

# Guideline to Back Up Your Computer And Important Files

## **What is backup?**

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

## **Why should you do it?**

In the world of computers 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 loss 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 important files is a 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. A 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
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Optical disk	4 GBytes to 8 GBytes	Storing more permanent data such as photo, data record...etc.
External flash thumb disk	Upto 512 GBytes or more	Storing backup data of that may change quite often and the backup size is not very big.
USB external hard disk	Upto several Tera Bytes or more	Recommended for all general backup purposes especially for large backup size is required.
Cloud Storage	Size depends on 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 disk such as DVD disk is becoming rare due to its small in storage size; however, an advantage of using optical disks is its price and its ease form of storage. In general, optical disk can be categorized into two types depending on whether it is write-once (R) and 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 re-writable disk instead.

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

Using USB external hard disk is one of the most popular backup medium especially if it is requiring several hundreds to thousands gigabyte 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 using as a backup medium, users can enjoy several advantages over other options. First, data stored in cloud can be retrieved anywhere without actually carrying a physical medium. Also, files changes taken place in one device will be automatically synchronized to all other devices which are also connected to that cloud. However, when considering 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 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. doc, ppt and xls files)

The file locations for the first two are basically static, and you can export them before backup. The following is the examples on how to back up your mailboxes in Outlook and bookmarks in Internet Explorer:

Export Mailbox in Outlook (e.g. Office 2016):

- 1) Open your Outlook and click on the File menu.
- 2) From the pull down File Menu, click on the "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" dialog appears, select the location you want for the destination of the exported mailbox file and remember the location. This is where mailbox file (pst) locates. Click "Finish" when you are ready to proceed.

Export Internet Explorer (e.g. IE 11) Bookmark:

- 1) Open your IE and click on the File menu.
- 2) From the pull down File Menu, click on the "Import and export ..." item.
- 3) From the Import/Export Settings window, select "Export to a file" from the "Choose an action to perform" box and then click "Next".
- 4) In the "Import/Export Settings" window, choose "Favorites" box then select the Favorites folders and then click "Next".
- 5) After entering the file name to store the exported favorites, click "Export" to proceed the export process.

After exporting these files, copy the files 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 a same and one regular location such as under your "Documents" folder (C:\Users\\Documents). 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 method.

### **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?