

Backup Strategies - Revisited

But that can't happen to me!

- Hardware malfunction
- Windows update gone rogue
- Malware attack
- **Ransomware**

Solution: If you already have a backup method, stay with it.

Objectives

- Reliable
- Secure
- Redundant
- Easy to set up
- Requires minimal attention

Components

The ingredients:

- **Total system image**
 - **Data backup**
-

The location:

- **Critical:** keep at least one copy offline (disconnected from computer)
- **Keep one copy off-site**

Terminology

- Total system image

- Boot sectors
- Operating system
- Applications
- Settings (for operating system and applications)
- Data files

- Data backup

Documents	Downloads
Pictures	Desktop
Music	
Videos	

Components

- Total system image: Macrium Reflect
 - Free, or \$69,95
- EaseUS Todo Backup
 - Free, or \$29,95/year
- Portable USB hard drive
 - 1 TB: \$60
 - 2 TB: \$80
- Flash drive for recovery drive – **And be sure to make the recovery flash drive for Macrium Reflect!**

What I Do

- Backup types
 - Total system image: last day of month
 - Data backups: daily
- Connectivity
 - System image made to drive that is not continually connected to computer
 - External drive for daily data backup always connected
 - Copy each week's data backups to second, unconnected drive every Friday

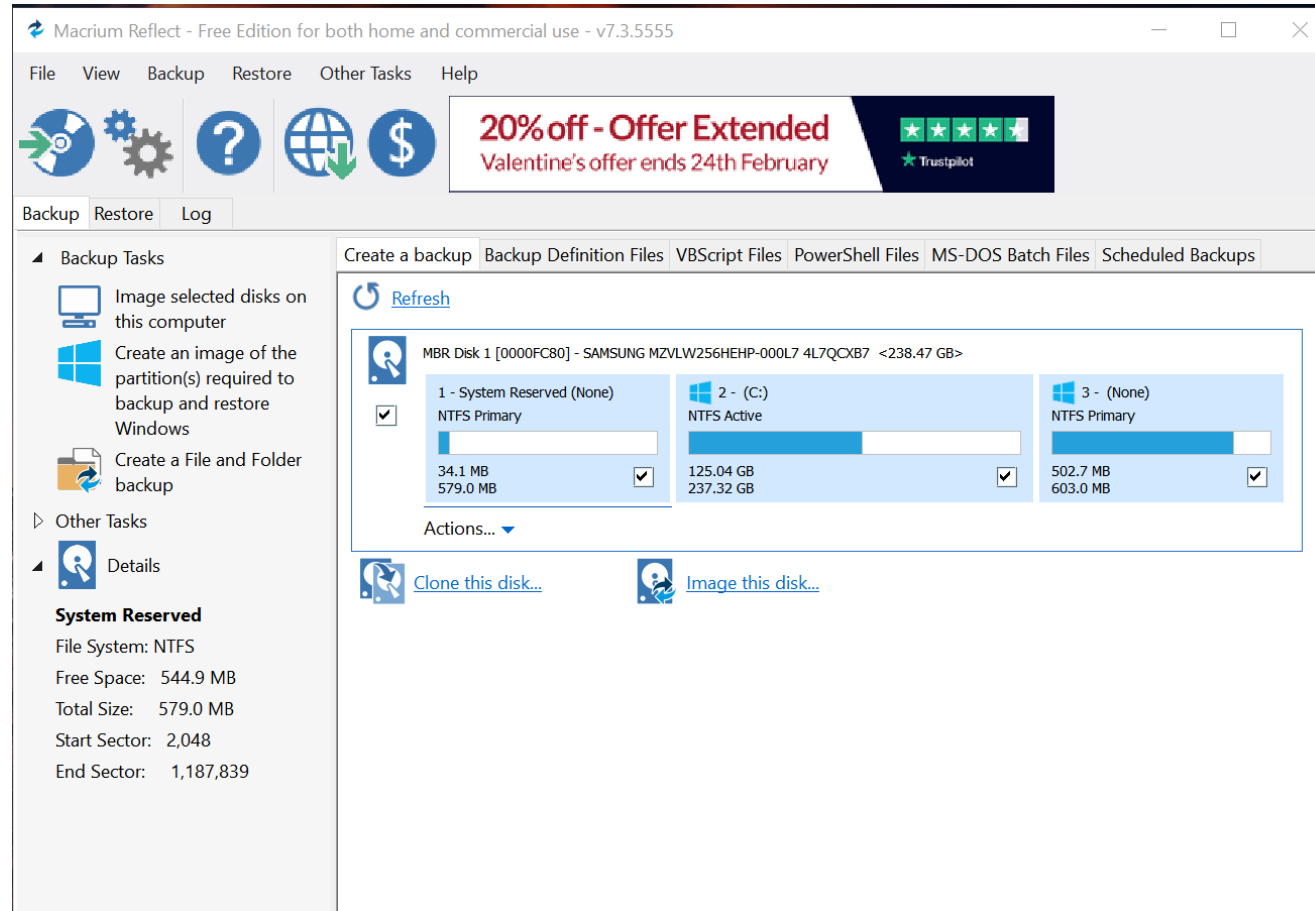
Common elements of backup applications

- Objective: Backup or recovery
- What to include: which data files
- Where to make it: the target drive
- How often: schedule
- Mode: full, incremental, differential
- Ability to save the backup plan

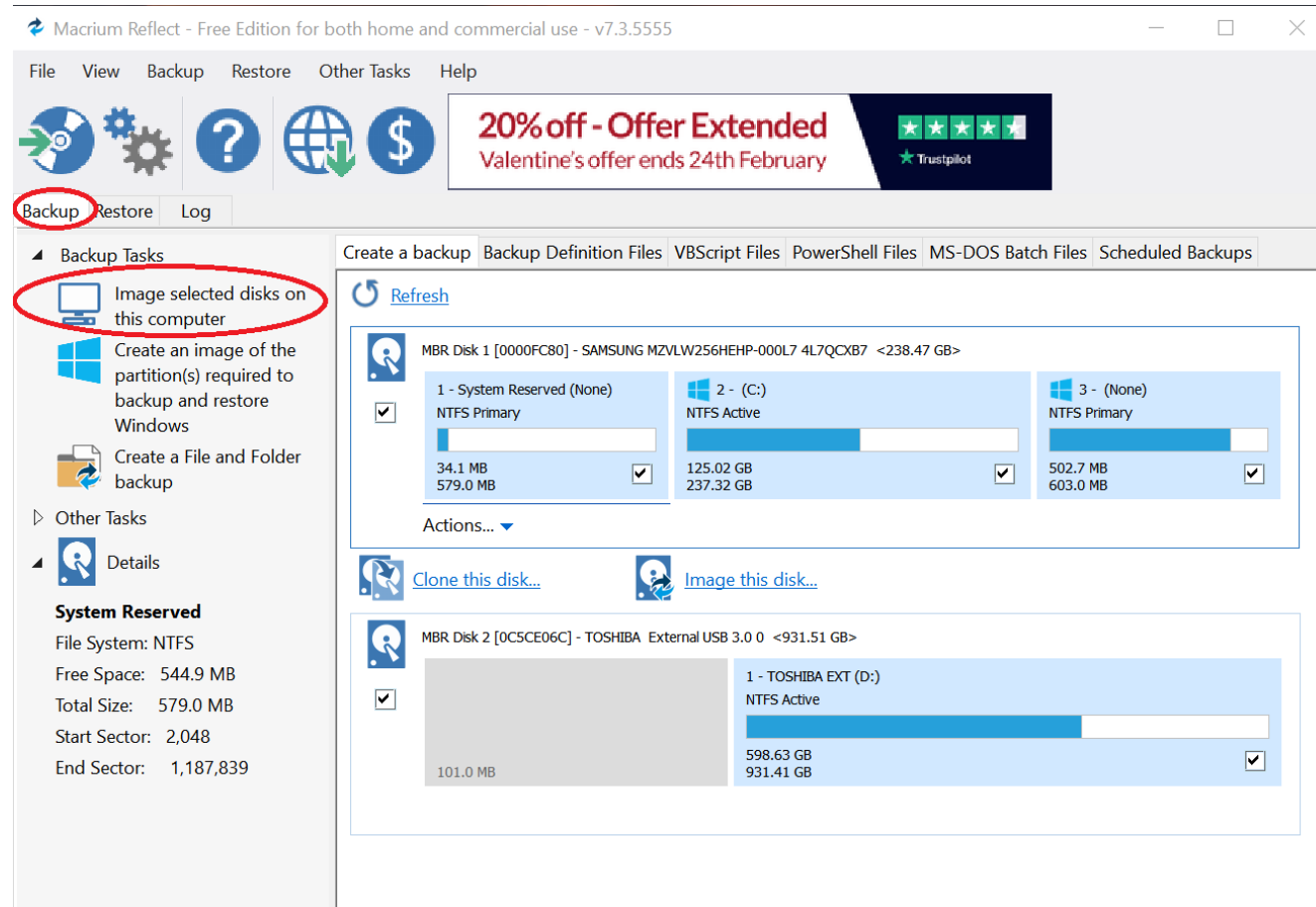
User Guide

The remaining slides, not included in the presentation provide pictorial guidance for familiarization with each of the two components of the backup system: EaseUS Todo Backup and Macrium Reflect.

Macrium Reflect – Creation of Backup




Objective: backup or restore, what to include



Don't include the target disk in the backup

Disk Image

 Select Source Drive(s) and Image Destination

Source

MBR Disk 1 [0000FC80] - SAMSUNG MZVLW256HEHP-000L7 4L7QXB7 <238.47 GB>

Partition	File System	Size	Used	Selected
1 - System Reserved (None)	NTFS Primary	34.1 MB	579.0 MB	<input checked="" type="checkbox"/>
2 - (C:)	NTFS Active	125.02 GB	237.32 GB	<input checked="" type="checkbox"/>
3 - (None)	NTFS Primary	502.7 MB	603.0 MB	<input checked="" type="checkbox"/>

MBR Disk 2 [0C5CE06C] - TOSHIBA External USB 3.0 0 <931.51 GB>

Partition	File System	Size	Used	Selected
1 - TOSHIBA EXT (D:)	NTFS Active	598.63 GB	931.41 GB	<input type="checkbox"/>

Total Selected: 125.55 GB

Destination

☒ Folder ...


[Alternative locations](#)

☐ CD/DVD Burner

☒ Use the Image ID as the file name. (Recommended)

Backup filename: {IMAGEID}


D:\Image Backups - Macrium Reflect\Lenovo ThinkPad T470\{IMAGEID}-00-00.mrimg

 [Advanced Options](#)

Target: Where do you want the image to go?

Part I

Disk Image

 Select Source Drive(s) and Image Destination

Source

MBR Disk 1 [0000FC80] - SAMSUNG MZVLW256HEHP-000L7 4L7QCXB7 <238.47 GB>


Partition	File System	Size	Free Space	Selected
1 - System Reserved (None)	NTFS Primary	34.1 MB	579.0 MB	<input checked="" type="checkbox"/>
2 - (C:)	NTFS Active	125.02 GB	237.32 GB	<input checked="" type="checkbox"/>
3 - (None)	NTFS Primary	502.7 MB	603.0 MB	<input checked="" type="checkbox"/>

MBR Disk 2 [0C5CE06C] - TOSHIBA External USB 3.0 0 <931.51 GB>

Partition	File System	Size	Free Space	Selected
1 - TOSHIBA EXT (D:)	NTFS Active	598.63 GB	931.41 GB	<input type="checkbox"/>

Total Selected: 125.55 GB

Destination

☒ Folder D:\Image Backups - Macrium Reflect\Lenovo ThinkPad T470\ 


[Alternative locations](#)

☐ CD/DVD Burner

☒ Use the Image ID as the file name. (Recommended)

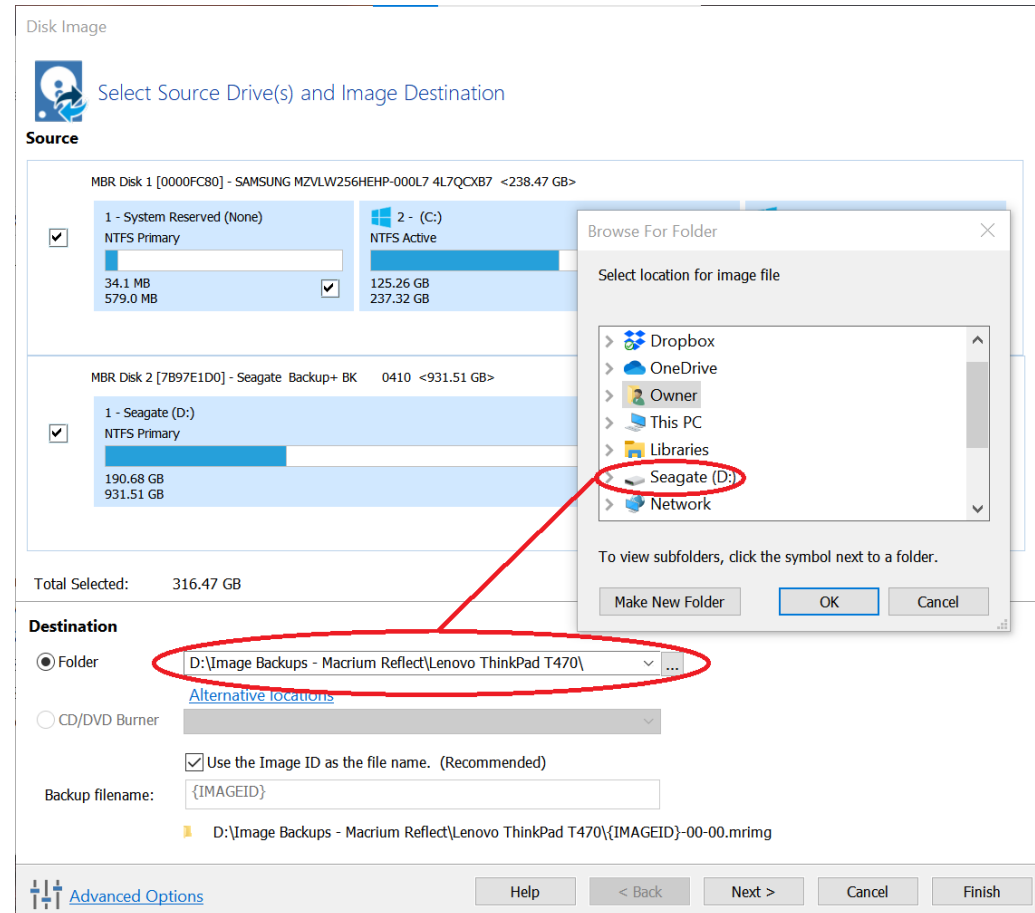
Backup filename: {IMAGEID}

D:\Image Backups - Macrium Reflect\Lenovo ThinkPad T470\{IMAGEID}-00-00.mrimg

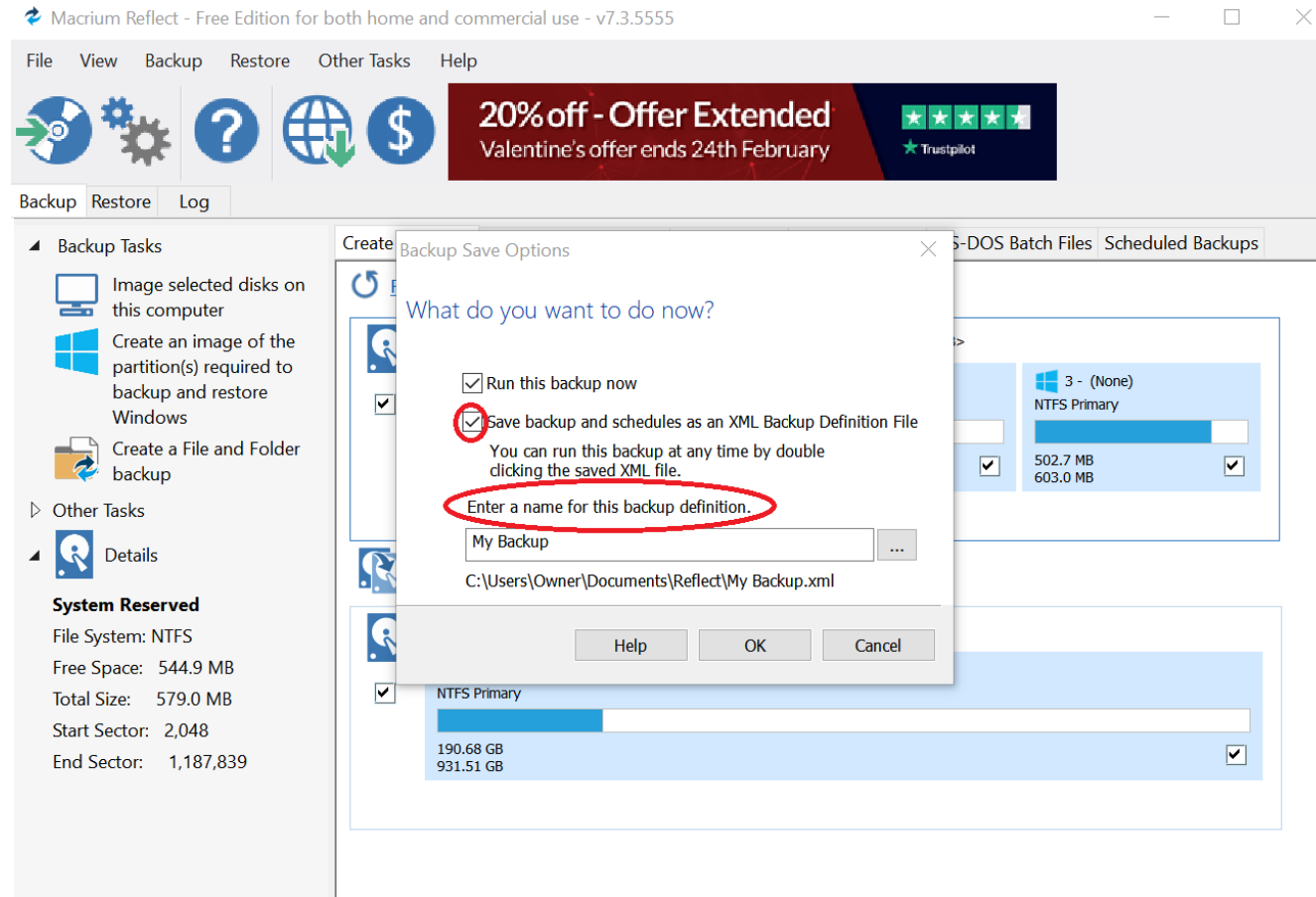
 [Advanced Options](#) Help < Back Next > Cancel Finish

Target: Where do you want the image to go?

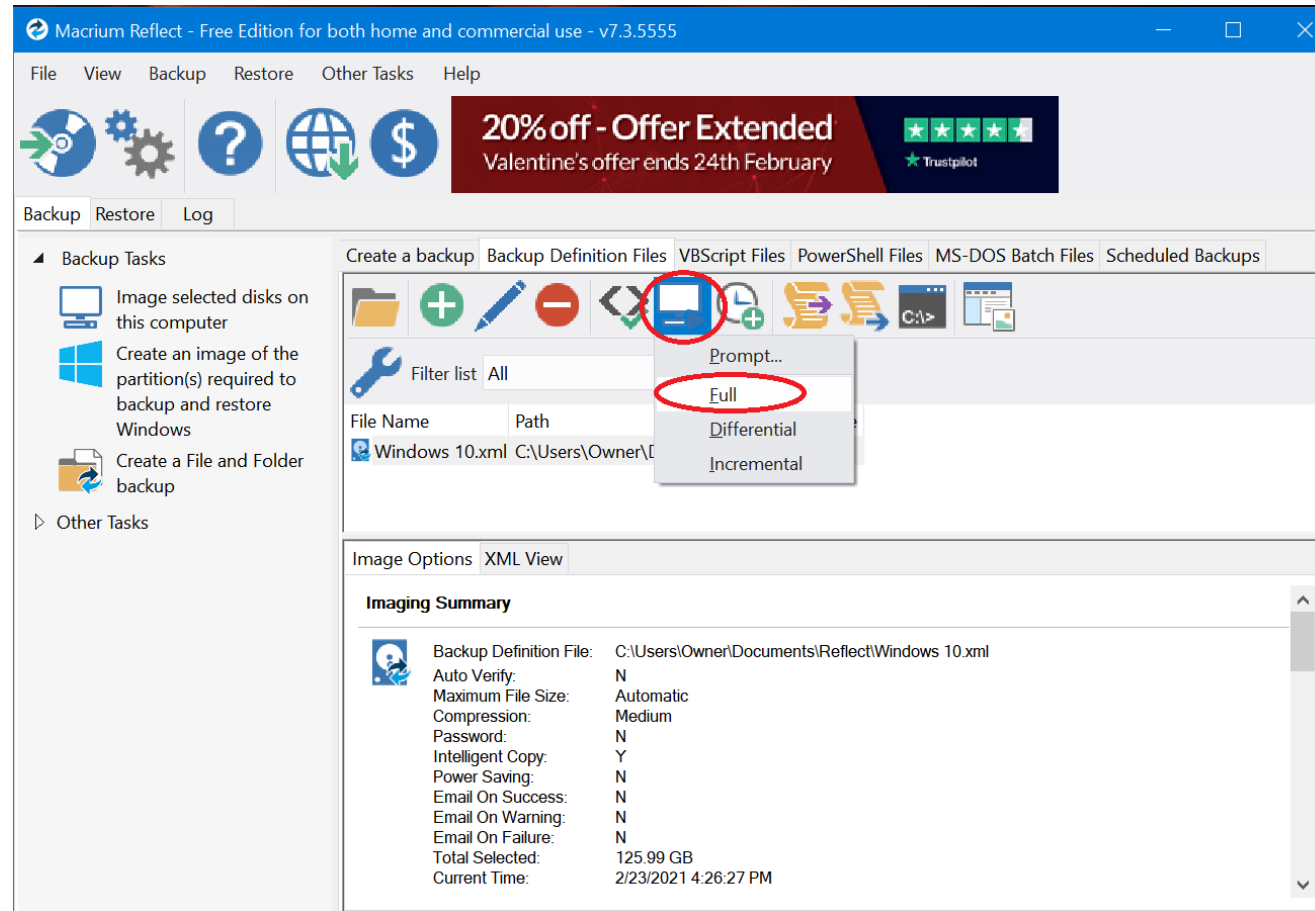
Part II



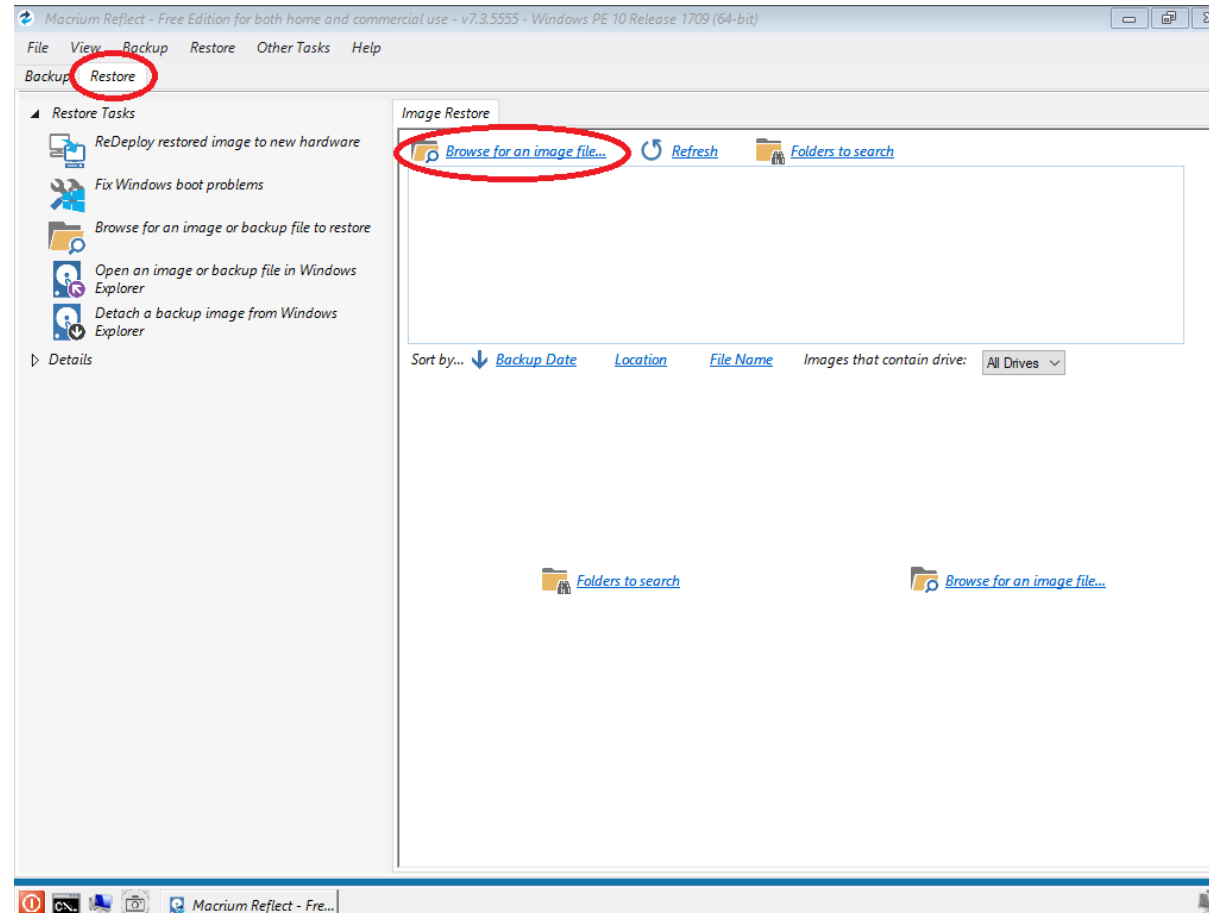
Optional: Save backup definition (makes it convenient to repeat the backup)



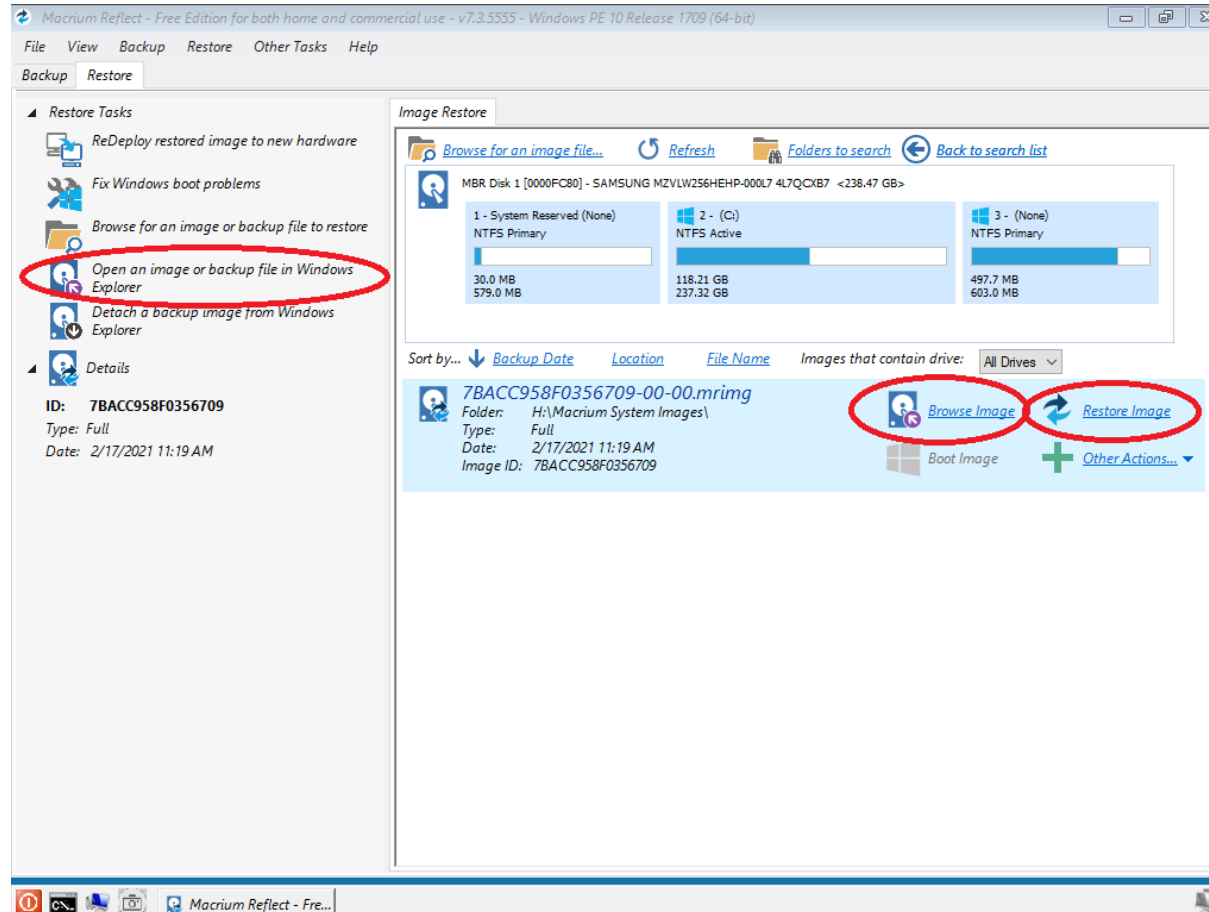
Mode: full or differential (I use full)



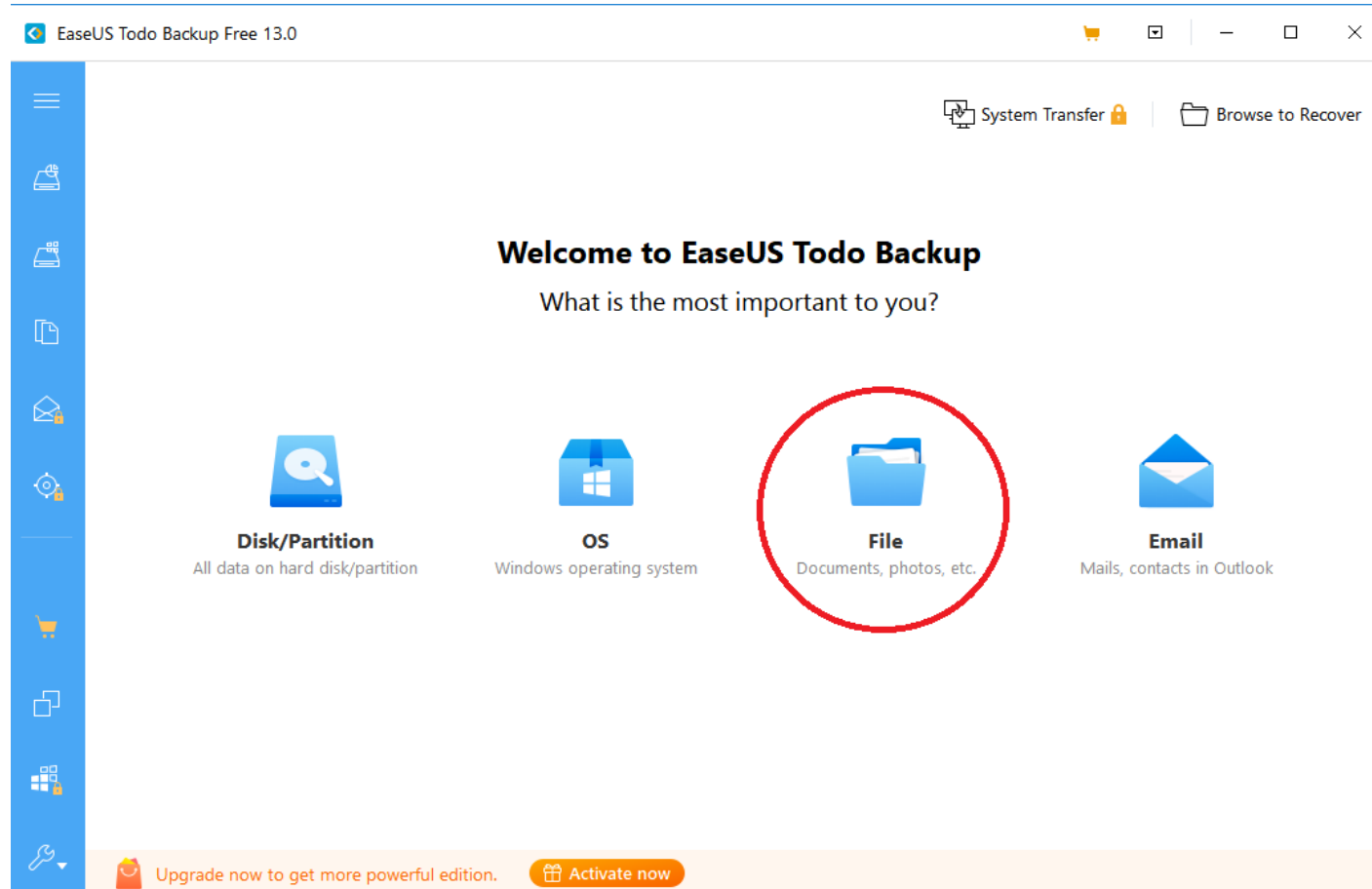
Macrium Reflect – Image Recovery, Part I



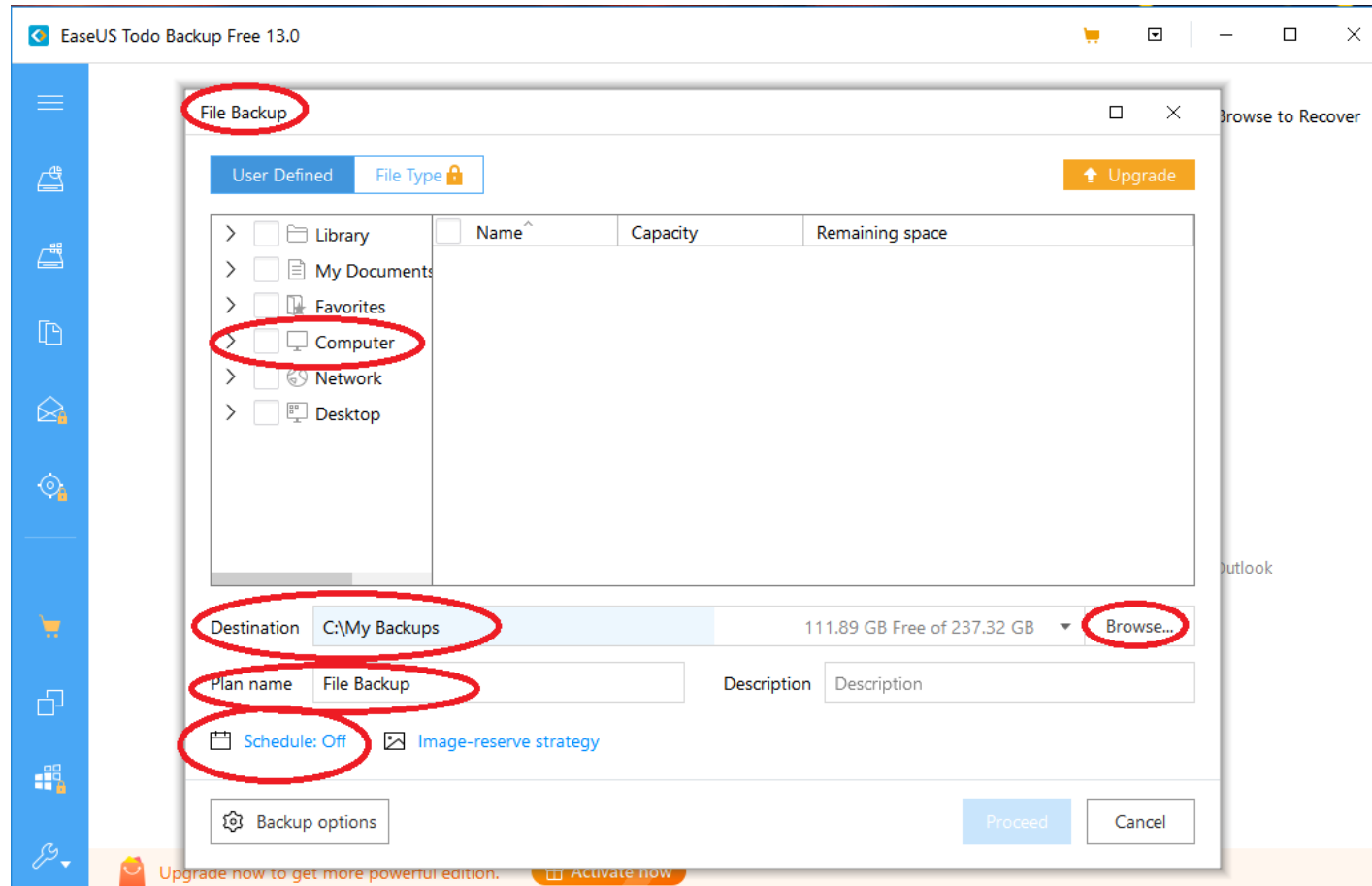
Macrium Reflect – Image Recovery, Part II



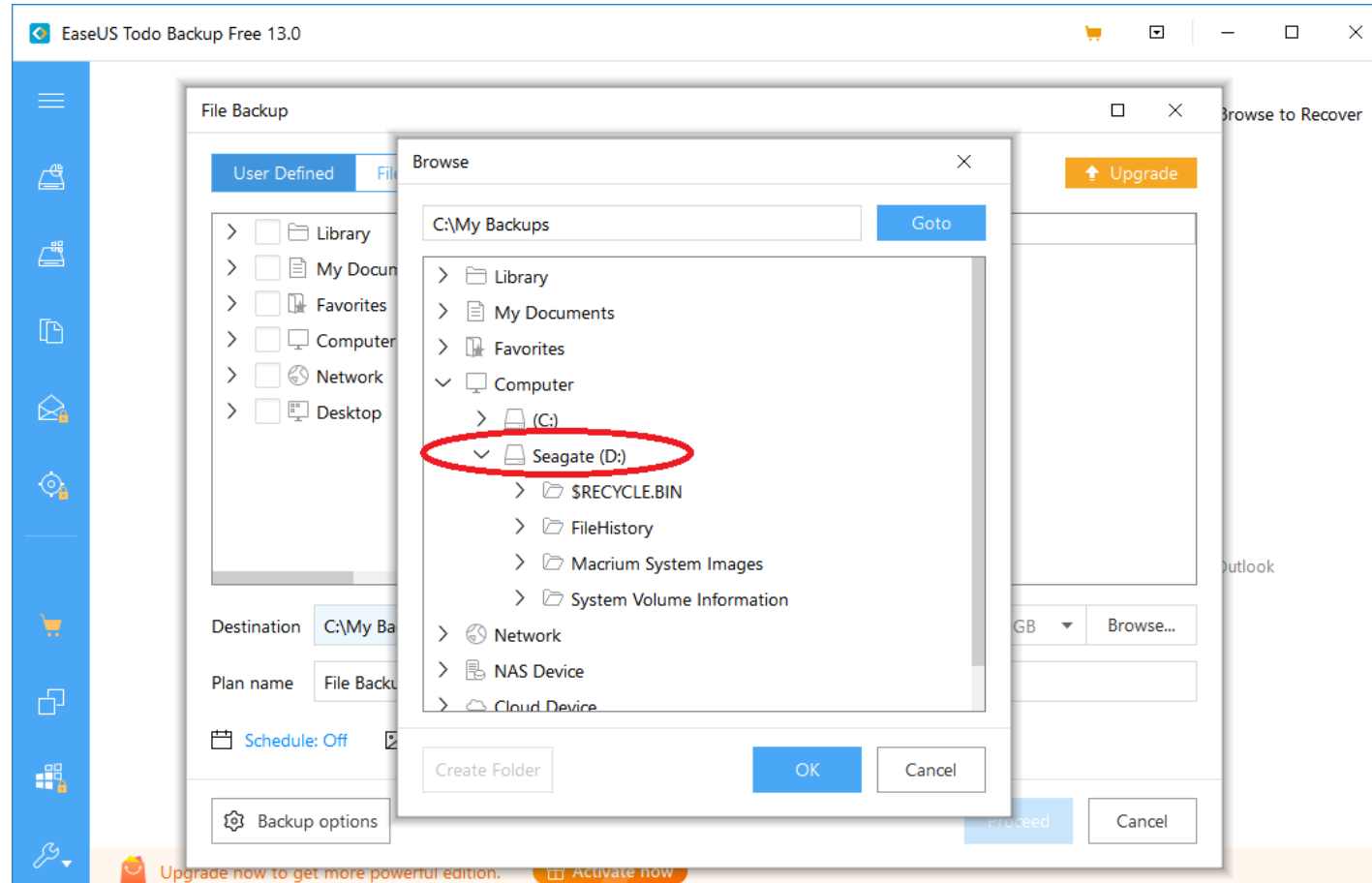
EaseUS Todo Backup (use for data files – folders)



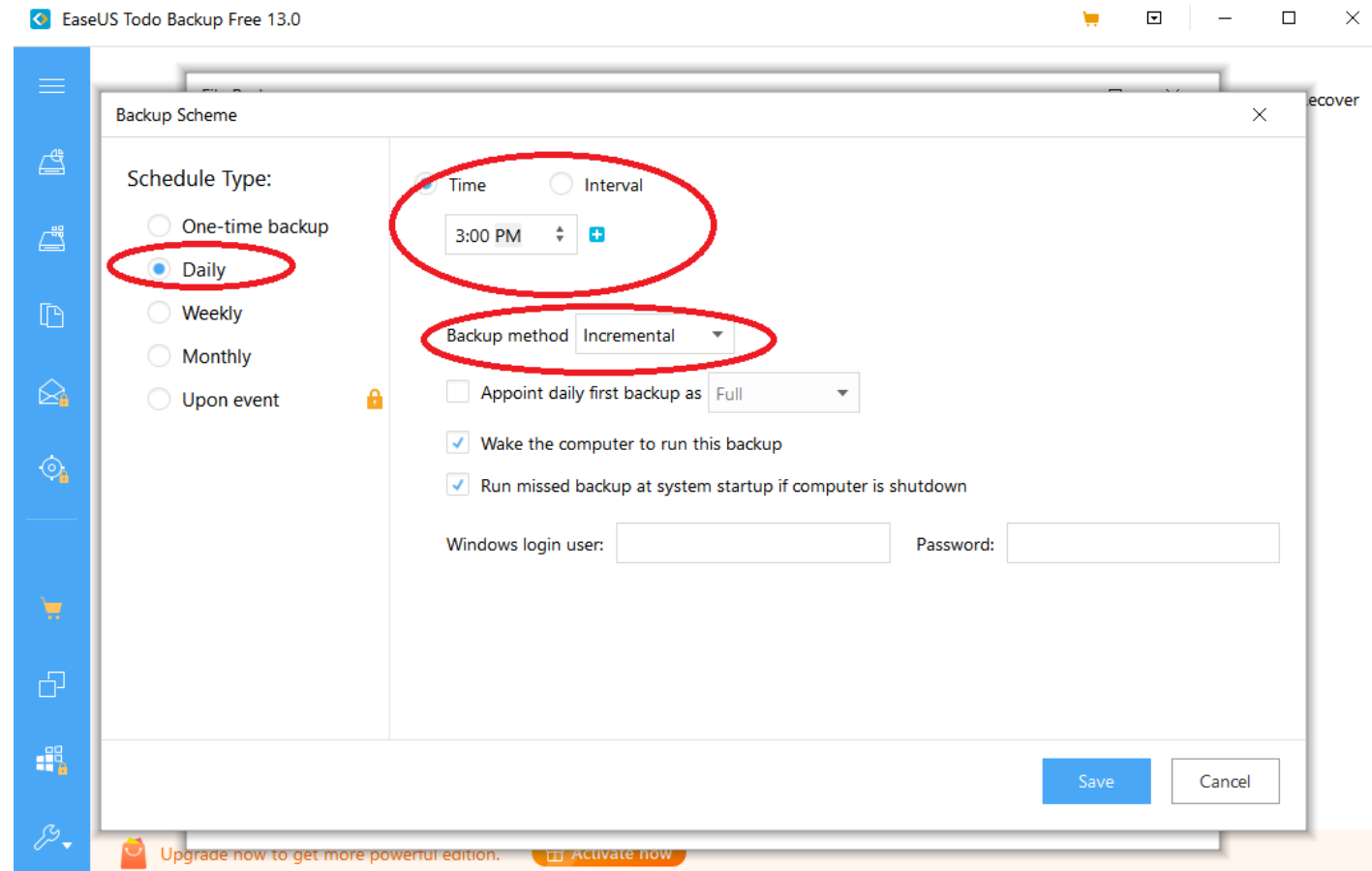
Application Layout



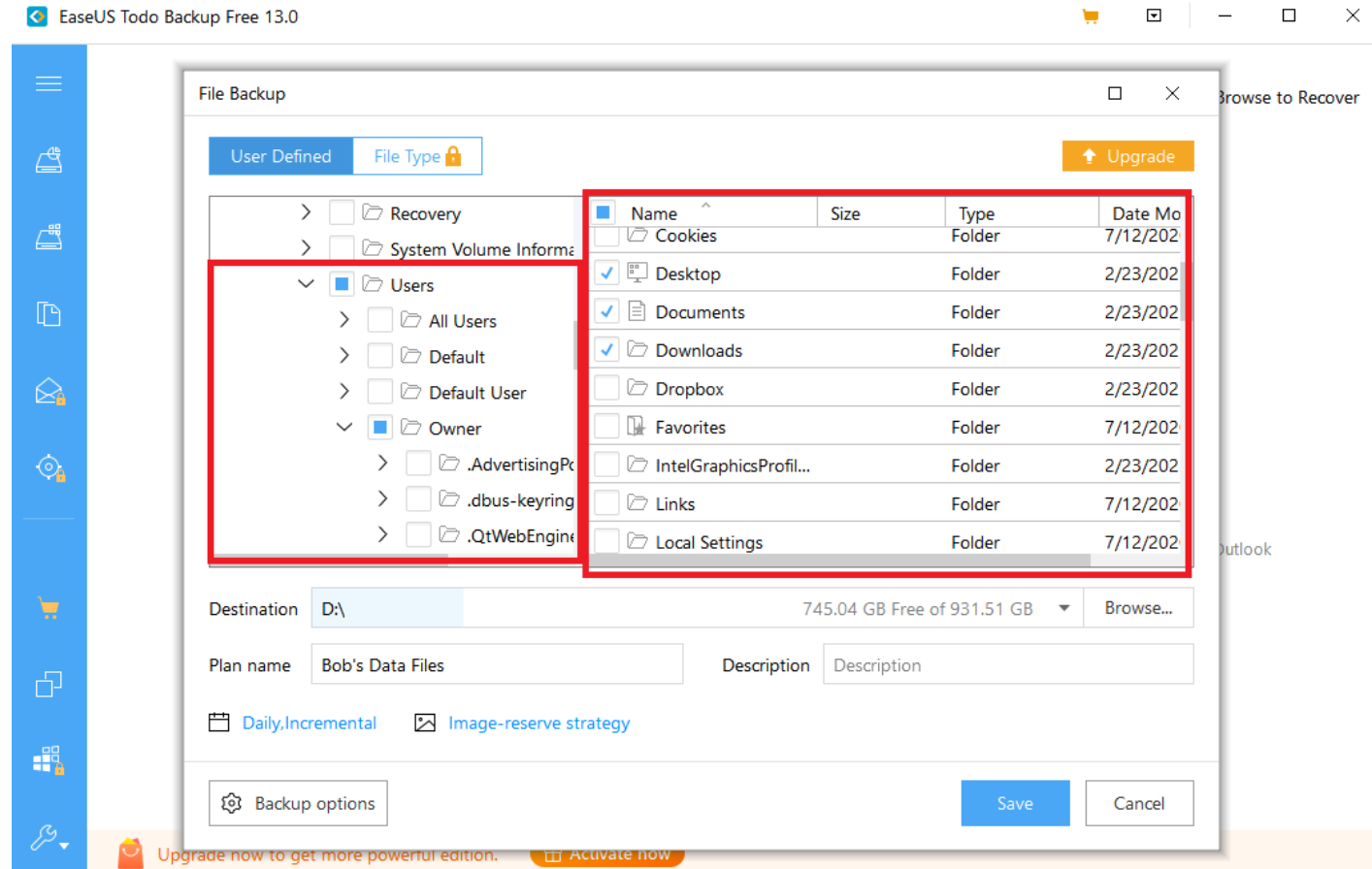
Target: Where do you want the backup to go?



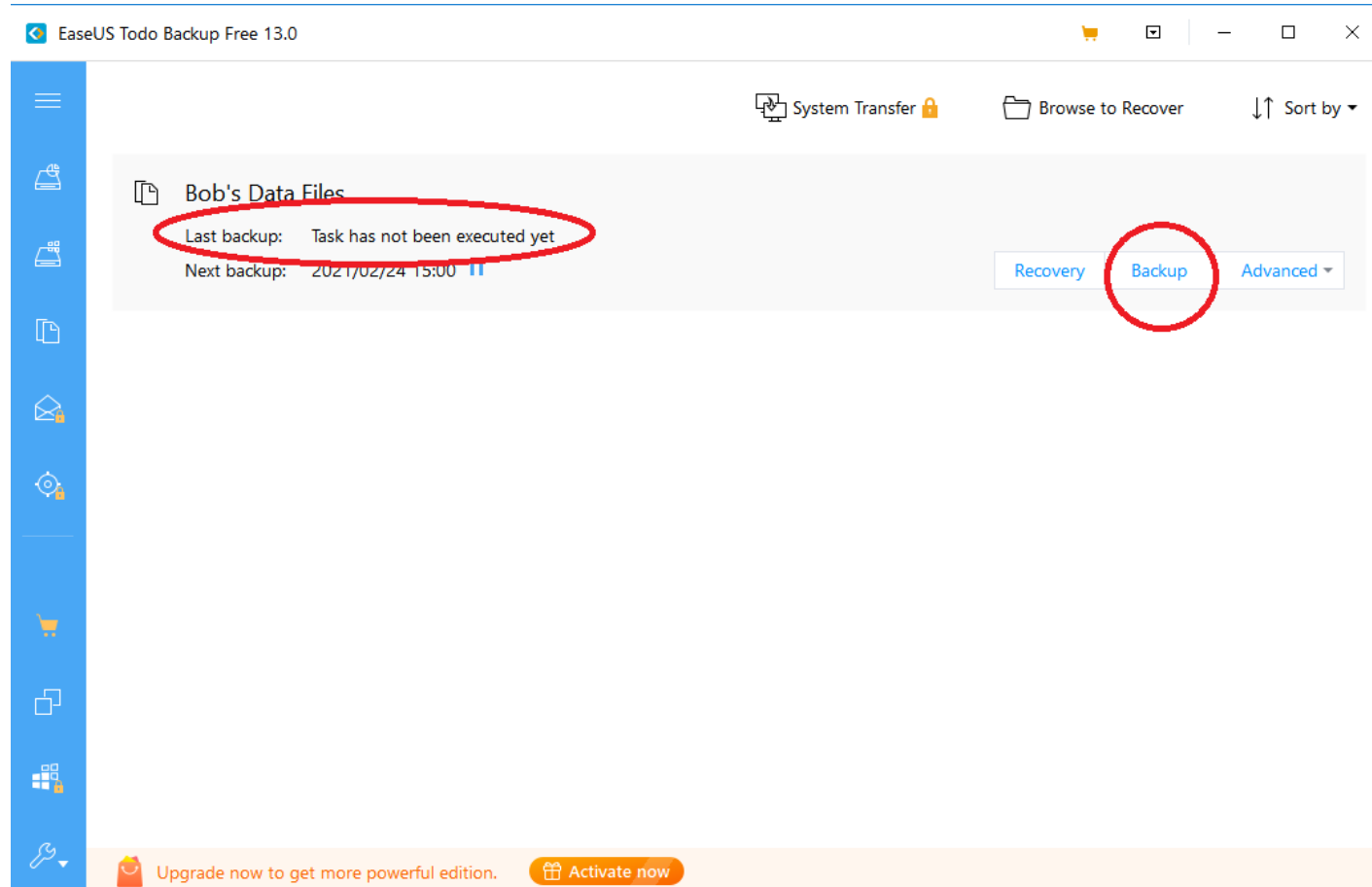
How often? Schedule



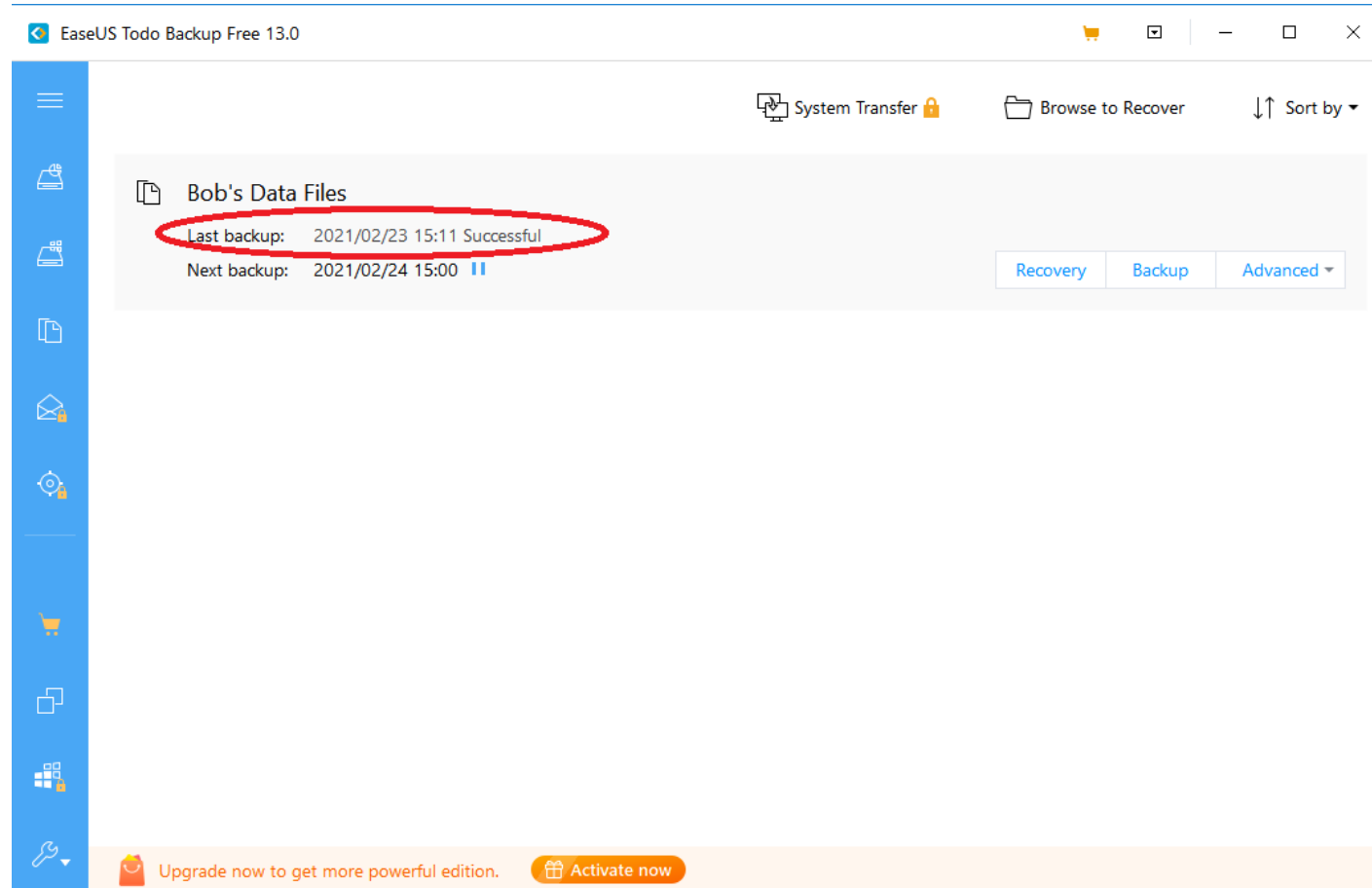
What folders to include in backup



Let 'er rip!



Indication that backup succeeded



Recovery

