Guideline to Back Up Your Computer And Important Files

What is backup?

To backup is to make spare copies of files and store them separately from the originals.

Why should you do it?

In the world of IT, loss of data can be devastating, and while there are possibilities for recovery of data after a disaster it is far easier to restore your files from backup than finding your data on a crashed hard drive. In fact, you can lose your data due to any one of the following:

(i) Invasion and virus attack;
(ii) Hardware malfunctioning;
(iii) Human error; or
(iv) Other unpredictable disasters, such as fire, flooding…etc.

Therefore, backup of important files is very important and can save a lot of hassle if ever one of the above happens.

Who should be responsible?

Due to various reasons such as privacy and security issues, the backup data in your computer should be your regular job. Other people may assist you but cannot guarantee that all your data has been backed up or not. Therefore, you should have your own plan to consider what, when and how to backup.

How often is the backup recommended?

The frequency of backup may depend on how often you use your PC and what you use it for. For average users, it will be enough to backup once a week. However, you can also choose to back up on-demand basis when there are important files added or changed.

What is the best backup storage?

There is no one-for-all backup storage. Best-fit backup storage depends on various factors: the importance of the data, the storage size required and your available tools and resources. In general, there are removable media or cloud storages to choose:

Backup media	Usual storage size	Recommended backup usage

Optical disk	4 GBytes to 8 GBytes	Storing more permanent data such as photo, data record…etc.
External flash thumb disk	As large as 2 Tera Bytes	Storing backup data of that may change quite often and the backup size is not very big.
USB external hard disk	Several Tera Bytes or more	Recommended for all general backup purposes especially for large backup size is required.
Cloud Storage	Size depends on the service subscription	Backup important files only as it is more expensive than external local disk storage types. Good features such as auto-sync and no physical media required

Backup using optical disks such as DVD disks is becoming rare due to their small storage size; however, an advantage of using optical disks is their price and their ease form of storage. In general, the optical disk can be categorized into two types depending on whether it is write-once (R) or re-writable (RW). If there is no data change after backup, write-once is recommended. However, if the data will alter from time to time, use a re-writable disk instead.

With the increasing popularity of USB flash disks, using it as a backup medium is common. The maximum size of a flash drive has increased dramatically; however, it is still relatively expensive to use it to back up a huge amount of data.

Using a USB external hard disk is one of the most popular backup media especially if it is requiring a terabyte of storage space. Currently, there are two choices hard disk, HDD (ordinary hard disk drive) and SSD (solid-state drive). Generally, HDD is chosen because of its price and its large storage size. Choose SSD to take its advantages in speed and performance.

If cloud storage is used as a backup medium, users can enjoy several advantages over other options. First, data stored in the cloud can be retrieved anywhere without actually carrying a physical medium. Also, file changes taking place in one device will be automatically synchronized to all other devices which are also connected to that cloud. However, when considering the cloud as storage, typical concerns are the price and network connection requirement.

How to protect the backup data?

Safeguarding sensitive backup data is very important and this usually employs encryption techniques. In the Windows system, it is recommended to use BitLocker. However, BitLocker is only suitable for disk-based encryption, while if it is required to have file-based encryption, other tools, such as VeraCrypt, may be needed.

Do you need to backup ALL your computer data?

The short answer is no. It is normally not necessary to back up the whole system, however, there are certain files you would like to back up. Here are some suggestions:

- Email mailboxes and contact list
- Internet browser bookmarks
- Files relating to your work (e.g. docx, pptx and xlsx files)

The file locations for the first two are basically static, and you can export them before backup. The following is the examples of how to back up your mailboxes in Outlook under Microsoft Windows System and bookmarks in Google Chrome:

Export Mailbox in Microsoft Outlook:

1) Open your Outlook and click on the File menu.
2) From the menu, click on “Open & Export” and then select “Import/Export”.
3) From the Import/Export Wizard window, select “Export to a file” from the “Choose an action to perform” box and then click “Next”.
4) In the “Export to a File” window, select “Outlook Data File (.pst)” in the “Create a file type” box and then click “Next”.
5) In the “Export Outlook Data File” window, select the mailbox folder(s) to be exported. Then click “Next”.
6) In the next window, the “Save exported file as” dialogue appears, select the location you want for the destination of the exported mailbox file and remember the location. This is where the mailbox file (pst) locates. Click “Finish” when you are ready to proceed.

Export Chrome Browser Bookmark:

1) Open your Chrome and click on the File menu.
2) At the top right, click and then click on Bookmarks
3) In the pulldown menu, click on “Bookmark manager”
4) Then click the icon  , and in the pulldown menu select “Export bookmarks”
5) Finally, choose a name and destination and click “Save”

After backup these files, copy them into your backup medium. To recover, just copy these files back into a system and import them back in similar fashions.

For easier backup of your work files, it is suggested to constantly save files in the same and one regular location such as under your “Documents” folder. Avoid saving files in too many different locations to prevent missing backing up any one of them.

Label your Backups

If using hardware media for backup, they should be labeled for future identification. Labelled with the backup date and kinds of file backed is one of the suggested methods.

Store your Backup Safely

Any physical backup up medium is reminded to store in a safe place. If the data is very important, ideally you should store it in another physical location, at a sufficient distance away from your computer to avoid any damage from a disaster (e.g. a fire or flood).

Backup Checklist

When you have devised your backup strategy run through the checklist below:

- Are all data adequately and systematically backed up?
- Are the backup data securely encrypted?
- Are there adequate records of what is backed up and to where?
- Are copies of the media and records stored remotely and safely?
- Can the new hardware read the backup media?