

How backup sets are created and maintained

This article explains how Full, Incremental and Differential images and backups are saved to the target folder specified in your backup definition file. Also, which backup set is chosen when you run a Differential or Incremental.

For information on how to create Incremental or Differential backups please see here: [Differential and incremental disk images](#)

How do I specify the backup target folder?

For disk images this is specified in the first page of the backup wizard:

The screenshot shows the 'Disk Image' wizard window. The 'Source' section displays a GPT Disk 1 with five partitions: 1 - Windows RE tool (NTFS Primary, 290.9 MB / 360.0 MB), 2 - SYSTEM (None FAT32 (LBA) Primary, 25.4 MB / 200.0 MB), 3 - (None) Unformatted Primary (128.0 MB / 128.0 MB), 4 - Windows (C:) (NTFS Primary, 108.05 GB / 232.72 GB), and 5 - Recovery image (None NTFS Primary, 4.72 GB / 5.08 GB). All partitions are selected. The 'Destination' section has 'Folder' selected with the path '\\server\share\backups' entered in the text box. Below the text box is a link for 'Alternative locations'. There are also checkboxes for 'Use the Image ID as the file name. (Recommended)' and a 'Backup filename:' field containing '{IMAGEID}'. The resulting file path is '\\server\share\backups\{IMAGEID}-00-00.mimg'. At the bottom, there are buttons for '< Back', 'Next >', 'Cancel', and 'Finish', along with an 'Advanced Options' link.

Similarly, for File and Folder backups, this is also on the first page of the backup wizard.

What is a backup set?

Backups are grouped into '**Sets**'. A backup set contains first a **Full backup** and subsequent **linked incremental and differential backups**. This is sometimes referred to as a **Backup Chain**. You can see the links by looking at the default file name which is a unique backup set identifier, followed by a number pair:

Name	Date modified	Backup Method	Type
A7D5FDD036A7B90B-00-00.mrimg	30/01/2013 23:26	Full	Disk Partition image
8AFF20FD7F2BFD9C-00-00.mrimg	29/01/2013 23:26	Full	Disk Partition image
4F6F6CACA58B077D-04-04.mrimg	28/01/2013 23:27	Incremental	Disk Partition image
4F6F6CACA58B077D-03-03.mrimg	27/01/2013 23:27	Incremental	Disk Partition image
4F6F6CACA58B077D-02-02.mrimg	26/01/2013 23:27	Incremental	Disk Partition image
4F6F6CACA58B077D-01-01.mrimg	25/01/2013 23:26	Incremental	Disk Partition image
4F6F6CACA58B077D-00-00.mrimg	24/01/2013 23:26	Full	Disk Partition image

The above folder contents shows (marked in red) a single backup set {4F6F6CACA58B077D} which contains a full image and 4 increments. The end of the image file contains a number pair? 'xx-yy.mrimg'

- 'xx' is the increment number.
- 00 - Full image
- 01 - first incremental/differential
- 02 - Second incremental/differential

'yy' is the file number and is always sequential. 00, 01, 02, 03... . This will be different to the increment number only if files have been split. This can happen if files larger than 4GB are saved to a FAT32 file system or you are saving an image to multiple DVDs.

So the first file for a full image always ends with '00-00.mrimg'.

Note: The Image ID, file and increment numbers are also stored as data inside the files. **Renaming a file does not affect the integrity of the set, Macrium Reflects ability to append to the set, or restoration of the files.**

How is a set chosen when an Incremental or Differential backup is run?

Each backup set is grouped by similar backup types. This means that a single set will only consist of images of ***exactly the same partitions** or a File and Folder backups of **exactly the same selection criteria**.

***Note:** A change in partition layout will cause a new backup set to be created even if the drive letters are consistent. The partitions must have the same disk offset and length and must be from the same disk, i.e, the disk must have the same Disk ID.

e.g, If you run an Incremental image of **only drive 'C'** and the target folder contains 4 image files:

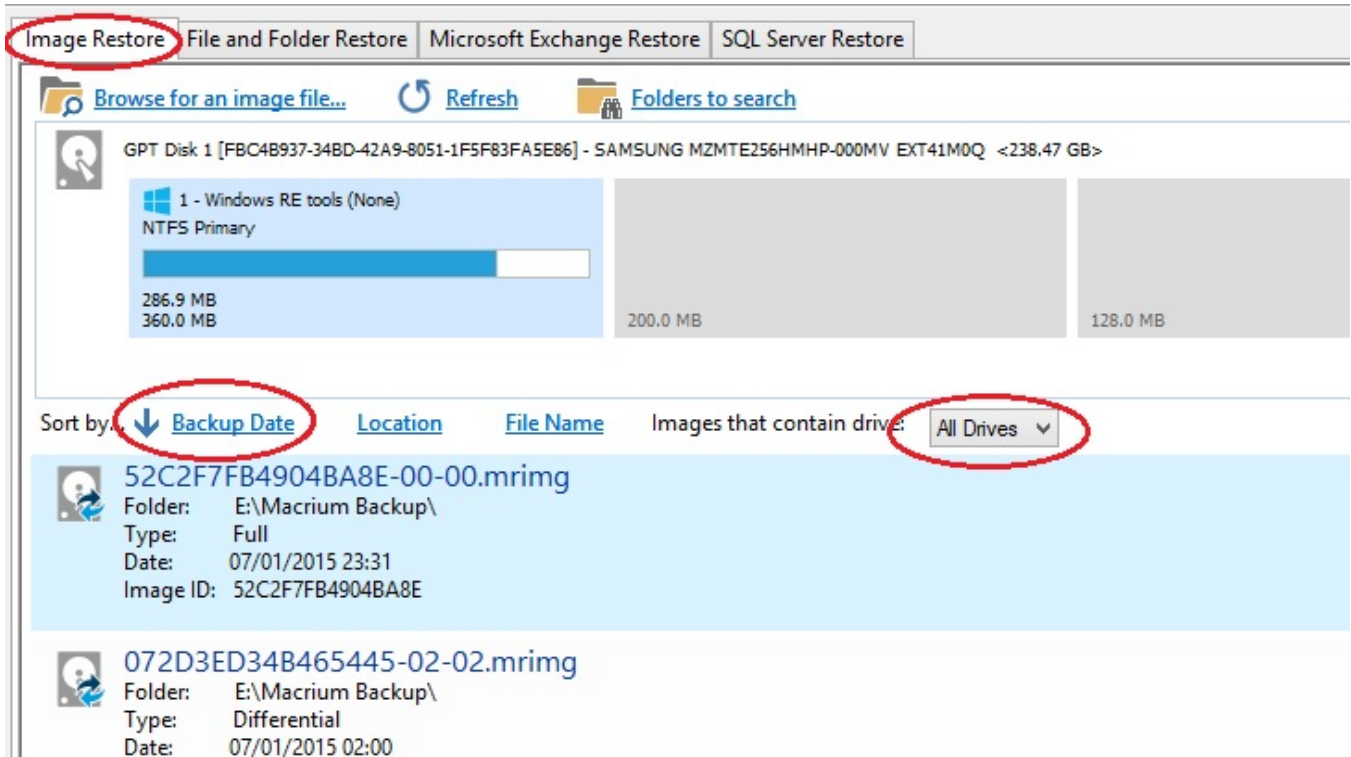
```
6698CD700DF88DF4-00-00.mrimg Drives: C, D, E Created 1st Jan 2015
430D57E2CEE8552-00-00.mrimg Drive: F Created 2st Dec 2014
1EB112ABA7C3898-00-00.mrimg Drive: C: Created 1st Nov 2014
D407A9E1BF98D822-00-00.mrimg Drive: C: Created 1st Oct 2014
```

Then the newly created image file will be **1EB112ABA7C3898-01-01.mrimg**. This is because file **1EB112ABA7C3898-00-00.mrimg** is **the most recent full image in the target folder that contains exactly the same partitions as the current Incremental image**. The next Incremental (or Differential) image would be **1EB112ABA7C3898-02-02.mrimg** and so on...

Note: If there was no existing backup set that contained only drive 'C:' then a new backup set (full) would be created.

Doesn't this get confusing if multiple backup types are saved to the same folder?

Not if you use the **'Restore' tab** in Macrium Reflect to view your images to mount and/or restore. The Restore Tab can be restricted to show only images that contain a particular drive and also be sorted by date. So, if you want to restore drive 'C' as it was last week than you can easily find it. In fact Backup Sets are an abstraction that you don't need to worry about when restoring data, **they are only relevant to optimizing backup speed and storage space.**



Note: If you want to organize your backup sets so they are easier to find in Windows Explorer then we recommend that you save different backup types to different folders. e.g.

D:\Backups\Images of C
D:\Backups\Images of D
D:\Backups\Images of Disk 1

Additional Information

A differential backup saves **only the changes** made since the **last full** backup of the **same type** found in the target folder for the backup.

An incremental backup saves **only the changes** made since the **last** backup of the **same type** found in the target folder for the backup.

See also:

- [How to delete backup files](#)