Backed up or Messed up?

"By failing to prepare, you are preparing to fail"- Benjamin Franklin

<u>The infamous Microsoft Windows Blue Screen of Death</u>

Nothing can prepare you for that stomach turning moment when you realise that all your computer data has gone forever.

All your precious photos, important documents, videos etc.

Don't let it happen to you!

Recent cyber attacks have highlighted the importance of having a suitable backup and restore system in place.

IMPORTANT

Making a **backup** is arguably the **single most important thing a computer user can do**.

Failure to protect both your personal data **and** your Windows operating system from a multitude of threats can lead to a catastrophic loss.

A backup is a copy of your data/system, preferably saved to a location separate from your computer. Backups are **absolutely essential** in order to avoid either data/system loss, or major inconvenience plus the considerable cost of a salvage operation, which may not be wholly successful.

Without a suitable backup, it is not a matter of **IF** you are going to lose some or all of your data, it's simply a matter of **WHEN**.

Can you really afford to lose all your valuable **documents**, precious **family**

photos, **music**, **videos**, **non-original programs**, important **bookmarks/favourites**, **email addresses/contacts** etc?

Only you can put a value on this personal data.
A means of recovering your data, plus operating system and quickly restoring your computer to its previously functioning state is absolutely vital.

Questions and Answers

Q1. I feel that my computer is perfectly secure. My Windows Updates are current, as is all my security software. Are you not being unnecessarily alarmist? Why exactly do I need to do a backup?

A1. Because if you don't have a backup, you could well end up with:

BLANK

(i.e. precisely **NOTHING**, no personal data, no non-original programs and no operating system)!

Q2. Why is this?

A2. There are many different causes, including:

Hard drive/Solid State Drive or other component
failure.
Corruption due to malware (virus, trojan,
ransomware etc)
Liquid spillage.
Windows Update or other Microsoft system failure (e.g. Registry
corruption, Blue Screen of Death)
Accidental erasure of data/files/folders etc

Errors by one or more users, especially
visitors.
Fire or theft.

Burn, baby, burn

Q3. Okay, I don't mind backing up my Documents, Pictures and Music etc, but
is there really any need to backup my operating system (W7, W8, W8.1, W10)
as well? Isn't this just overkill, especially when Microsoft has its own built-in
Recovery systems such as **Reset**, **Refresh** and **System Restore**?

A3. Provided that you have previously created a **Restore Point**, you can
probably take your computer back to its last functioning state using **System
Restore,** but do note the ****important proviso** below:
https://www.howtogeek.com/howto/windows-vista/using-windows-vista-
system-
restore/

Reset (or **Push Button Reset**) is the "nuclear" option which returns the operating
system to a factory fresh state. **All** installed programs, personal files, settings are
lost!

Refresh returns your system to the state of the **last refresh image** made. It
performs the same function as **Reset** except it only leaves **some** of your
personal files, settings, and apps in place.

When you use the **Refresh Windows Tool** , all apps that do not come with the standard Windows 10 installation, including installed programs, OEM drivers & pre-installed software, will be removed. You will have to install your apps and reactivate Windows again.

This means that if you have installed **non- original** software, such as Adobe Photoshop or Office 2016 and you do **not** have the relevant media and product keys available for reinstallation, those programs will be lost!

**IMPORTANT PROVISO
(i) Please note that for one of the reasons given in **A2** above, it may **not** be possible to access your computer in order to carry out the **Restore/Refresh/Reset** function!This is a point that is overlooked by many people, much to their detriment. Do note that **System Restore** is **NOT** the same thing as a **Backup**!
Only a suitable backup can help you recover your system and data completely, regardless of the cause of computer failure.

(ii) If your computer fails and you have only backed up your **personal data**, you may need to **carry out a fresh Windows system installation** from scratch.

This assumes that you have the correct installation media available (and in some cases, the 25 digit Microsoft Product Key).
Doing a fresh installation of a Windows operating system is a very long-winded, time-consuming business and is definitely not recommended!

Q4. Okay, so how do I do a backup of both my personal data **and** my operating system?

A4. There are several ways. Here is one suggestion using:

(A) Data Backup (this should be the *absolute minimum* that is done)

AND

(B) Disk Image Backup

In any event you are going to need a **USB 3.0 external hard drive** (EHDD) *of sufficient capacity*, such as a WD Elements 1TB drive (£52) to act as a backup drive:
https://www.amazon.co.uk/WD-Elements-Portable-External-Drive/dp/B06VVS7S94

NB Cheaper options are **SanDisk Ultra** USB 3.0 flash drives in capacities up to 512GB:

A **32GB** costs **£7** and a **512GB** costs **£36**. (also 64GB, 128GB, 256GB)
https://www.amazon.co.uk/SanDisk-Ultra-USB-Flash-Drive/dp/B00DQG9OZ2

Do bear in mind that the Windows **system** on its own is about **40GB** in size without any of your photos, videos, documents etc! Also be aware that the drive must be big enough to accommodate several backups.

(A) Data Backup

You can simply **Copy & Paste** the *contents* of your various *Documents, Pictures folders into newly created folders (such as DOX, PIX etc) on the EHDD.
Later, when restoring, you can copy and paste the *contents* of DOX, PIX etc into the Documents, Pictures etc folders.

NB
* **(i)** If you have **Bookmarks** or **Favourites** in your web browser (Firefox, Google Chrome, Internet Explorer, Edge etc), you MUST first **export** them to an **.html file** (e.g. bookmarks14MAY2017.html) and then put this **.html file** inside the existing **Documents folder** BEFORE doing the backup to the EHDD.

Failure to do so means losing all your Bookmarks/Favourites!

Export/Import from Firefox:
http://www.wikihow.com/Export-Bookmarks-from-Firefox
Export/Import Google Chrome:
http://www.wikihow.com/Export-Bookmarks-from-Chrome

Export from Internet Explorer:
https://www.sevenforums.com/tutorials/86795-internet-explorer-import-export-favorites.html

Export from Edge (do NOT click on the red **Get this software** link at the bottom of the page. It is out of of date):

https://www.ilovefreesoftware.com/09/tutorial/export-microsoft-edge-favorites-html-file.html

Instead, click on the green **Download** button to download the **Edge Manage** application:
http://www.emmet-gray.com/Articles/EdgeManage.html

* **(ii)** This also applies to your **email profile folder** if you have installed software like **Mozilla Thunderbird** as your email client.
You will need to use Google to find the correct procedure for dealing with your particular email client.

Those using **webmail** such as Gmail, Hotmail or Yahoo etc, which is accessed via a web browser, can ignore this.

(B) Disk Image Backup

Download the **Rescuezilla** ISO image and burn this to a USB drive using balenaEtcher or similar:
https://etcher.balena.io/

NB This step will completely erase any data on the USB drive. Subsequently, no other data must be added.
This Rescuezilla bootable drive will be used **exclusively** as the **Rescue Media**.

Download and Instructions:
https://rescuezilla.com/download

Create a **Backup** Disk Image:
https://rescuezilla.com/screenshots

Restore from a Disk Image Backup:
https://rescuezilla.com/screenshots

NB If the computer is unable to boot normally, then it is necessary to use the previously created Rescue Media first.

It is essential to **select the correct boot device** for either the **USB drive** or **DVD**, since it is quite likely that the computer is originally set to boot from the **hard drive**.

The **Boot Order Priority** must be changed or the **correct Boot Device selected** in order to allow the **Rescue Media** to be selected instead of the hard drive.

Boot Options (Boot Menu keys and BIOS keys) by Manufacturer:

After inserting the DVD or USB drive, start the computer. Then keep tapping the appropriate Boot Menu key such as F12.
Select the **USB hard drive**, NOT the main computer drive.

With the EHDD backup drive connected, follow the on screen instructions and select the appropriate **Disk Image**. Restore this **Disk Image** to your computer's main **C:** drive.

Q5. How often should I do backups?

A5. It is a matter of personal preference and the value of the data, but the **Data Backup** should always be carried out frequently to minimise the risk of loss.

IMPORTANT-Read this!
Even if you only use **Copy & Paste** ONCE to backup your personal data, you
will still have saved the vast majority of your Documents, Pictures etc.

In its most basic form, this means copying and pasting the contents of your Documents, Pictures folders etc to newly created folders, such as DOX, PIX on a USB external drive, or even a USB flash drive.

It all depends on the ***size** of your personal data (see below).

Examples of backup drives:

SanDisk Ultra 32 GB USB Flash Drive USB 3.0:

A **32GB** costs **£7** and a **512GB** costs **£36**. (64GB, 128GB, 256GB)
https://www.amazon.co.uk/SanDisk-Ultra-USB-Flash-Drive/dp/B00DQG9OZ2

If you need more than that then there is a 1TB (1000GB**) WD Elements** USB external drive at **£52**:
https://www.amazon.co.uk/WD-Elements-Portable-External-Drive/dp/B06VVS7S94?th=1

*To ascertain the **size** of your various folders for Documents, Pictures etc, click on the yellow icon for **File Explorer** at the bottom of the screen.

Alternatively, type **file explorer** in the **Search** box and you will see **File Explorer** displayed on the left hand side. Click on it.

There are folders for Desktop, Downloads, Documents, Pictures, Music and Videos.

Right click on a selected folder and then (left) click on **Properties**.

The result will be something like this, expressed in kilobytes (KB), megabytes (MB) or gigabytes (GB):

158KB or 24.2 MB or 5.93GB

(Just remember, in ascending order: **K**angaroos **M**unch **G**rass)

1000KB = 1MB
1000MB = 1GB
1000GB = 1TB (terabyte)

Make a note of the total size of your personal data and select an appropriate USB external drive or flash drive.