Backup Confusion

Mis-understanding . . . . .

- **Restore Points**
- **File Back-Ups**
- **Synchronisation**
- **Image Back-Ups**
- **Win-10 Rollback**

What is a Backup ?

- Copy of key data stored on a PC / Phone

Why have a copy ?

- In case data gets lost / destroyed . . .
- If Sw Upgrade is ‘unsatisfactory’ . . . .
- If PC gets ‘Infected’ / ‘Encrypted’ . . . . .
- To transfer data to a different PC / Phone
- Archival Storage - ATO 7 years

But how could I lose my Data ?

- Virus, Trojan, Malware, Encryption attack
- Storage Disk / Memory failure
- Problems ex newly installed program or OS
- PC damaged - lightning strike, brownout
- PC / Laptop stolen (left behind !)
- PC / House destroyed - fire, flood
- Malcontented staff - or family member
- . . . . Accidental deletion . . .

Two types of Data

- Operating System & Applications
- Re-Install from DVD or fresh Download
  (may need backup doco re Install keys)
- Personal Documents - Email, Photos, Movies,
  Bookmarks, Preferences etc
- Can only recover from personal backups !

- Critical that multiple & proven copies exist of all
  key Personal Data . . . .

- NB. Within Personal Data, I even include all OS-Apps Build files

Backup Media

- Burn to CD (700MB) / DVD (4.5GB, 50c)
- Copy to USB Stick (16GB, $12) - however, easily lost . . . .
- External HDD – USB3 (1TB-$77, 2TB-$129 @Officeworks)
- Network – Paid Remote Storage, eg.Carbonite us$60 pa, unlimited space, includes auto Sync
- Free Cloud storage – Mozy 2GB, Google 15GB, Yahoo 1TB, MS OneDrive 5GB (1TB with O-365 subscription)
- Note : Most people have restricted Upload Speeds ! !

Copy Types

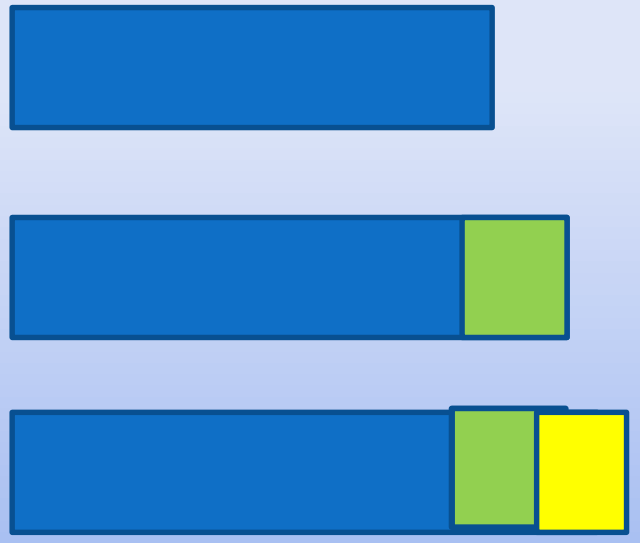
- **Restore Point** – record system / program changes, so can easily revert / restore back
- **File Copy** – exact copy, as individual files
- Incremental copy – only copy new or changed files
- **File Synchronisation** – mirror or two way update
- **Image Copy** – compressed copy of whole disk or partition
- Incremental Image – only copy new or changed areas

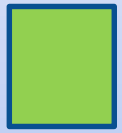
Full vs Incremental

Week 1

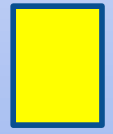
Week 2

Week 3





Week 2 New + Changes



Week 3 New + Changes

To Restore : Use Week 3 Backup

Use 1+2+3 Backups

Backup Strategy : Split OS & Apps, Data

C:

D :

OS and Applications

Personal Data

Month Start

Month Start

Week 2 New + Changes

Week 3 New + Changes

Week 4 New + Changes

Next Month

Next Month

Or maybe, Weekly for C: (OS, Apps), Daily for D: (Personal Data)

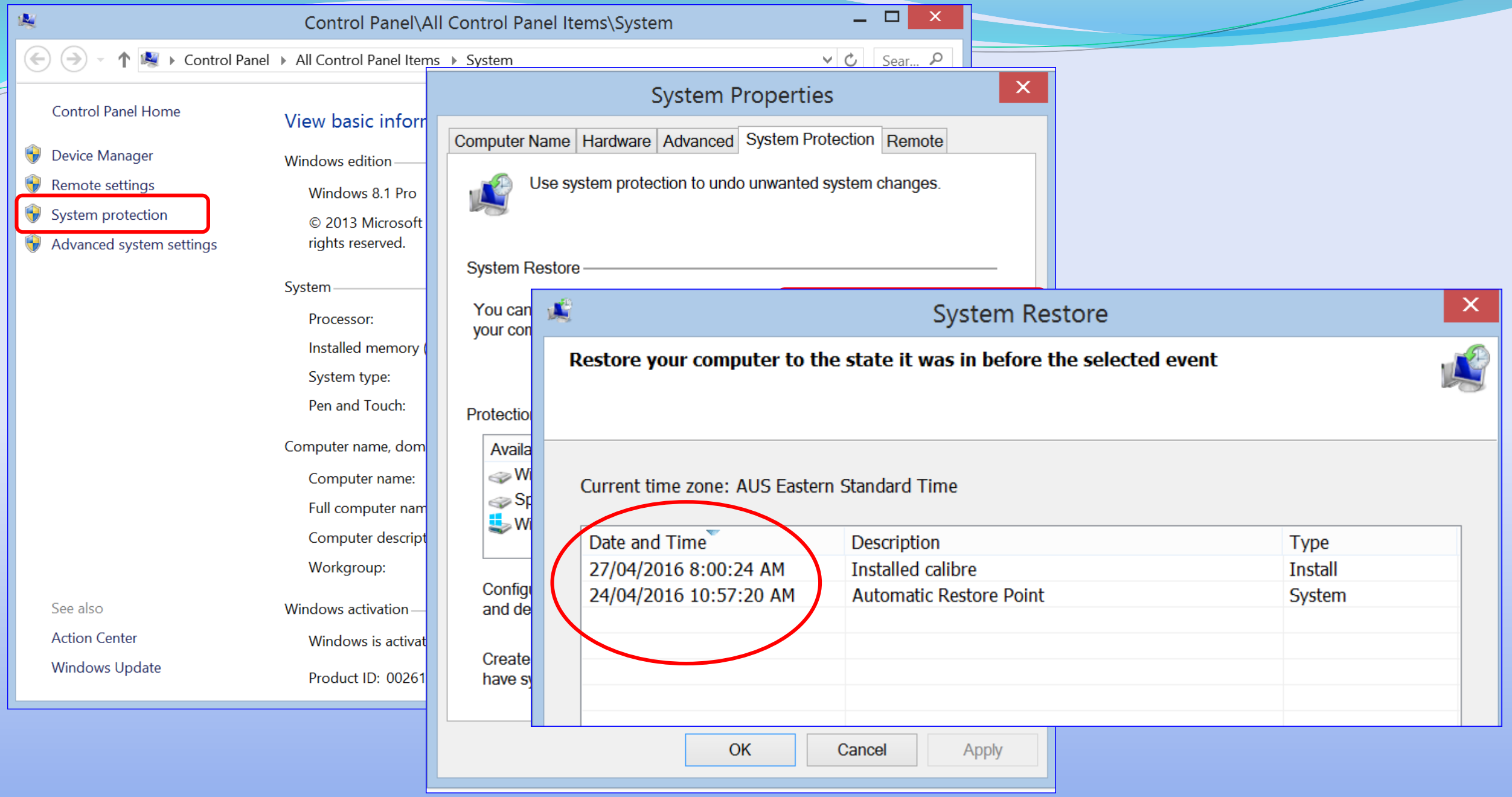
Copy Storage Locations

- Restore Points – data held within the PC
- Critical Data Copies stored Offsite
  "more than a Mile, less than an Hour"
- Maybe Weekly Backups at Home
  Monthly backups sent Offsite
  Maybe Multiple Copies, Multiple sites
- Online Options - MS OneDrive 5GB free etc
  also allows data sharing, multi-devices

System Restore Point

- Standard Windows Function (since XP)
- Automatically used with most Windows Updates
- May not include Drives other than C:
- Can invoke seperately for Other changes
  eg. Application Install, Dubious Email query

- **Roll-back to known Restore Point date/time**,
  usually past 5 days, depending on space given

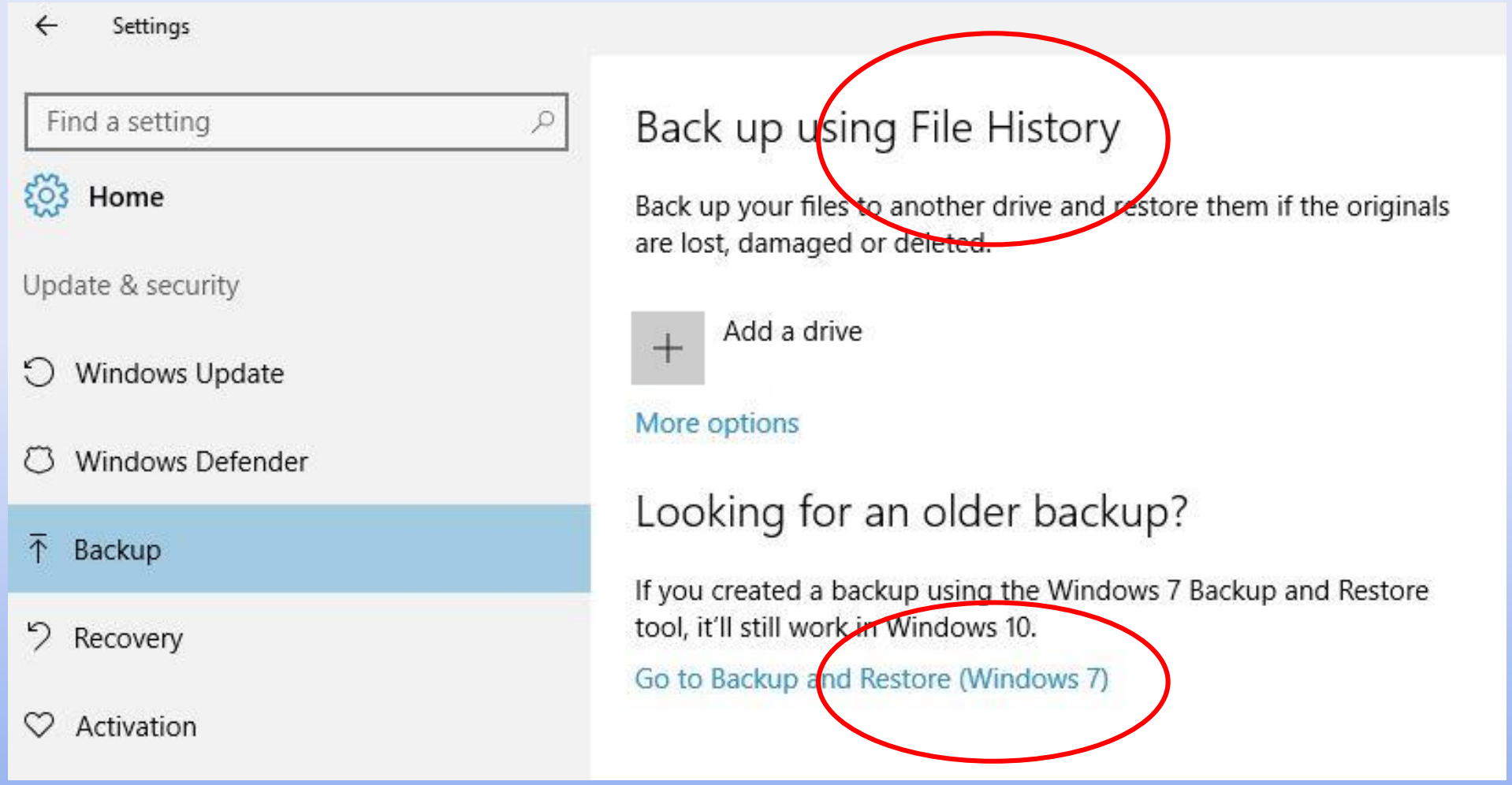

Control Panel\All Control Panel Items\System
Control Panel ▸ All Control Panel Items ▸ System
Control Panel Home
Device Manager
Remote settings
System protection
Advanced system settings
View basic inform
Windows edition
Windows 8.1 Pro
© 2013 Microsoft
rights reserved.
System
Processor:
Installed memory
System type:
Pen and Touch:
Computer name, dom
Computer name:
Full computer nam
Computer descript
Workgroup:
Windows activation
Windows is activat
Product ID: 00261
See also
Action Center
Windows Update
System Properties
Computer Name
Hardware
Advanced
System Protection
Remote
Use system protection to undo unwanted system changes.
System Restore
You can
your com
Protectio
Availa
Config
and de
Create
have sy
OK
Cancel
Apply
System Restore
Restore your computer to the state it was in before the selected event
Current time zone: AUS Eastern Standard Time
Date and Time
Description
Type
27/04/2016 8:00:24 AM
Installed calibre
Install
24/04/2016 10:57:20 AM
Automatic Restore Point
System

File Backups / Copies

- Standard Windows Function – File History in Win-8, 10
- Or added S/W (Acronis True Image)
- User Setup needed – to decide folders, frequency and backup locations
- Sometimes difficult to find – eg. Email files
- May have Incremental Options
  ie. Only backup New / Changed files

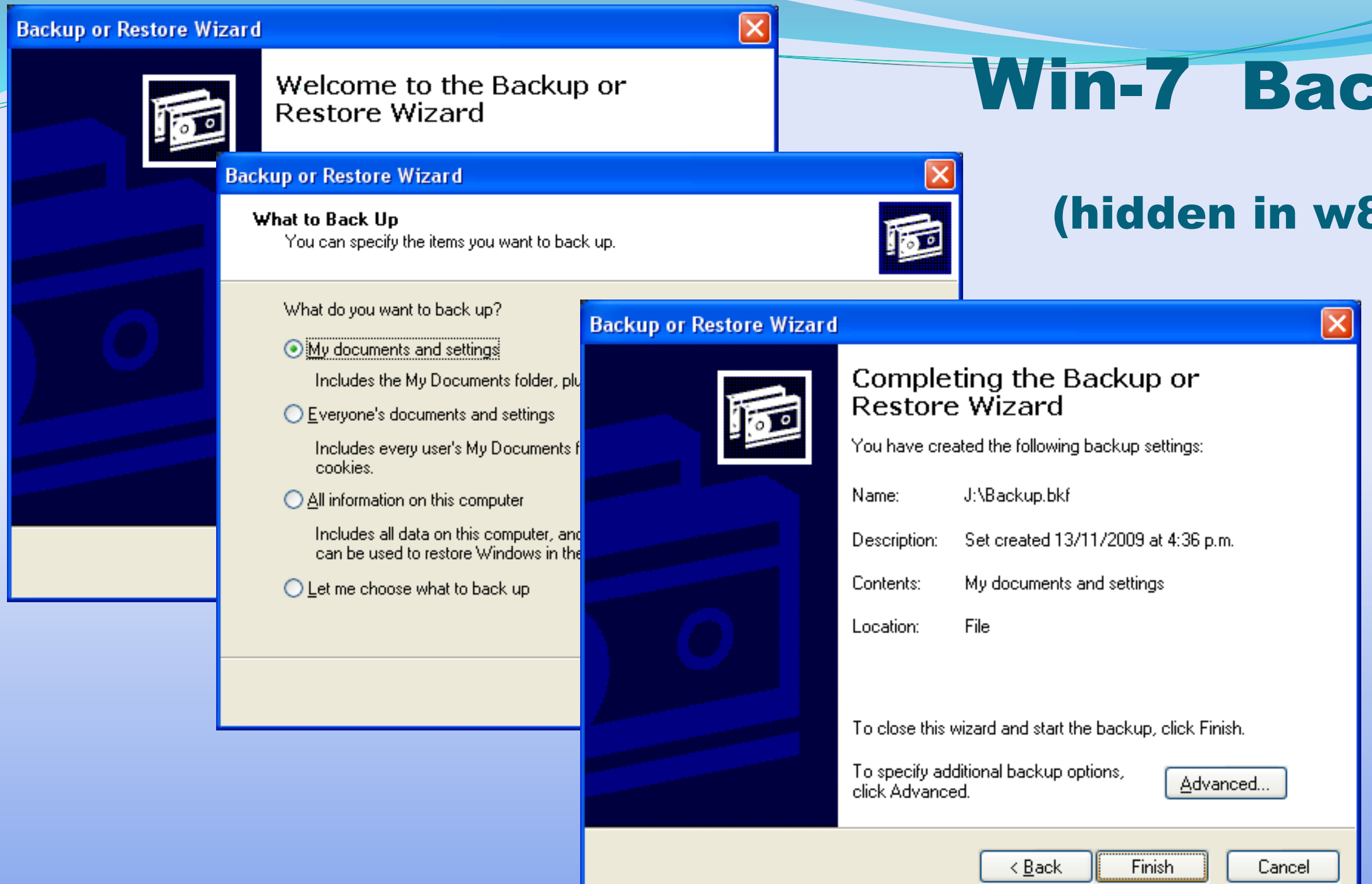
- **Does not handle Boot-Sector / Registry faults**

Win 10 Backups

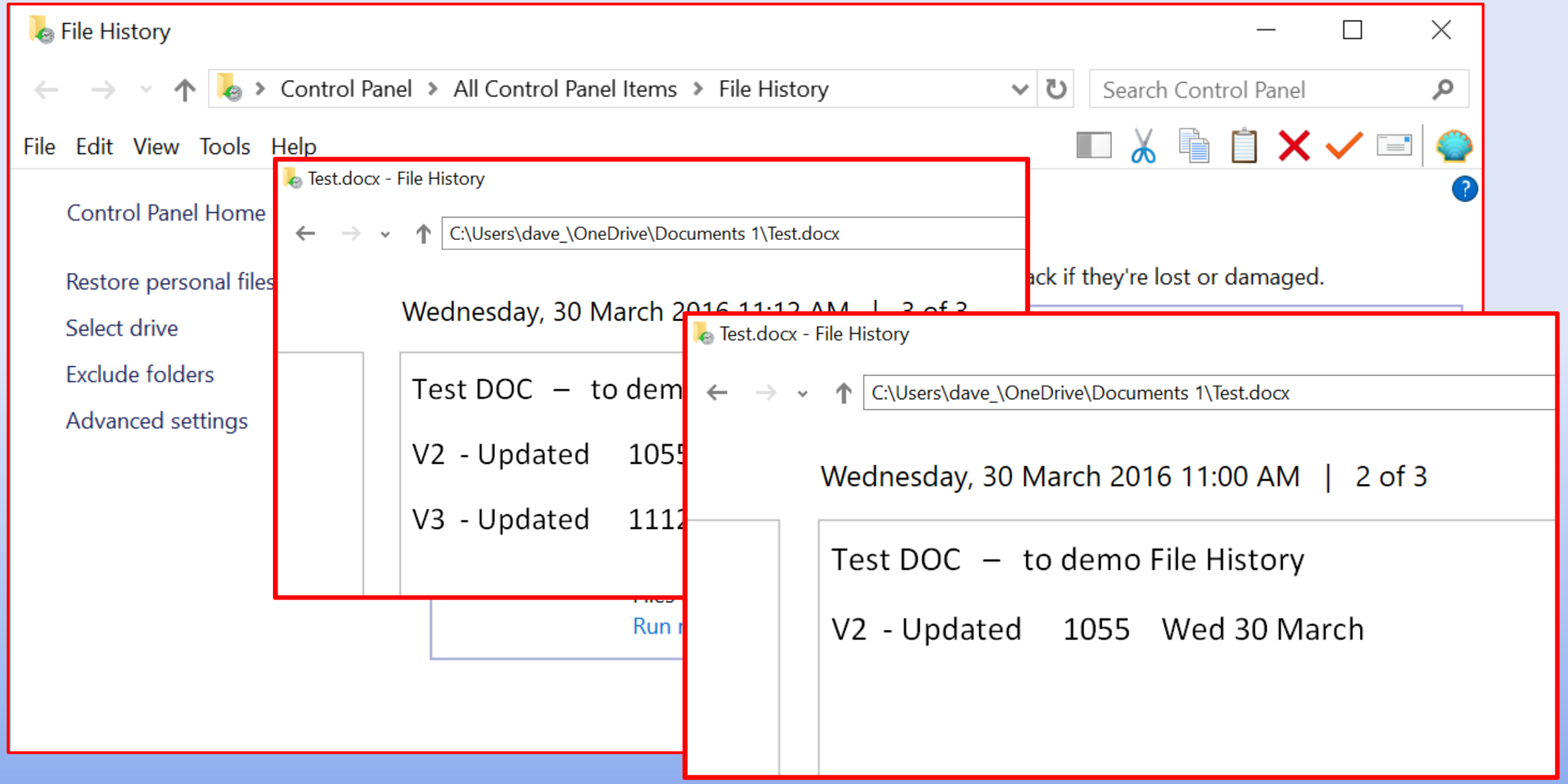


Win-7 Backup

(hidden in w8, w10)



File History - as in Win-8 / Win-10



File History Demo

File Synchronisation

- Maintain Up-to-Date copy of files on a second system (PC, USB Stick, DVD-RW, Ext HD)
- May be two-way, based on file time stamps (ie. Selects latest version of a file ?)
- Maybe be automated – esp. Cloud versions

- My Non-Cloud Preference: Free File Sync (**www.freefilesync.org**) or many more

- Has many synching options available . . . .

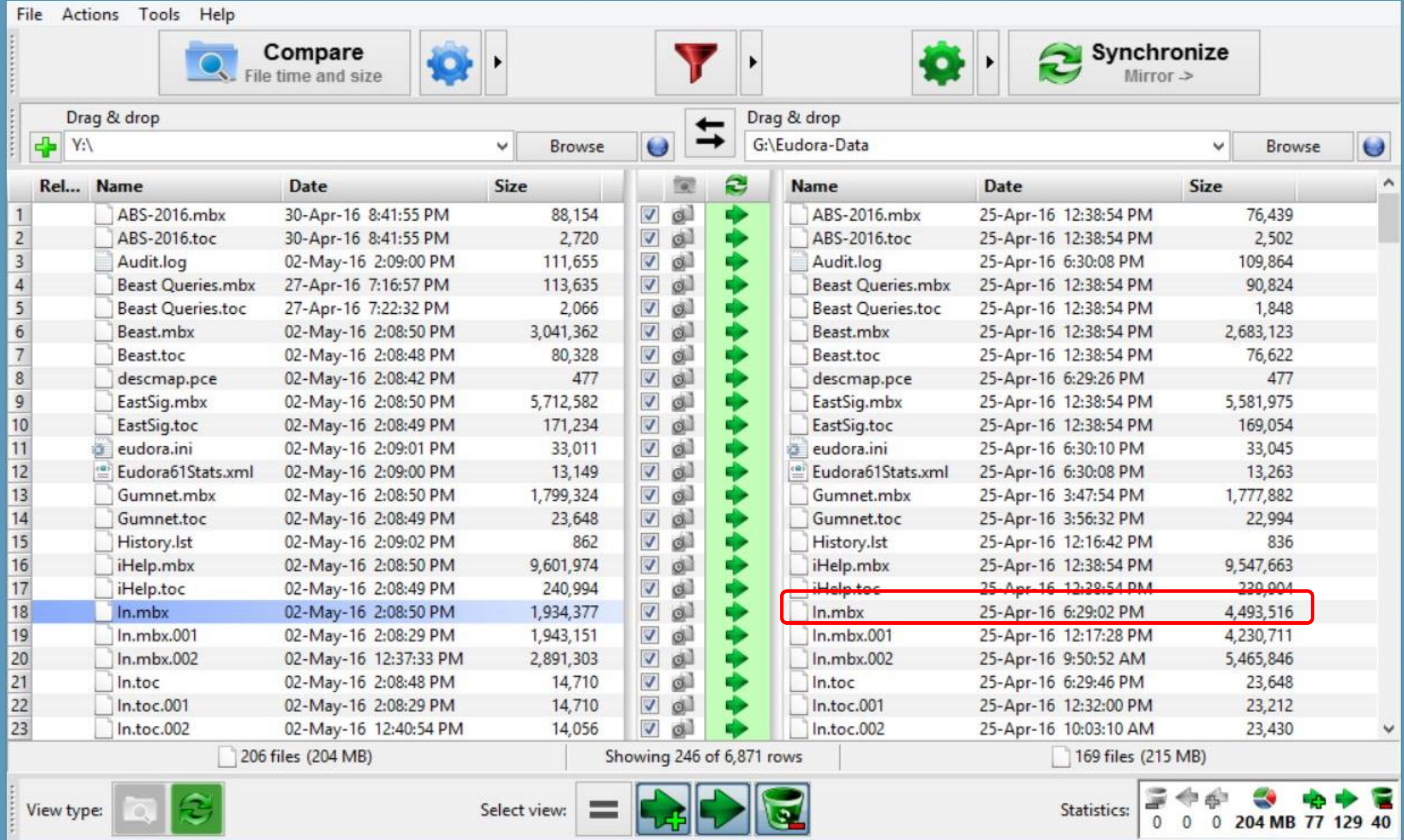

File Actions Tools Help
Compare
File time and size
Synchronize
Mirror ->
Drag & drop
Y:\
Browse
Drag & drop
G:\Eudora-Data
Browse
Rel... Name Date Size
1 ABS-2016.mbx 30-Apr-16 8:41:55 PM 88,154
2 ABS-2016.toc 30-Apr-16 8:41:55 PM 2,720
3 Audit.log 02-May-16 2:09:00 PM 111,655
4 Beast Queries.mbx 27-Apr-16 7:16:57 PM 113,635
5 Beast Queries.toc 27-Apr-16 7:22:32 PM 2,066
6 Beast.mbx 02-May-16 2:08:50 PM 3,041,362
7 Beast.toc 02-May-16 2:08:48 PM 80,328
8 descmap.pce 02-May-16 2:08:42 PM 477
9 EastSig.mbx 02-May-16 2:08:50 PM 5,712,582
10 EastSig.toc 02-May-16 2:08:49 PM 171,234
11 eudora.ini 02-May-16 2:09:01 PM 33,011
12 Eudora61Stats.xml 02-May-16 2:09:00 PM 13,149
13 Gumnet.mbx 02-May-16 2:08:50 PM 1,799,324
14 Gumnet.toc 02-May-16 2:08:49 PM 23,648
15 History.lst 02-May-16 2:09:02 PM 862
16 iHelp.mbx 02-May-16 2:08:50 PM 9,601,974
17 iHelp.toc 02-May-16 2:08:49 PM 240,994
18 In.mbx 02-May-16 2:08:50 PM 1,934,377
19 In.mbx.001 02-May-16 2:08:29 PM 1,943,151
20 In.mbx.002 02-May-16 12:37:33 PM 2,891,303
21 In.toc 02-May-16 2:08:48 PM 14,710
22 In.toc.001 02-May-16 2:08:29 PM 14,710
23 In.toc.002 02-May-16 12:40:54 PM 14,056
Name Date Size
ABS-2016.mbx 25-Apr-16 12:38:54 PM 76,439
ABS-2016.toc 25-Apr-16 12:38:54 PM 2,502
Audit.log 25-Apr-16 6:30:08 PM 109,864
Beast Queries.mbx 25-Apr-16 12:38:54 PM 90,824
Beast Queries.toc 25-Apr-16 12:38:54 PM 1,848
Beast.mbx 25-Apr-16 12:38:54 PM 2,683,123
Beast.toc 25-Apr-16 12:38:54 PM 76,622
descmap.pce 25-Apr-16 6:29:26 PM 477
EastSig.mbx 25-Apr-16 12:38:54 PM 5,581,975
EastSig.toc 25-Apr-16 12:38:54 PM 169,054
eudora.ini 25-Apr-16 6:30:10 PM 33,045
Eudora61Stats.xml 25-Apr-16 6:30:08 PM 13,263
Gumnet.mbx 25-Apr-16 3:47:54 PM 1,777,882
Gumnet.toc 25-Apr-16 3:56:32 PM 22,994
History.lst 25-Apr-16 12:16:42 PM 836
iHelp.mbx 25-Apr-16 12:38:54 PM 9,547,663
iHelp.toc 25-Apr-16 12:38:54 PM 239,904
In.mbx 25-Apr-16 6:29:02 PM 4,493,516
In.mbx.001 25-Apr-16 12:17:28 PM 4,230,711
In.mbx.002 25-Apr-16 9:50:52 AM 5,465,846
In.toc 25-Apr-16 6:29:46 PM 23,648
In.toc.001 25-Apr-16 12:32:00 PM 23,212
In.toc.002 25-Apr-16 10:03:10 AM 23,430
206 files (204 MB)
Showing 246 of 6,871 rows
169 files (215 MB)
View type:
Select view:
Statistics:
0 0 0 204 MB 77 129 40

Image Backups

- Backup whole HD (or Partition), rather than files
- Considerably faster (1Gb / minute)
- Usually allows Full and Incremental Backups
- Can recover whole partition, including OS
- Standalone recovery – from CD or USB key **(setup prior ! !)**
- Can recover to a different HD (if HD crashed)
- Can open as standard Directories to recover individual files . . .
- Preferred S/w: was Norton Ghost, Acronis TrueImage (us$25)

now Macrium Reflect (free)

www.macrium.com/reflectfree.aspx
Search
WP Cal HM Hrld Age NZ ChCh Ggle Maps Jo Trvl mpc Bank My IP? Speed SES RasPi Othrs eChoice TrntD

Macriumsoftware
Your image is everything

Macrium Reflect Free

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Current Version: 6.1.1081 (7 February 2016)

An award winning disk cloning and imaging solution for free. Protect your personal documents, photos, music and e-mails. Upgrade your hard disk or try new operating systems in the safe knowledge that everything is securely saved in an easily recovered backup file. Macrium Reflect supports backup to local, network and USB drives as well as burning to all DVD formats. This version is for non-commercial home use.

We are pleased to announce that Macrium Reflect v6 Free Edition is available now. We have updated the user interface and added these exciting new features.

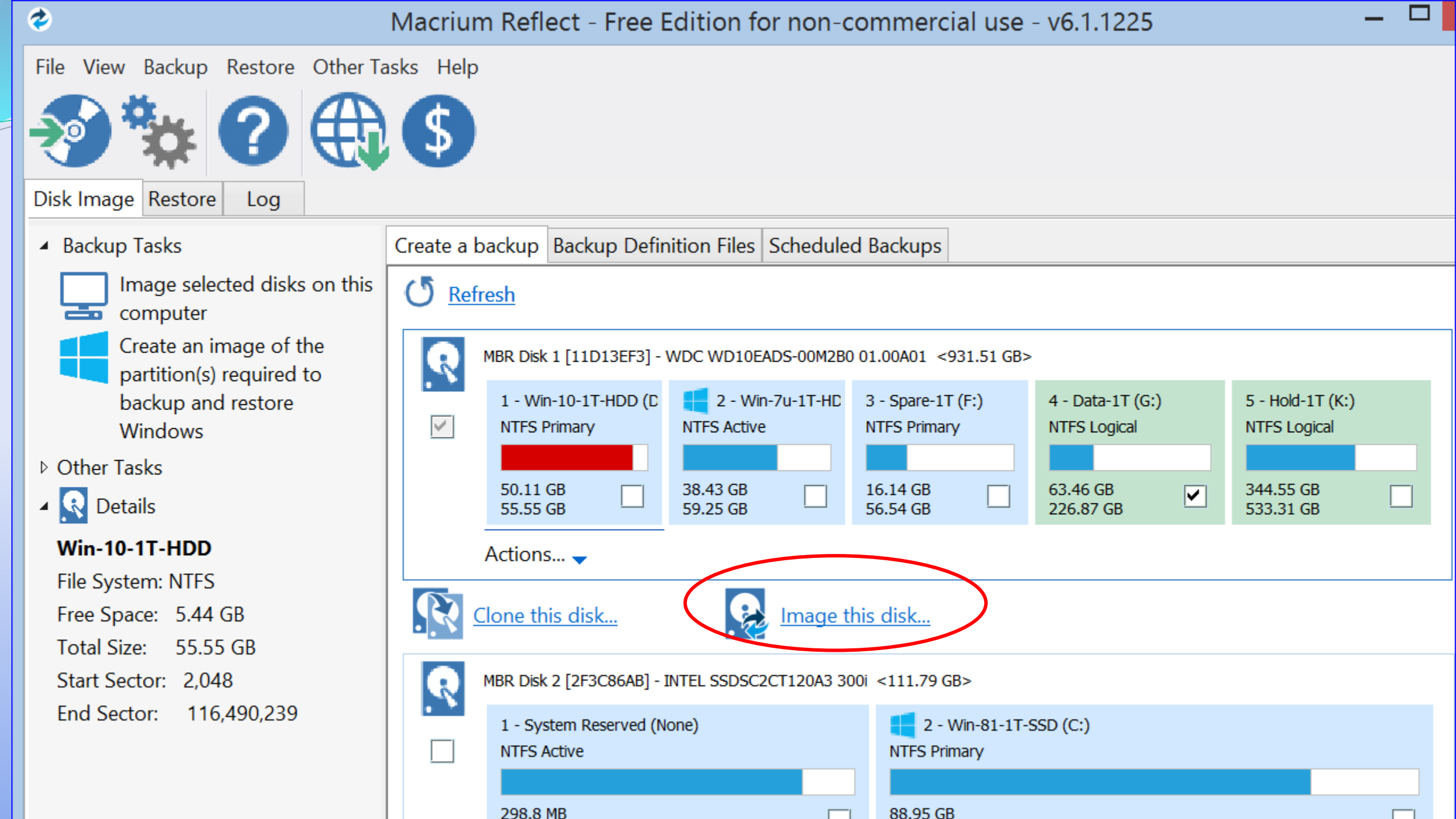
New Features in v6 Free:

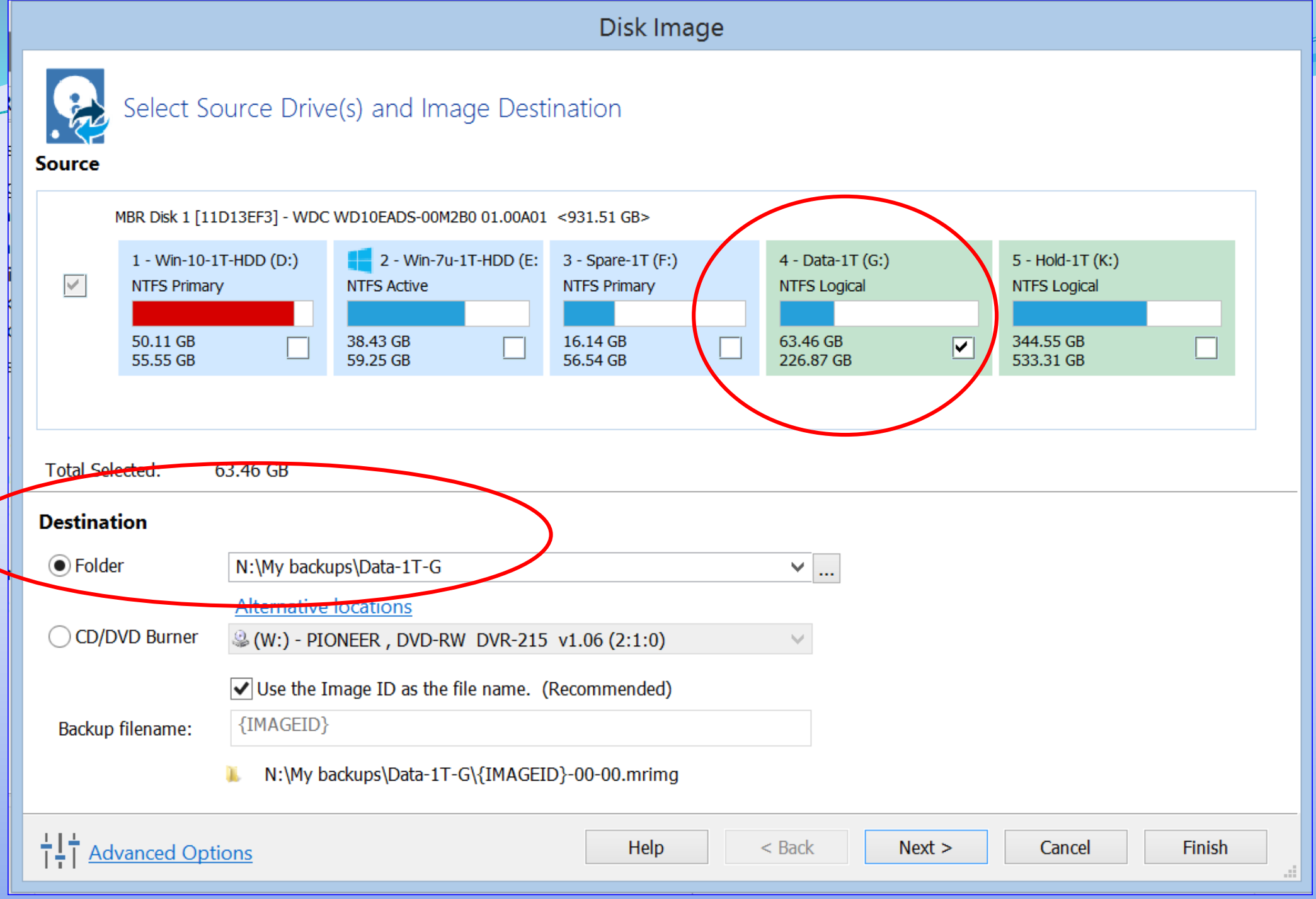
Differential Images

Differential Images for faster backups and reduced storage space.

Auto verification

Automatically verify images after creation to ensure integrity.


Macrium Reflect - Free Edition for non-commercial use - v6.1.1225
File View Backup Restore Other Tasks Help
Disk Image Restore Log
Backup Tasks
Image selected disks on this computer
Create an image of the partition(s) required to backup and restore Windows
Other Tasks
Details
Win-10-1T-HDD
File System: NTFS
Free Space: 5.44 GB
Total Size: 55.55 GB
Start Sector: 2,048
End Sector: 116,490,239
Create a backup
Backup Definition Files
Scheduled Backups
Refresh
MBR Disk 1 [11D13EF3] - WDC WD10EADS-00M2B0 01.00A01 <931.51 GB>
1 - Win-10-1T-HDD (D
NTFS Primary
50.11 GB
55.55 GB
2 - Win-7u-1T-HD
NTFS Active
38.43 GB
59.25 GB
3 - Spare-1T (F:)
NTFS Primary
16.14 GB
56.54 GB
4 - Data-1T (G:)
NTFS Logical
63.46 GB
226.87 GB
5 - Hold-1T (K:)
NTFS Logical
344.55 GB
533.31 GB
Actions...
Clone this disk...
Image this disk...
MBR Disk 2 [2F3C86AB] - INTEL SSDSC2CT120A3 300i <111.79 GB>
1 - System Reserved (None)
NTFS Active
298.8 MB
2 - Win-81-1T-SSD (C:)
NTFS Primary
88.95 GB


Disk Image
Select Source Drive(s) and Image Destination
Source
MBR Disk 1 [11D13EF3] - WDC WD10EADS-00M2B0 01.00A01 <931.51 GB>
1 - Win-10-1T-HDD (D:)
NTFS Primary
50.11 GB
55.55 GB
2 - Win-7u-1T-HDD (E:
NTFS Active
38.43 GB
59.25 GB
3 - Spare-1T (F:)
NTFS Primary
16.14 GB
56.54 GB
4 - Data-1T (G:)
NTFS Logical
63.46 GB
226.87 GB
5 - Hold-1T (K:)
NTFS Logical
344.55 GB
533.31 GB
Total Selected: 63.46 GB
Destination
Folder
N:\My backups\Data-1T-G
Alternative locations
CD/DVD Burner
(W:) - PIONEER , DVD-RW DVR-215 v1.06 (2:1:0)
Use the Image ID as the file name. (Recommended)
Backup filename:
{IMAGEID}
N:\My backups\Data-1T-G\{IMAGEID}-00-00.mrimg
Advanced Options
Help
< Back
Next >
Cancel
Finish

'G:\db-Documents\Reflect\My Backup.xml'

Imaging Summary

Backup Definition File:	G:\db-Documents\Reflect\My Backup.xml
Auto Verify:	N
Maximum File Size:	Automatic
Compression:	Medium
Password:	N
Intelligent Copy:	Y
Power Saving:	N
Email On Success:	N
Email On Failure:	N
Total Selected:	63.46 GB

Destination:

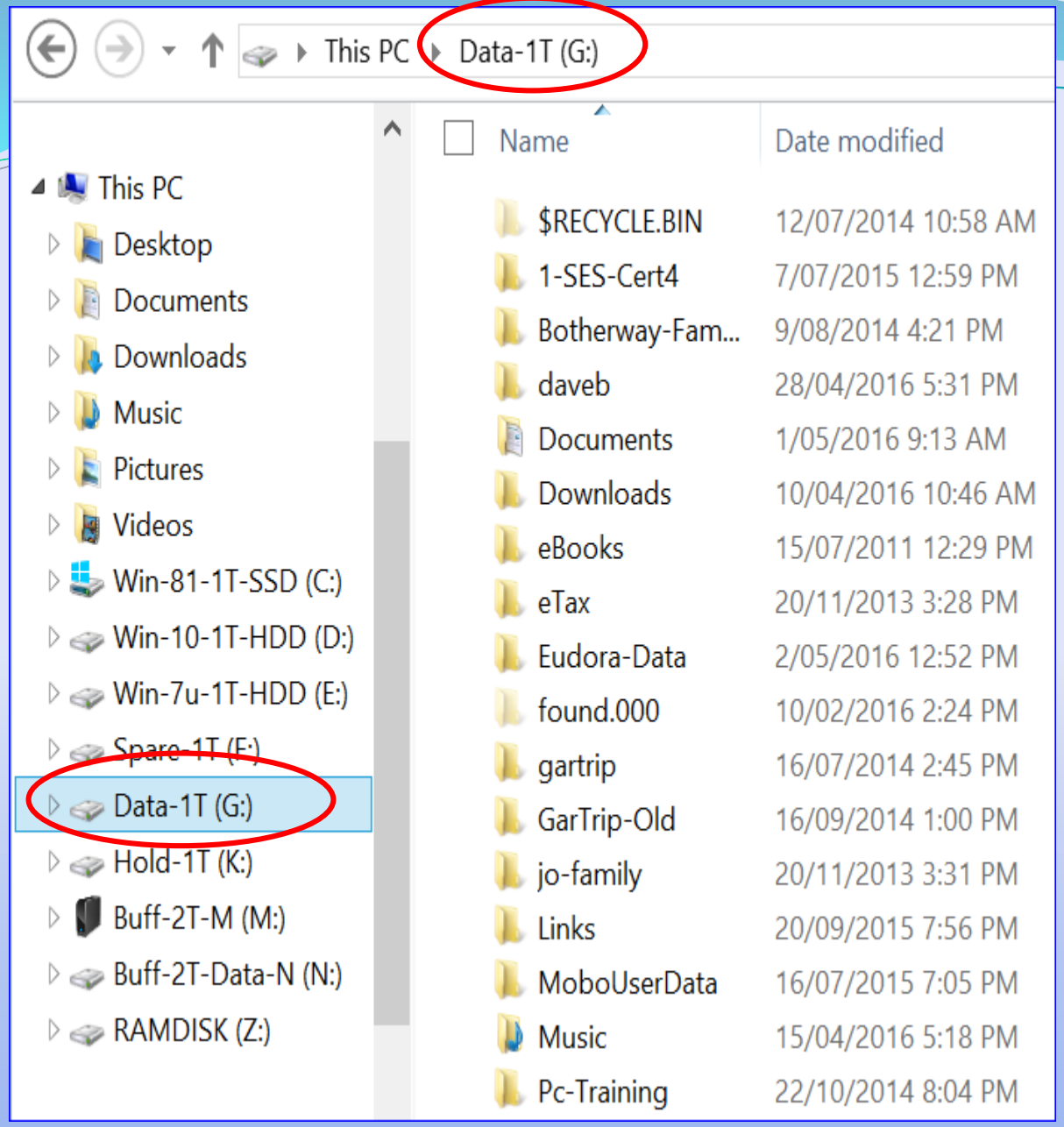
Backup Type:	Full
File Name:	N:\My backups\Data-1T-G\5A35C54AE75319F5-00-00.mrimg

Operation 1 of 1

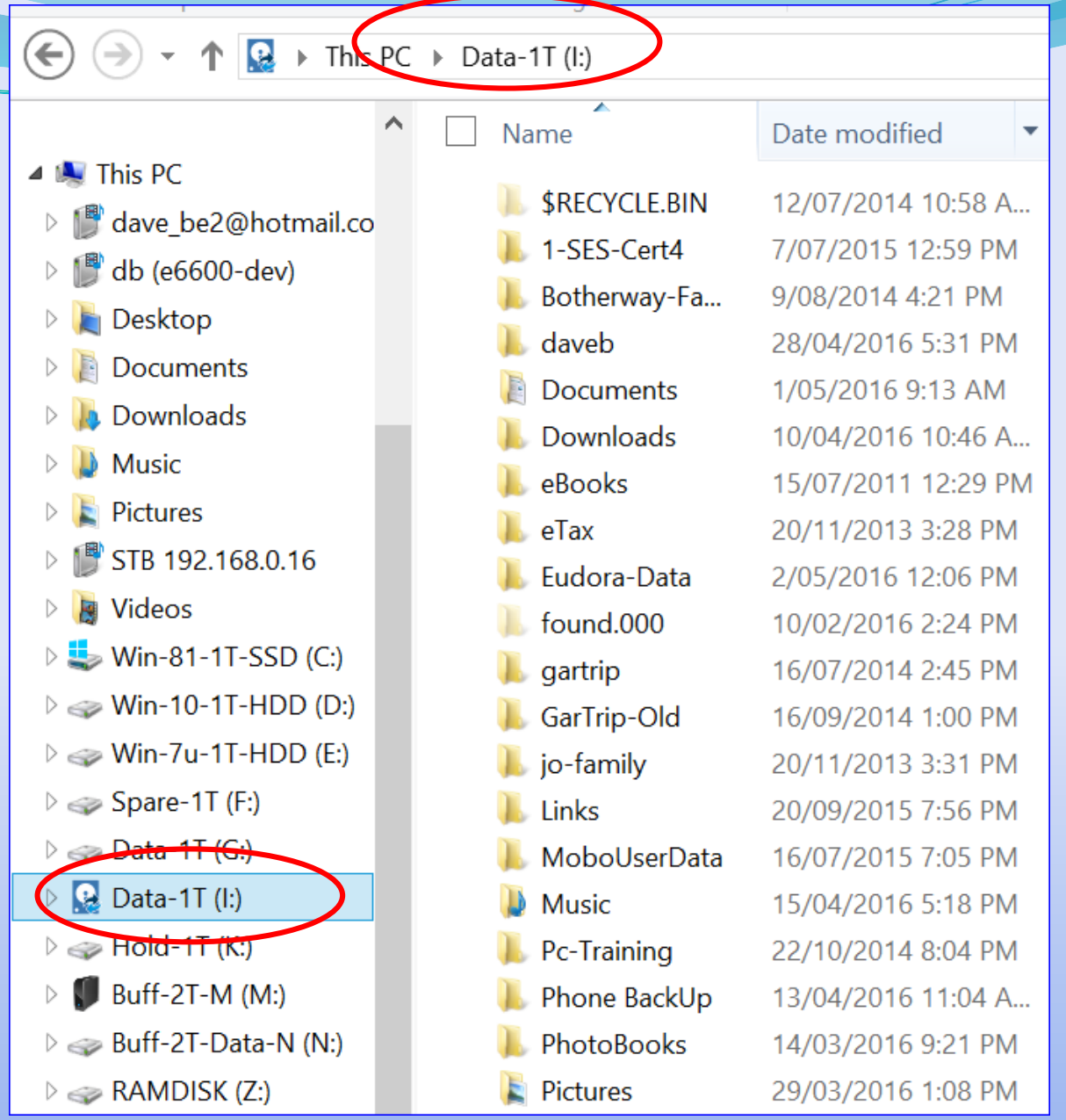
Hard Disk:	1
Drive Letter:	G
File System:	NTFS
Label:	Data-1T
Size:	226.87 GB
Free:	163.40 GB
Used:	63.46 GB

Overall Progress: 36% Transfer Rate: 246.2 Mb/s Time remaining: 22 Minutes

Current Progress: 36% Time remaining: 22 Minutes

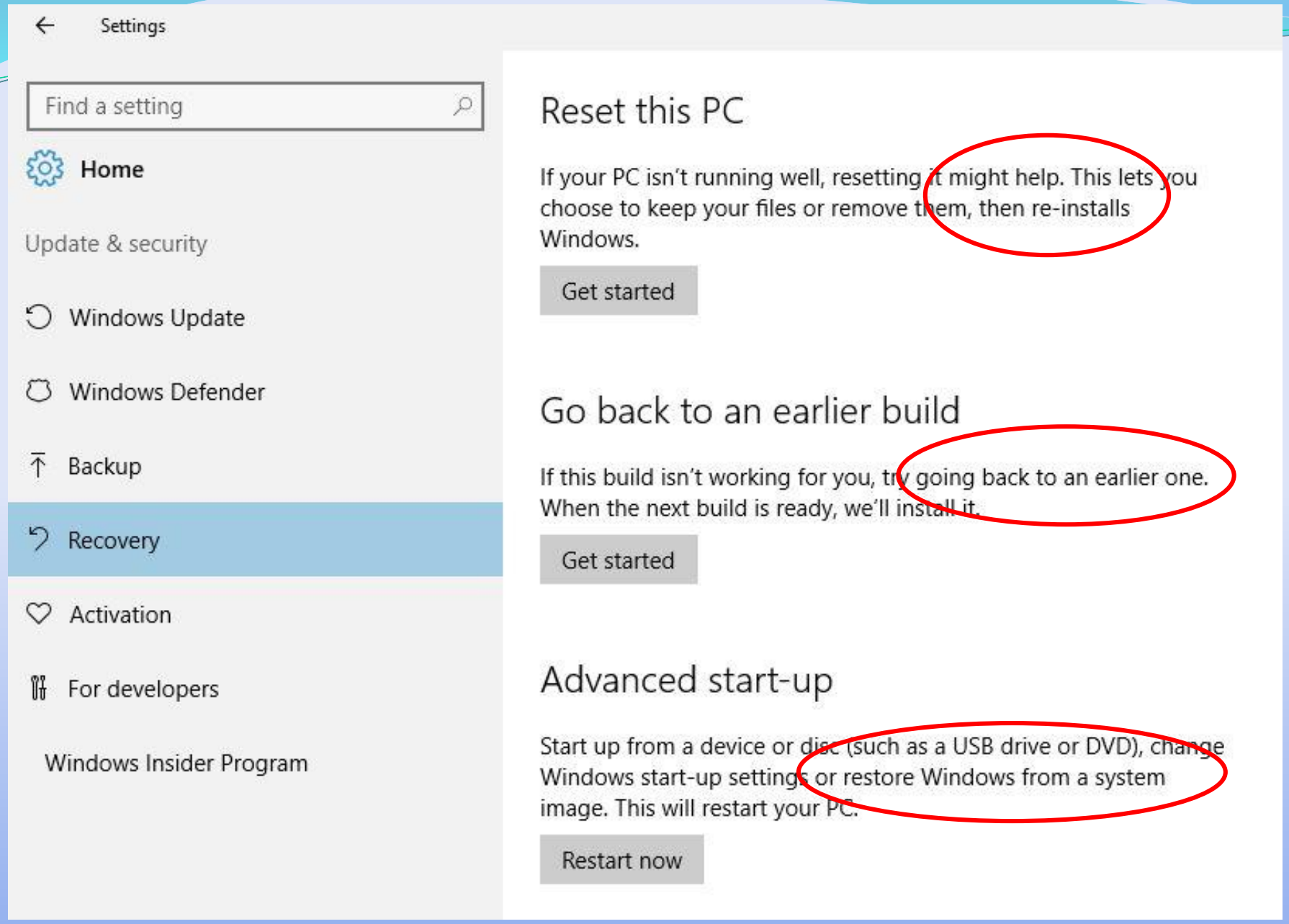


Original Data Partition - G:



Replicated from Image Backup - I:

Win-10 Recovery



Update to Win-10
ex w7, w8 . . .

Image held for 30?
days (20+ GB)

Scenario : deleted key family photo

. . . divorce looming

- Ensure Files backed up previously
- Access the backup to find specific photo
- Copy back to standard location
- Marriage saved . . .
- Also solves accidental Document deletion
- Note: could also extract ex Image Backup

Scenario : Installed Sw Update (or new program)

system now useless . . .

- Want to roll-back to pre-condition system
- a) Ensure Restore Point available
  b) Boot into Safe Mode (if needed)
  c) System Restore to earlier point
- Standard part of XP upwards
  - May also handle Dubious Email, WebPage, now getting strange virus warnings

Scenario : Unsatisfactory Win-10 Upgrade

Two options . . .

- a) Windows Rollback – within 30 days . . .
  Win-10 Upgrade saves copy of previous O/S

- b) Image Restore (ex Macrium or Acronis TrueImage
  - From within Win-10 - if Win-10 partially working
  - or Standalone using Recovery CD or USB

Scenario: Disk Drive Noisy

system will not boot

- Apparent Disk Drive Failure, but have an external Image Backup available
- Obtain Replacement HDD and install
- Recover Whole System from Image Backups (30 - 60 minutes)

- NB. OS and Programs Reinstall + Data Restore might take 2 - 3 days

Scenario: Wildcat Bush Fire

house & contents all lost

- Get replacement PC via Insurance Money
- Reload OS & Apps
- Retrieve Off-site Data Backup
- Restore Personal Data
- Fully recovered: 3 – 4 hours

- Faster if both OS and Data Images Off-Site

Recommendation :

- Ensure Systems **Restore Point** taken before System Updates / New App installs

- **Segregate Data** from OS / Applications
  eg: C= OS and Applications
  D= Personal Data (docs,email etc)

- Use **external HDs** as backup medium

- Have **Image Backups** of C and D – with an older Data Image stored Offsite

Summary

- Important to Understand differences
  Restore Points and Rollback
  File Backups or File Synch
  Image Backups and Recovery

- Essential that Personal Data be backed up regularly, with a copy Offsite

- **. . . . Back-Ups need to be tested . . . .**

Backup Confusion

Hopefully, we now better Understand :

- **Restore Points**
- **File Back-Ups**
- **Synchronisation**
- **Image Back-Ups**
- **Win-10 Rollback**
- **Any Questions . . .**