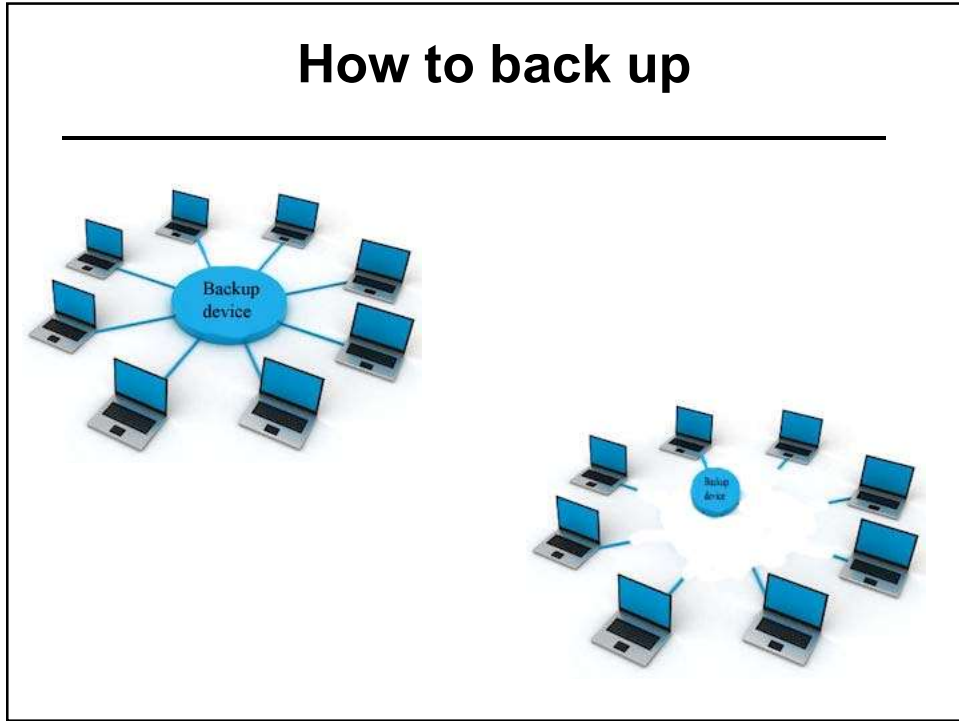
**iCloud**



SkyDrive®

## How to back up

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## Back up hardware

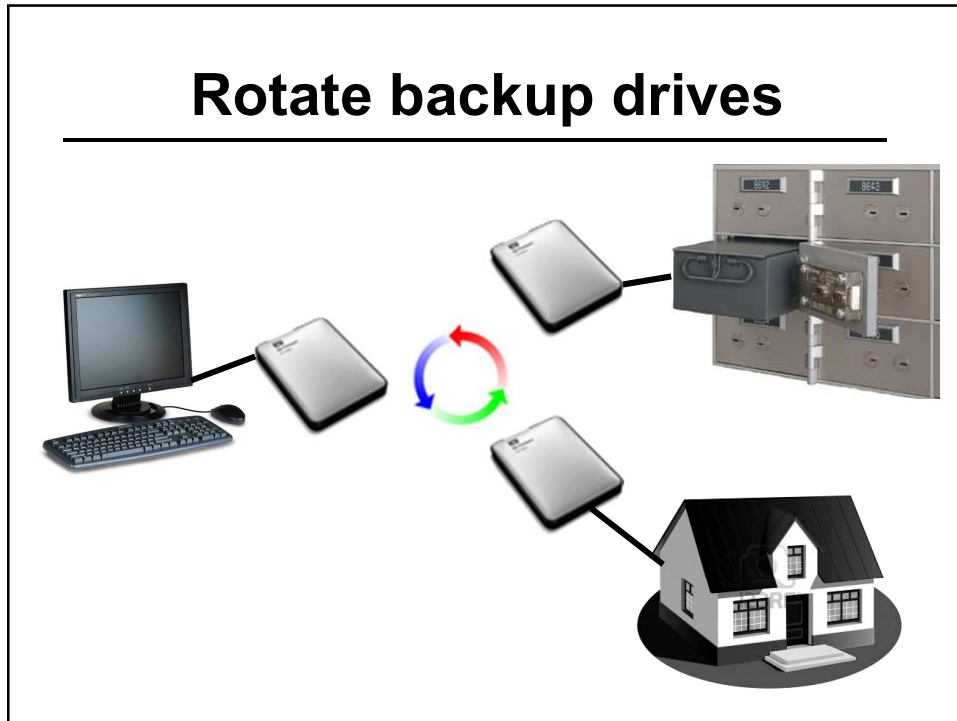
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- USB keychain drive
- External portable hard drive
- External hard drive
- Network attached storage (NAS)
- Windows desktop or server



## Rotate backup drives

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## RAID or NAS devices

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- Redundant Array of Inexpensive Disks (RAID)
- Network Attached Storage (NAS) device
- Multiple hard drives protect against single disk failure
- Complex to install
- Requires software on client computers
- **Data will be permanently lost** if enclosure fails
- Enclosure failures are common
- Keep another copy of all data on NAS



## NAS vs. external hard drive

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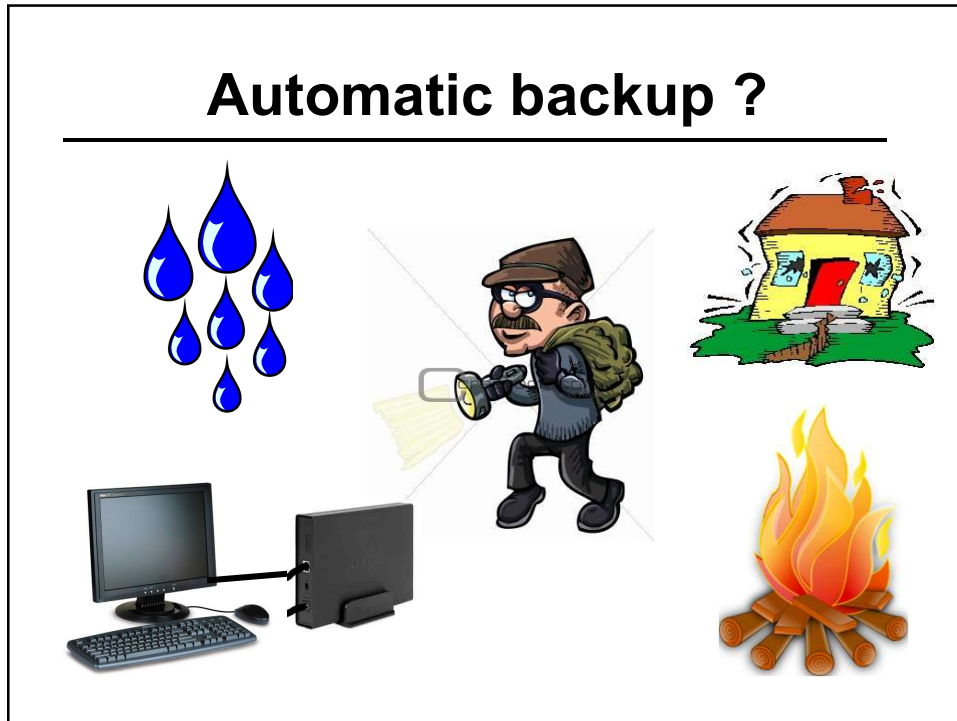
## How often to back up

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- System back up once or twice a year, or when you install a major software package
- Complete data back up once a month for home users, typically once a week for business.
- Daily or hourly backup of active files for business
- Continuous real-time cloud back up (i.e. Dropbox) for critical data

## Automatic backup ?

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## Back up desktops and laptops

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### Data backup

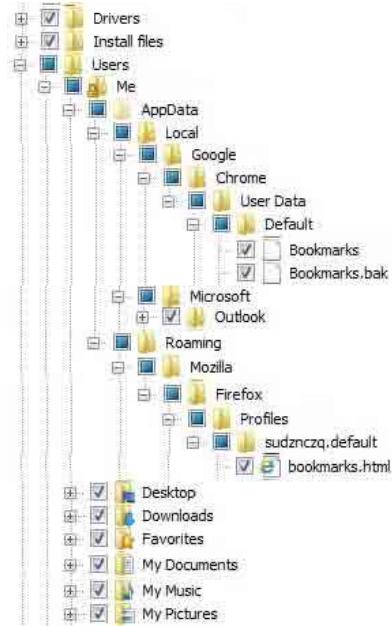
- Documents, favorites, bookmarks, pictures, downloads, installers, Outlook, QuickBooks
- GFI Backup software

### System backup

- Windows image backup (all or nothing)
- Acronis image backup (flexible)



Back up data,  
bookmarks,  
favorites,  
pictures,  
music,  
installers, etc.



## Outlook, Quicken, and QuickBooks

- These files can get too big to back up or open reliably
- Archive or delete older items
- Empty Deleted Items folder
- Compact or purge Outlook once a month





## Passwords and usernames

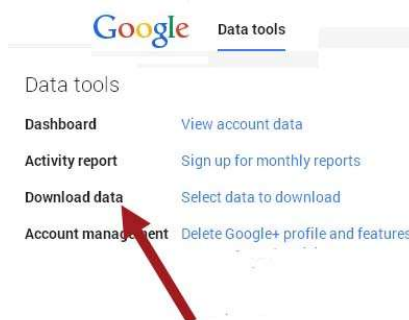
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- Make a list of all usernames and passwords
  - Computer login
  - Email
  - Wireless network
  - Online accounts
- Key employees or family members should have copy of list
- Put copy in safe deposit box

## Other things to back up

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- Webmail (Gmail)
- Gmail calendar
- Gmail Contacts
- Cell phone photos, apps and files
- Data on tablets and laptops





## System recovery options

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- Roll back to factory as-shipped condition
  - Need recovery DVDs or flash drive
- Restore to Windows or Acronis system image
  - Need Windows or Acronis boot/repair disk
- Roll back Windows system files
  - Seldom succeeds
- Clean install of Windows or Mac OS
  - Need all your install disks and install files

## Data recovery

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- Recover data from last full data backup
- Incremental data backup for files changed since last data backup
- Super simple if all data is in the cloud.

## Disaster recovery – without a backup

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- Sometimes you get lucky and can recover data for less than \$200
- Sometimes you need a clean room and \$1,000+ to recover data
- Sometimes data cannot be recovered at any price

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