

Backed up or Messed up?

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



The infamous Microsoft Windows Blue Screen of Death

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

Don't let it happen to you!

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

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/favorites**, **email addresses/contacts** etc?

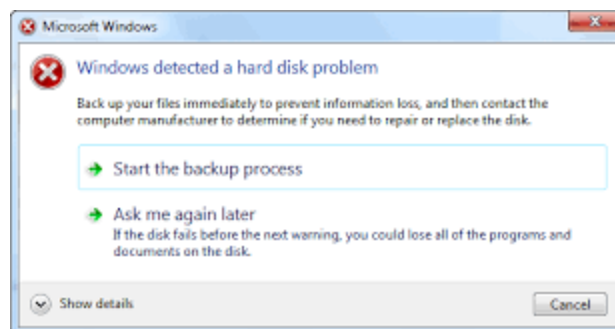
Only you can put a value on this personal data.

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

(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 2010 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.

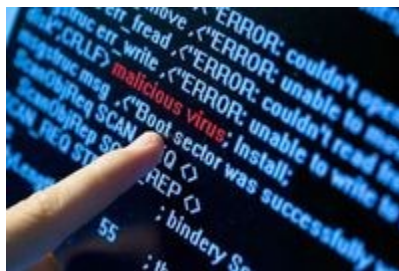
Do note that **System Restore** is **NOT** the same thing as a **Backup!**

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

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 one of these Toshiba Canvio 500GB or 1TB drives to act as a backup drive:



500GB at £38:

<https://www.amazon.co.uk/d/External-Devices-Data-Storage/Toshiba-HDTB305EK3AA-Canvio-Portable-External/B00KWHJT7Q>

1000GB at £48:

<https://www.amazon.co.uk/d/External-Devices-Data-Storage/Toshiba-HDTB305EK3AA-Canvio-Portable-External/B00KWHJY7Q?th=1>

Larger ones are available, but one of the above is usually more than adequate for most people.

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.

How much additional personal data do you need to backup?

In contrast to the above EHDDs, a 128GB USB flash drive at £40 is too small and also very poor value for money:

<https://www.amazon.co.uk/d/USB-Flash-Drives/Corsair-Voyager-Slider-Capless-Sliding-Flash-Drive/B00S89EMB8?th=1>

(A) Data Backup

(a) 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.

or

(b) use something like **Kaspersky Total (not Internet) Security 2017** which includes a **Backup & Restore** facility for 3, 5 or 10 devices:



https://www.amazon.co.uk/Kaspersky-Total-Security-2017-Devices/dp/B01LEI1LRM/ref=sr_1_2?s=software&ie=UTF8&qid=1494760361&sr=1-2&keywords=kaspersky+total+2017

NB

* **(i)** If you have **Bookmarks** or **Favorites** 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/Favorites!

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 date):

<http://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

1. Download and install **Macrium Reflect Free** (free software):



Click on **Home Use**:

<https://www.macrium.com/reflectfree>

2. Then follow this installation guide:

<http://www.intowindows.com/how-to-install-macrium-reflect/>

3. Create **Rescue Media** using a DVD (cheaper) or a small USB drive. Only 525MB of space is needed.

http://reflect.macrium.com//help/v5/How_to/Rescue/Create_a_Standard_Windows_PE_Rescue_Environment.htm

NB Any existing data on the USB drive will be deleted! Subsequently, no other data must be added. This drive must be used **exclusively** as the Rescue Media.

4. Create a **Disk Image**:

<http://knowledgebase.macrium.com/display/KNOW7/Creating+a+backup+image+of+your+computer%2C+drive+or+partitions>

5. **Restore from a Disk Image Backup**:

<http://knowledgebase.macrium.com/display/KNOW7/Restoring+a+system+image>

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.

The various procedures to do this for your particular computer are listed next under three different headings.

Boot Options by Manufacturer, Motherboard and BIOS:

<http://www.aomeitech.com/kb/boot-from-usb-rescue-disk.html>

After inserting the DVD or USB drive, start the computer. 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.

A full **Disk Image Backup** should be done initially.
This should be followed by regular full, differential or incremental backups, especially after installing **non-original** programs and major Windows updates. (The problem with W10 is that these updates are done automatically and users have no control over them).

Used *in conjunction with one another*, the two backup systems described above provide good security and peace of mind for the Windows computer user.

There is also the **Macrium Reflect 7 Home Edition** which includes **ReDeploy**, allowing **Restore** images to be made to dissimilar hardware.

This is invaluable in the case of, say, a failed motherboard or theft which necessitates the use of a replacement laptop containing different hardware.

The Home Edition also allows much smaller *incremental* backups, unlike the Macrium Reflect Free Edition which only does **full** and **differential** ones.

Macrium Reflect 7 Home Edition:
<https://www.macrium.com/products/home>

Macrium Reflect 7 Home Edition Licenses:

Single PC: **£47.95** (one-off payment)

The 4-Pack version includes 4 single PC licenses: **£95.95** (one-off payment).

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