



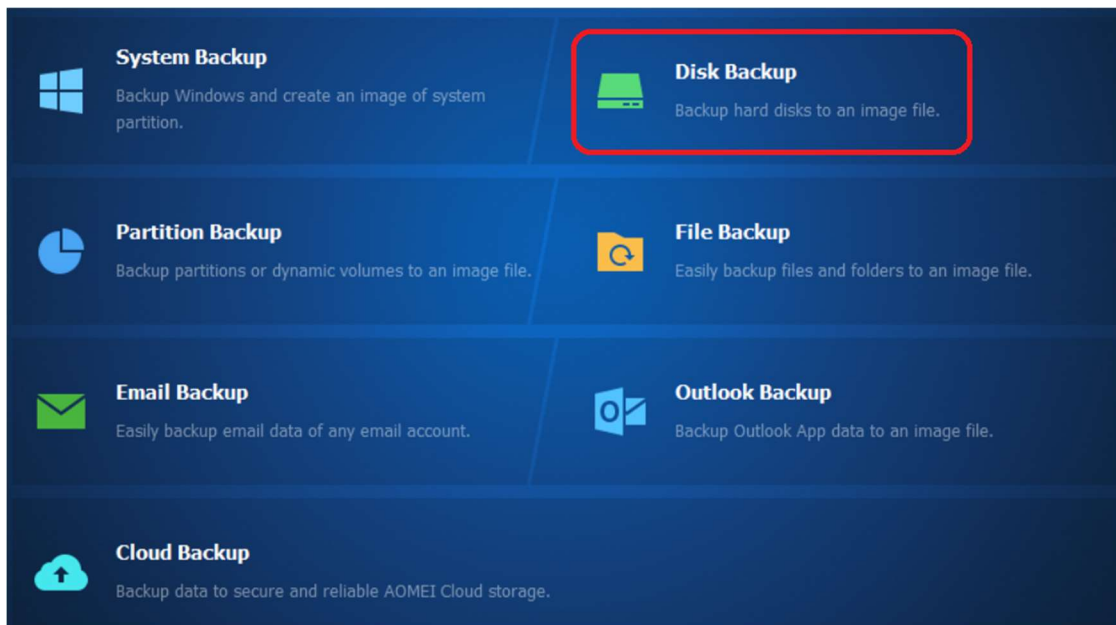
## Partitioning

I divided the new drive into two partitions; a 502-gigabyte partition assigned drive letter “B” for “backups”, with the remaining 1360 gigabytes partitioned as drive letter “D” for “Data”. Both are NTFS.

<b>Disk 0</b> Basic 476.92 GB Online	260 MB Healthy (EFI System Partition)	<b>SYS (C:)</b> 475.69 GB NTFS Healthy (Boot, Page File, Crash Dump, Basic Data Partition)	1000 MB Healthy (Recovery Partition)
<b>Disk 1</b> Basic 1863.02 GB Online	<b>SYS-BACKUP (B:)</b> 502.31 GB NTFS Healthy (Basic Data Partition)		<b>Data (D:)</b> 1360.70 GB NTFS Healthy (Basic Data Partition)

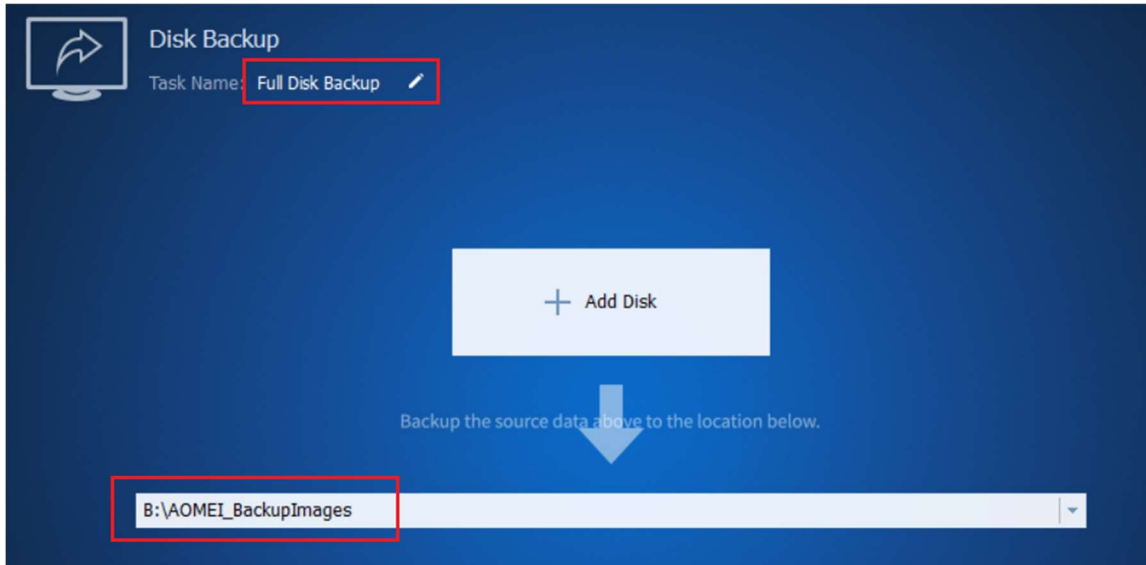
## Imaging

I’m utilizing “[AOMEI Backupper](#)”<sup>1</sup> (licensed professional version) to handle imaging duties. The software provides a broad number of backup options at the system, disk, partition and file level. I’m performing a full “Disk Backup” as part of this imaging strategy.

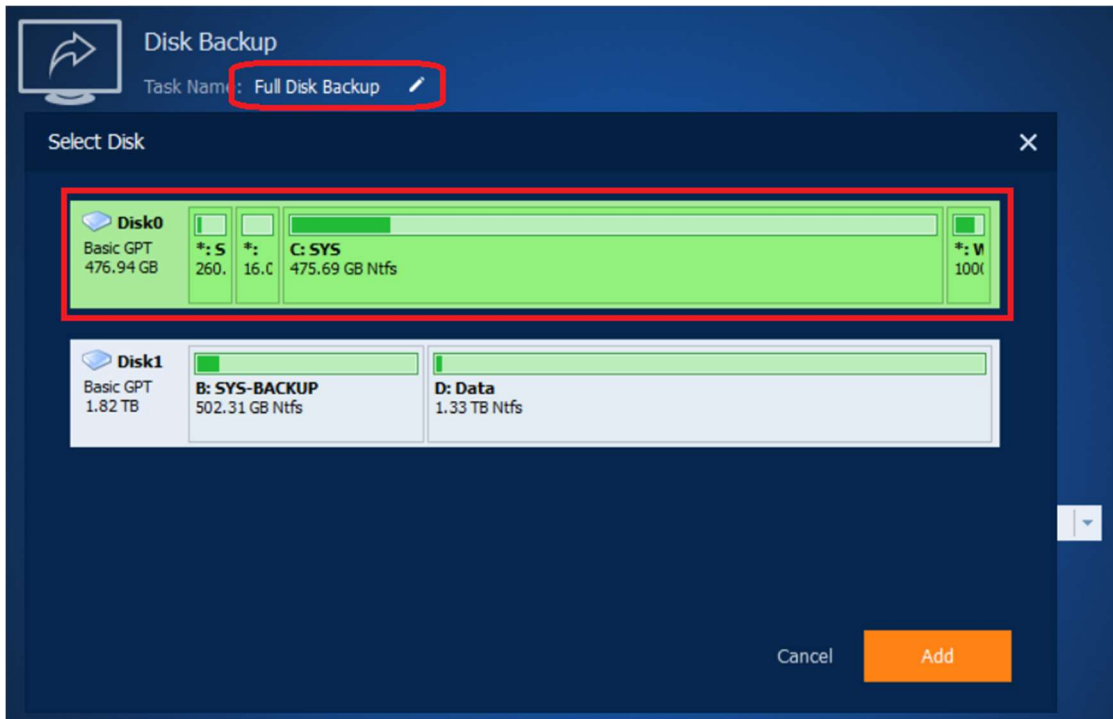


<sup>1</sup> I am also a fan of [AOMEI Partition Assistant](#) and as a licensed user recommend it.

I edited the name to "Full Disk Backup" and browse to the B:\AOMEI\_BackupImages path I've created in advance.

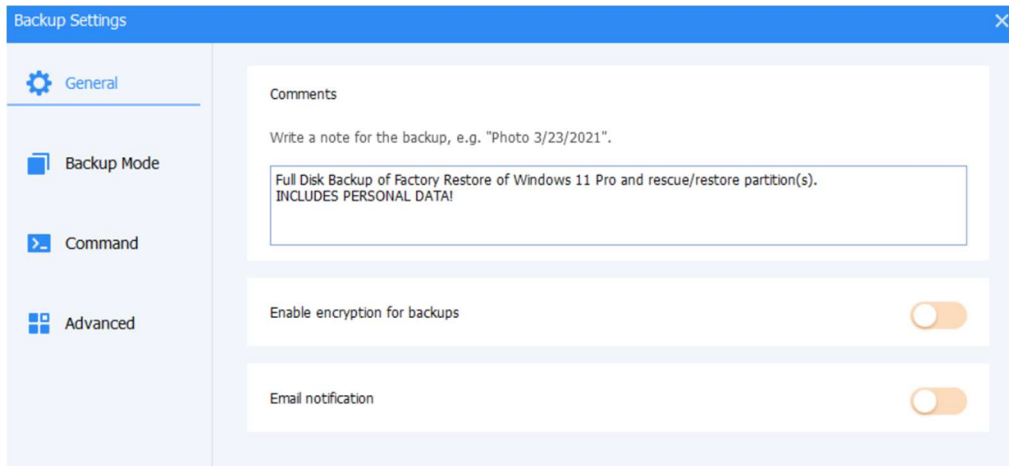


I click Add Disk and select "Disk0" and click "Add". I then click "Backup Scheme" at the bottom of the screen and choose "Full Backup". *(The default is set to incremental.)*



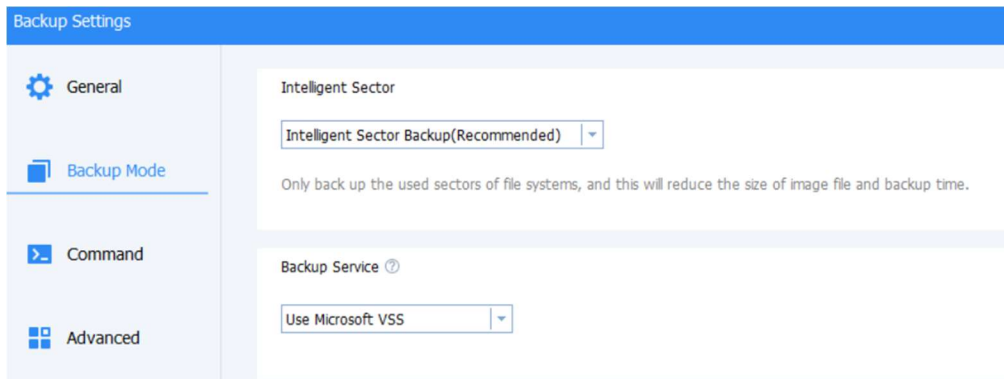
I then click “Backup Settings”.

In the General section I add comments for the image and have not enabled encryption or email notification.

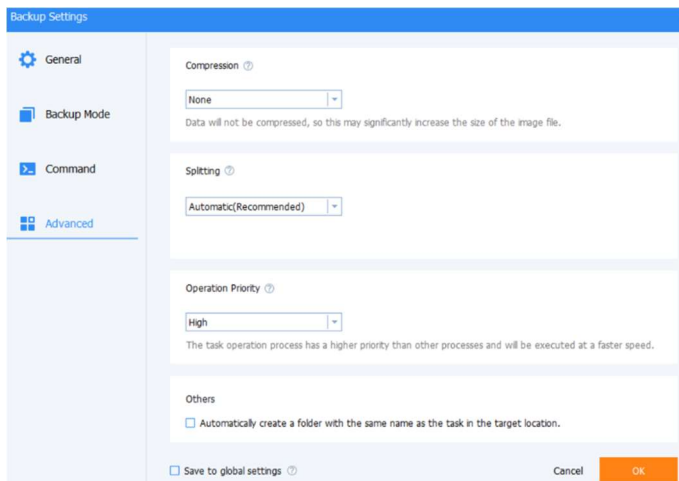


In the Backup Mode section, I select the recommended “Intelligent Sector Backup” to save space.

*For a forensic-level image I would want to select “Make an Exact Backup”.*

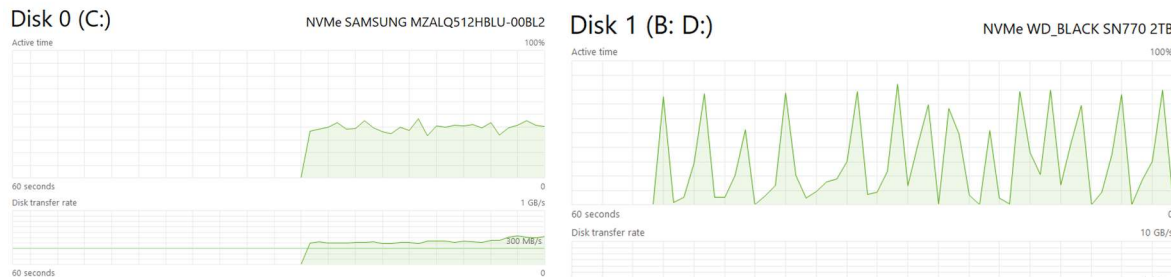


In the Advanced section I set Compression to “None” and Operation Priority to “High” and click OK.



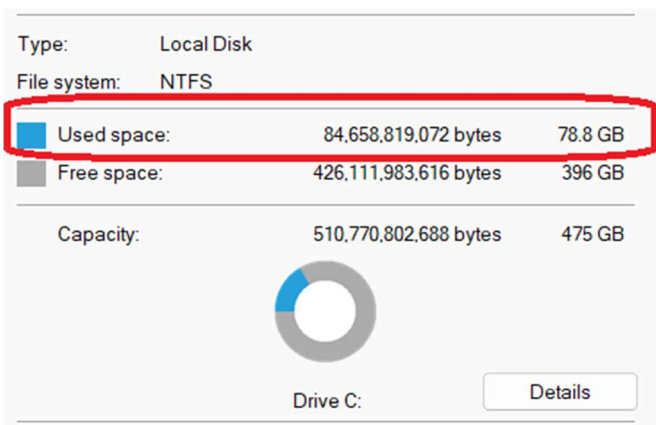
From here we click the “Backup” button, and the imaging process begins.

The entire imaging process from one NVMe solid-state storage device to another is incredibly fast. This backup takes less than eight minutes. The factory Samsung hard drive provides a solid read speed of 300Mbps and the new Western Digital “Black” slurps it in modest cached chunks.

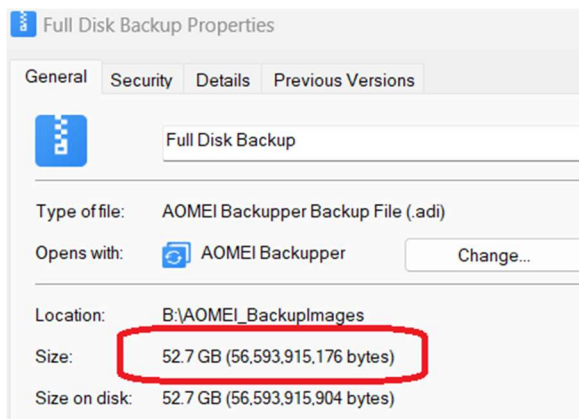


Selecting “Intelligent Sector Backup” in the Backup Mode section has some interesting results.

The properties of the system drive for Microsoft Windows reveals total disk usage at 78.8 GB.



Completed backup image file properties reveal the disk image is only 52.7 GB. This is because the unused or “slack” space in the drive is not included.



Issues to consider:

**READ MY LIPS! An Untested Backup is a WORTHLESS BACKUP!**

I.E. "Test your backups to verify they're good."

What happens if the entire laptop is lost/destroyed/stolen?

Move a copy of the most recent backup image file to alternate storage.

Why don't I use compression?

Compression can indeed save a lot of space and make multiple time-based images possible.

I, however, believe anything "extra" that can go wrong during restoring a backup is something to be avoided. Corruption during decompression, though rare, is one such thing.