BACKING UP YOUR COMPUTER

PRESENTED BY SAM STAHL

CLASS OBJECTIVES

- Learn how to store your computer's content safely in case of catastrophic failure.

- Explore back up options for both Microsoft and Apple computers.

- Examine both online and offline methods of backup

WHAT DOES "BACKING UP" MEAN?

- In relation to Information Technology, "backing up" is the process of copying an archiving computer data. A backup is used to recover lost data or recover data from an earlier time.

- Typically two main types of backups: file backups and system backups.

- File Backups: A backup of individual, or groups of, files (such as documents, pictures, and movies). File backups do not consume as much space as system backups.

- System Backups: A backup of the entire operating system (including programs, files and settings). System backups can take up tens to hundreds of gigabytes of space.

HOW DOES MY COMPUTER STORE MY DATA

SOLID STATE DRIVES (SSD)

M.2 SOLID STATE DRIVE

EXTERNAL HARD DRIVE

OTHER EXTERNAL STORAGE MEDIA

- USB Flash Drive (often called usb stick, flash drive or thumb drive)

- SD Card (Secure Digital Card)

WHY IS BACKING UP IMPORTANT

- If a HDD or SSD breaks, all the data inside is lost.

- An HDD or SSD can also become corrupted. Recovering data from a corrupted drive is a very complex and often expensive process. There is also zero guarantee that any data will be recovered.

- If a computer stops functioning (due to hardware or software problems) it can be difficult to retrieve data from the hard drive.

MICROSOFT WINDOWS AND APPLE MAC OS

OFFLINE VS ONLINE

- OFFLINE BACKUP: The process of backing up data to a physical hard drive or storage device (Including hard drives, USB flash drives & SD cards).

- ONLINE BACKUP: The process of backing up data to a cloud storage (remote) location. Typically using a backup service.

OFFLINE BACKUP

- Requires an additional hard drive.

- Can be done manually or scheduled to run at set times.

- Keeps data local (not stored in the cloud).

- Can be done using built-in Microsoft or Apple backup programs or using purchasable backup software.

- It is free after the initial purchase of a hard drive or other backup device

BACKING UP IN WINDOWS 7 & 10

- Microsoft Windows offers a built in tool to backup your data. Users can select a connected hard drive, and schedule or run backups.

- Windows 7: Control Panel > System and Security > Backup and Restore > Set up backup

- Windows 10: Settings > Update & Security > Backup > Add a drive

Back up using File History

Back up your files to another drive and restore them if the originals are lost, damaged, or deleted.

Find a setting

Update & security

Windows Update

Windows Defender

Backup

Recovery

Activation

For developers

+ Add a drive

More options

Looking for an older backup?

If you created a backup using the Windows 7 Backup and Restore tool, it'll still work in Windows 10.

Go to Backup and Restore (Windows 7)

Control Panel › System and Security › Backup and Restore (Windows 7)

Search Control Panel

Control Panel Home

Create a system image

Create a system repair disc

Back up or restore your files

Backup

Windows Backup has not been set up.   Set up backup

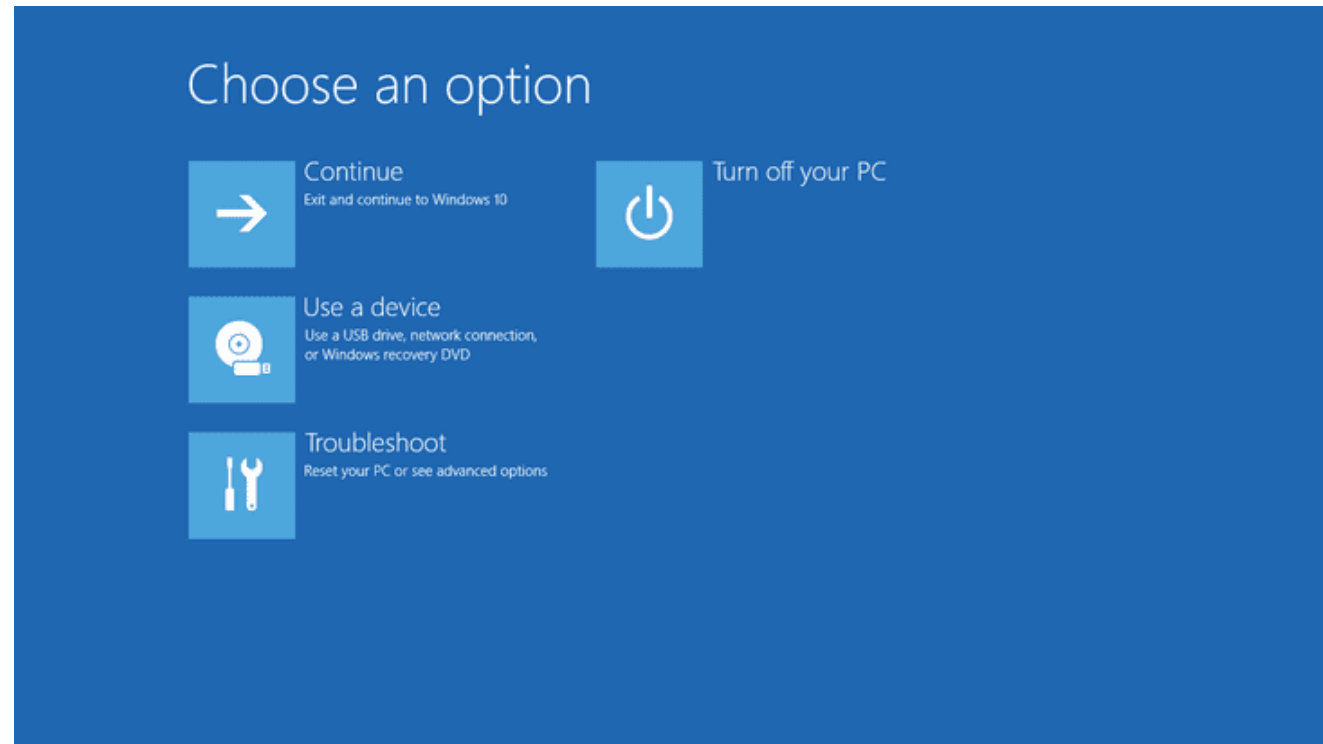### Restore

Windows could not find a backup for this computer.

Select another backup to restore files from

See also

Security and Maintenance

File History

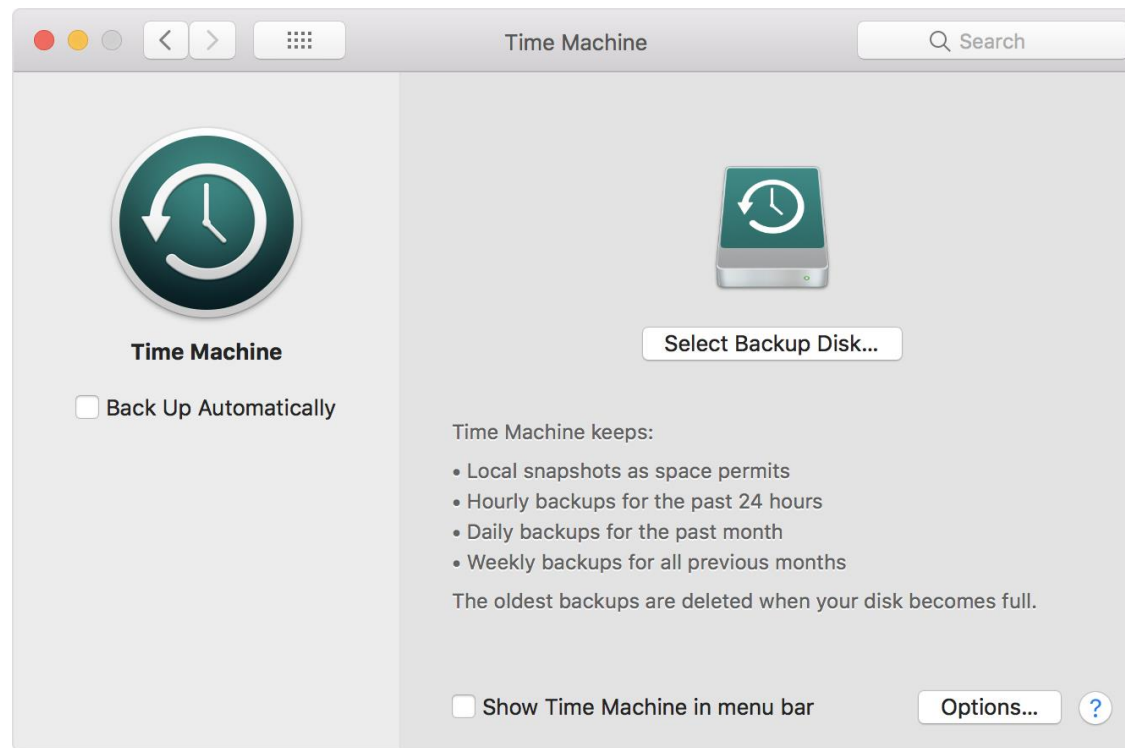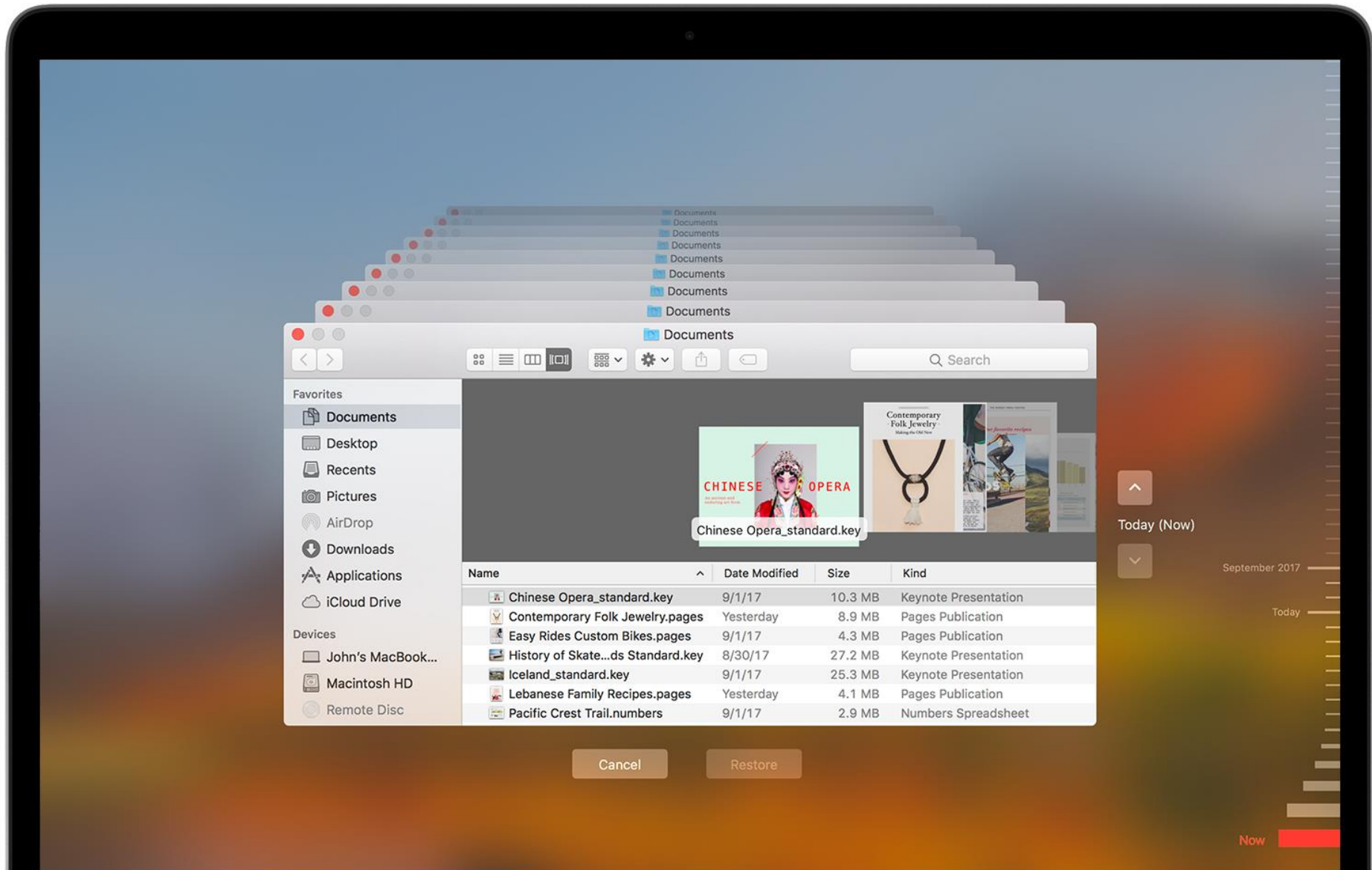# BOOTING TO RECOVERY: SHIFT + RESTART

WINDOWS OS - TIPS

- Create a system repair disk USB

- Utilize OneDrive for important documents

- File Backups are much easier to deal with than system images (but it may be worth making a system image)

BACKING UP IN APPLE MAC OS

- Mac OS computers offer a built-in backup program called "Time Machine".

- System Preferences > Time Machine

- Mac also offers a device called the Airport Time Capsule. It is a hard drive device that connects wirelessly to your computer to backup your data. (Requires Wi-Fi)

Time Machine

Q Search

Time Machine

☐ Back Up Automatically

Select Backup Disk...

Time Machine keeps:

- Local snapshots as space permits
- Hourly backups for the past 24 hours
- Daily backups for the past month
- Weekly backups for all previous months

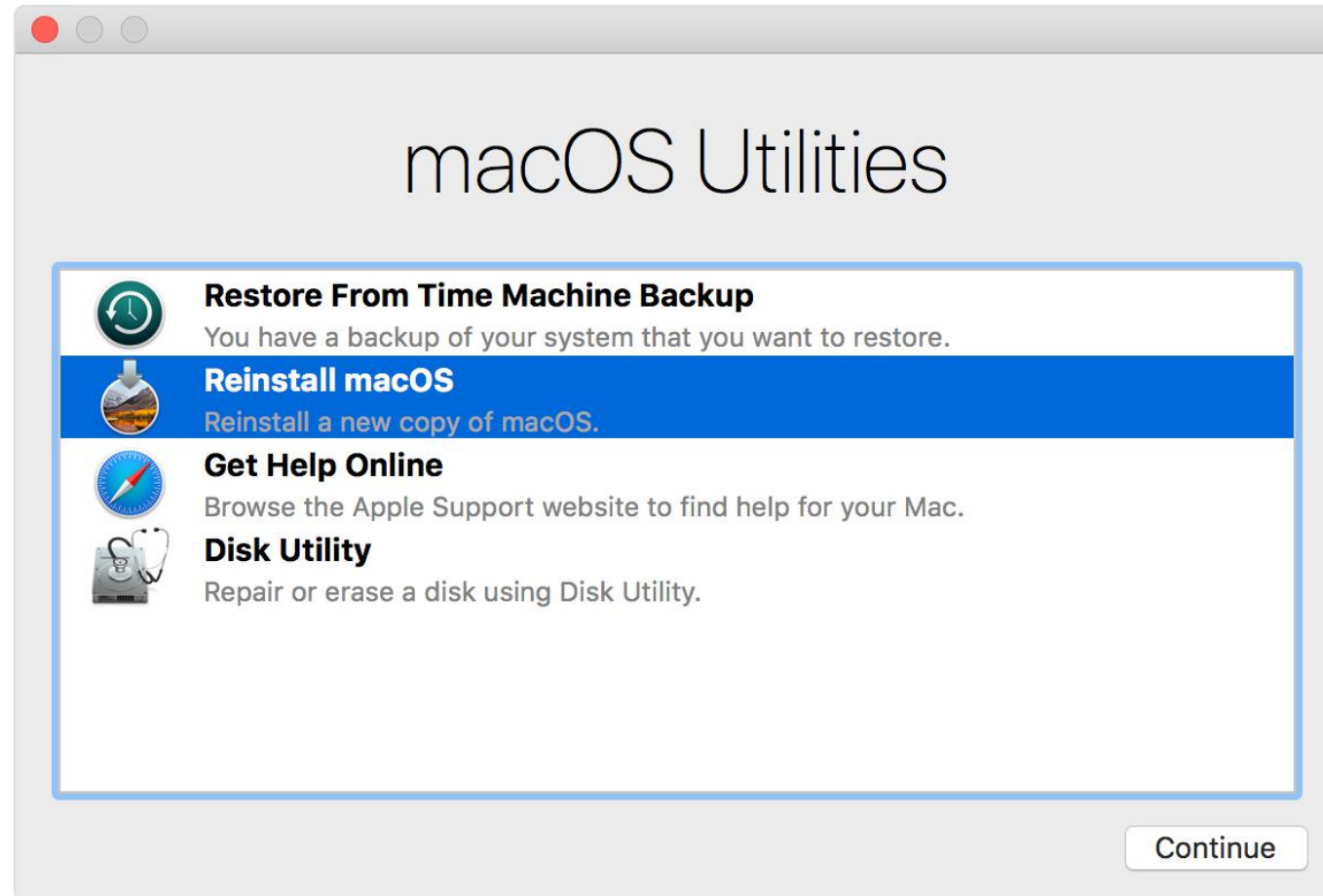The oldest backups are deleted when your disk becomes full.

☐ Show Time Machine in menu bar

Options...   ?

BOOTING TO RECOVERY: COMMAND+R

MAC OS - TIPS

- Keep a record of the apple ID and password you use for your computer (and was used when you first purchased the computer)

- Setting up Time Machine is the longest part. Every backup after the first takes a lot less time

ONLINE BACKUP

- Requires and internet connection.

- Can be done manually or scheduled to run at set times.

- Data is stored in a remote location

- Multiple options and services available

- Typically requires a paid subscription to a cloud backup service

ONLINE BACKUP

- To begin, users must choose an online backup service. These are paid services that typically range from $5.99 to upwards of $55.99 per month depending on the amount of space and type of service you choose.

- If you cancel your service, you usually have roughly a month to retrieve your data. After that it is deleted from the service.

CLOUD STORAGE

- Not technically a backup option

- Requires an internet connection

- A great way to manage data for users who utilize public machines or don't desire to work with their own physical storage

GOOGLE DRIVE & DROPBOX

ONEDRIVE & ICLOUD

BACKING UP YOU PHONE

- iPhone – iPhone has an iCloud backup option available in the settings menu. Users are given 5GB of free storage with the option to upgrade for a fee.

- The iPhone can also be connected to a computer and backed up to the computer using iTunes.

- Android – Google Backup & Restore is a great utility for Android users. You can activate it by going into Settings > Accounts > Google Account

- Android can also be connected to a computer and backed up using SyncDroid or other similar applications.

RAID (REDUNDANT ARRAY OF INDEPENDENT DISKS)

- RAID links together multiple hard drives. There are multiple "levels" of RAID that link together hard drives in different ways.

- The most common is RAID 1

- RAID 1 creates an exact copy (or mirror) of data onto two or more drives. If one drive breaks, the other still contains the exact same data.

LINKS TO BACKUP INSTRUCTIONS

- Mac OS: https://support.apple.com/en-us/HT201250

- Windows 7: https://support.microsoft.com/en-us/help/17127/windows-back-up-restore

- Windows 10: https://support.microsoft.com/en-us/help/17143/windows-10-back-up-your-files