

# East SIG Report – October 2023

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After welcoming members to the October meeting of East SIG, host Frank Maher outlined the nights agenda below:

Presentation 1: **Q&A** with George Skarbek

Presentation 2: **How to separate a subject from the background** by Stewart Bedford

Presentation 3: **Upgrading a small M.2 SSD to a larger one** by Peter Carpenter

Presentation 4: **New Tools on the ScamWatch Website** by Dave Botherway

Presentation 5: **Windows 10, Windows 11 and beyond** by Dave Botherway

**Q&A** by George Skarbek.

**Question 1:** I have a folder containing photos with over 100 subfolders. I'd like to update my backup of this folder to reflect only the changes, rather than the whole folder. Can you suggest a way to do this?

**Answer 1:** You can do that with one line in DOS, using the xcopy command. I use xcopy to copy only new or changed file in DOS using this command. It's not necessary to log on as administrator and it will work across a network.

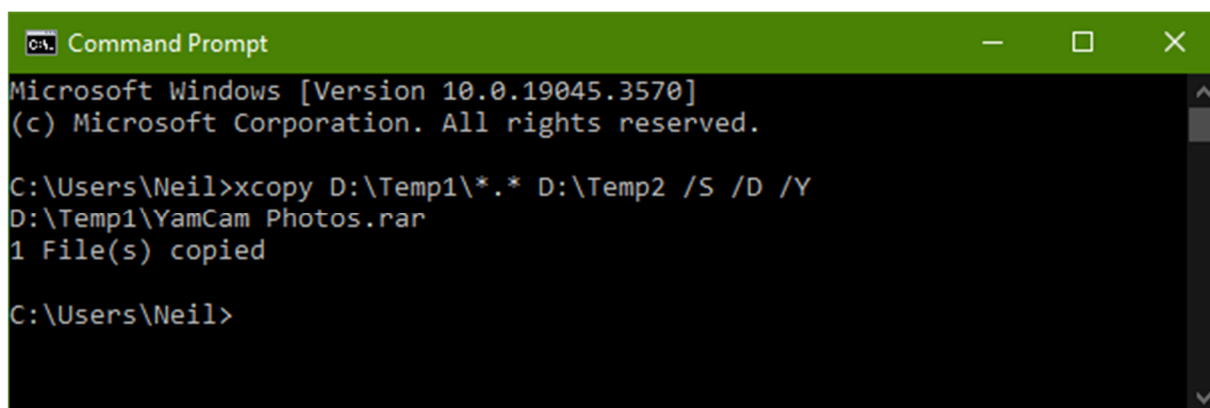
1. Open the DOS box by pressing Windows key and R, then type cmd & press "enter"
2. Then use the CD (Change Directory) command to go to the folder you need to copy files from.
3. Next enter the drive where you want the updated files, say J: for drive J and the folder
4. Ensure you are in the desired folder
5. Finally type:  
xcopy C:\photos\\*.\* J:\photos\ /s /d /y to copy all the new or updated files

Source options /s /d /y act as follows

/s Copies folders and subfolders except for empty ones.

/d Copies files only if the date is newer or the file doesn't exist

/y Overwrites existing older files with newer files without prompting you each time



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Command Prompt
Microsoft Windows [Version 10.0.19045.3570]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Neil>xcopy D:\Temp1\*.* D:\Temp2 /S /D /Y
D:\Temp1\YamCam Photos.rar
1 File(s) copied

C:\Users\Neil>
```

Figure 1 – Windows xcopy command

[Dave Botherway] I use a program called FreeFileSync to copy emails from a laptop to a desktop. It also works across a network.]

FreeFileSync is a folder comparison and synchronization software that creates and manages backup copies of all your important files. Instead of copying every file every time, FreeFileSync determines the differences between a source and a target folder and transfers only the minimum amount of data needed



Figure 2 – FreeFileSync

**Question 2:** I’m finding my C drive is becoming full of programs and I’m running out of storage space. Is there a method or program I can use to move or run programs from other than the C drive?

**Answer 2:** Firstly, I’d run a program like cCleaner to clean out all the junk files. In Windows 10 or 11, I’d then go to Settings → System → Storage → Temp Folders and clean them out. That should get rid of a few Gigabytes, which should help a little.

You might try uninstalling a large program from your C drive, as many programs have an advanced option that will allow you to install a large portion of them on a drive other than C. Make sure that you have the installation media and serial numbers for them prior to uninstalling any such programs.

Try cleaning the C drive up first, but also look for old programs you no longer use and delete them. You can also uninstall files that come with Windows, such as Xbox if you don’t use them.

A further option is to change the “Environment Variable” from loading Temp files on drive C. Create a folder on J drive called temp. Go into Setting and search for “environment” and change 2 “Environment Variables” to point to another drive. The first “Environment Variable” to change is shown in Figure 3 below with blue highlight.

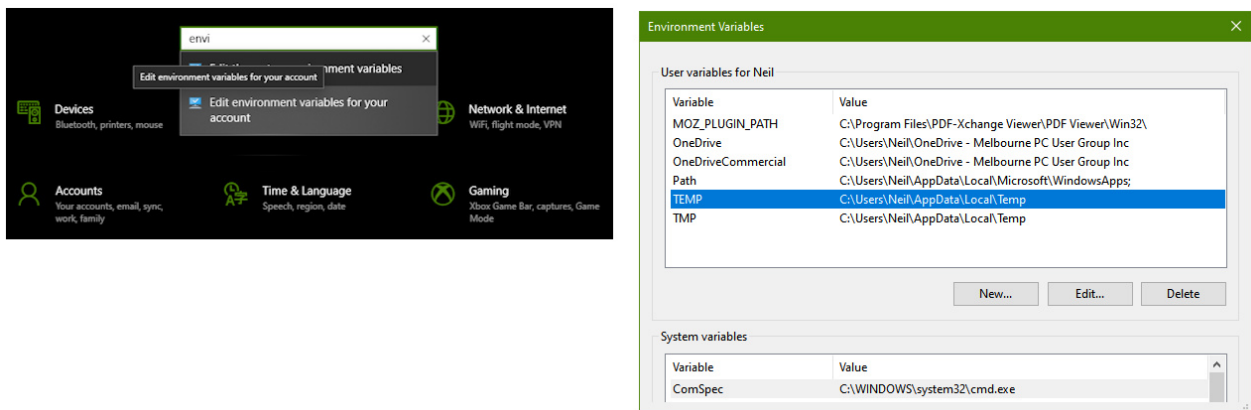


Figure 3 – Changes to “Environment Variables”

**Question 3:** If one morning you find your computer is slowing down, what instant action would you take?

**Answer 3:** I would go to Task Manager and select the Start Up tab. Disable any programs in your Start Up folder that you use once a week. These programs hold on to memory waiting for you to run the program. Disabling these programs does not uninstall them. This will stop all unnecessary files starting up that are not needed to start, at the same time as your computer starts. These programs slow down the start up and secondly use up your most valuable resource, your RAM. That change will have a significant improvement in how long your computer takes to start and also how quickly your programs run

### **How to separate a subject from the background** by Stewart Bedford

Dave Botherway introduced the next presentation on separating subjects from image backgrounds. The video Dave played, created by Stewart Bedford a few years ago, can be found on the Melbourne Computer Club channel. Stewart demonstrates a straightforward technique to remove subjects from images and place them on new backgrounds. This is done using an alpha channel or transparency, a feature found in certain graphic formats.

Stewart demonstrated the removal of a computer laptop from its background using Pinta, a free open-source bitmap image editor, with a wide array of features. The image he used was a PNG (Portable Network Graphic) file format, because it supports transparency.

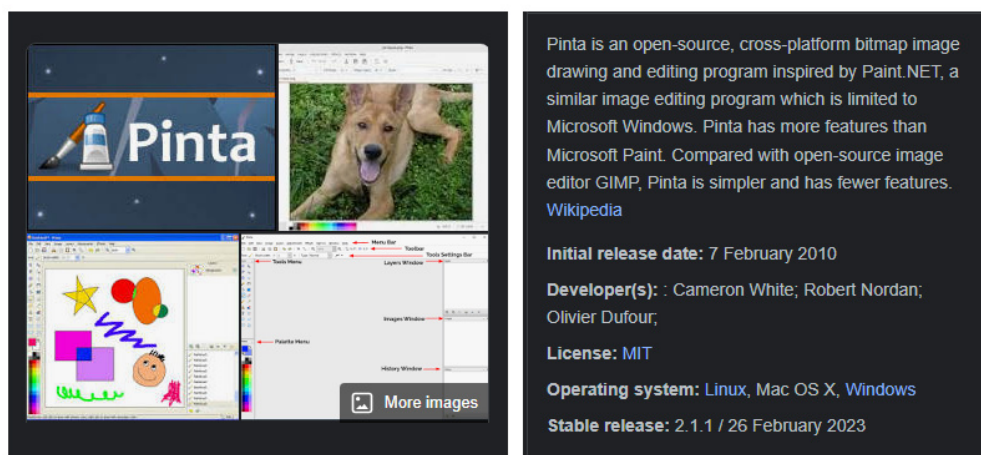


Figure 4 - Pinta

The process shown, involves cropping a square around the subject to extract it, saving this as a new image. This approach offers the dual advantages of reducing the file size for efficiency and eliminating any extraneous elements from the original image.

The "magic wand" tool is then used to select the area around the subject. Stewart specified that the tolerance needs to be set to ensure the area selected by the magic wand, does not encroach onto the area to be preserved. If this happens, set the tolerance to a lower value. Once the selection is made, pressing the delete key removes the background and makes the area transparent. This is represented by a checkerboard pattern. Refer Figure 5.

This technique works best when there's a clear distinction between the subject and the background. The final image is saved as a PNG with transparency and can be easily placed over other images, as Stewart demonstrated by resizing and rotating over an existing image.

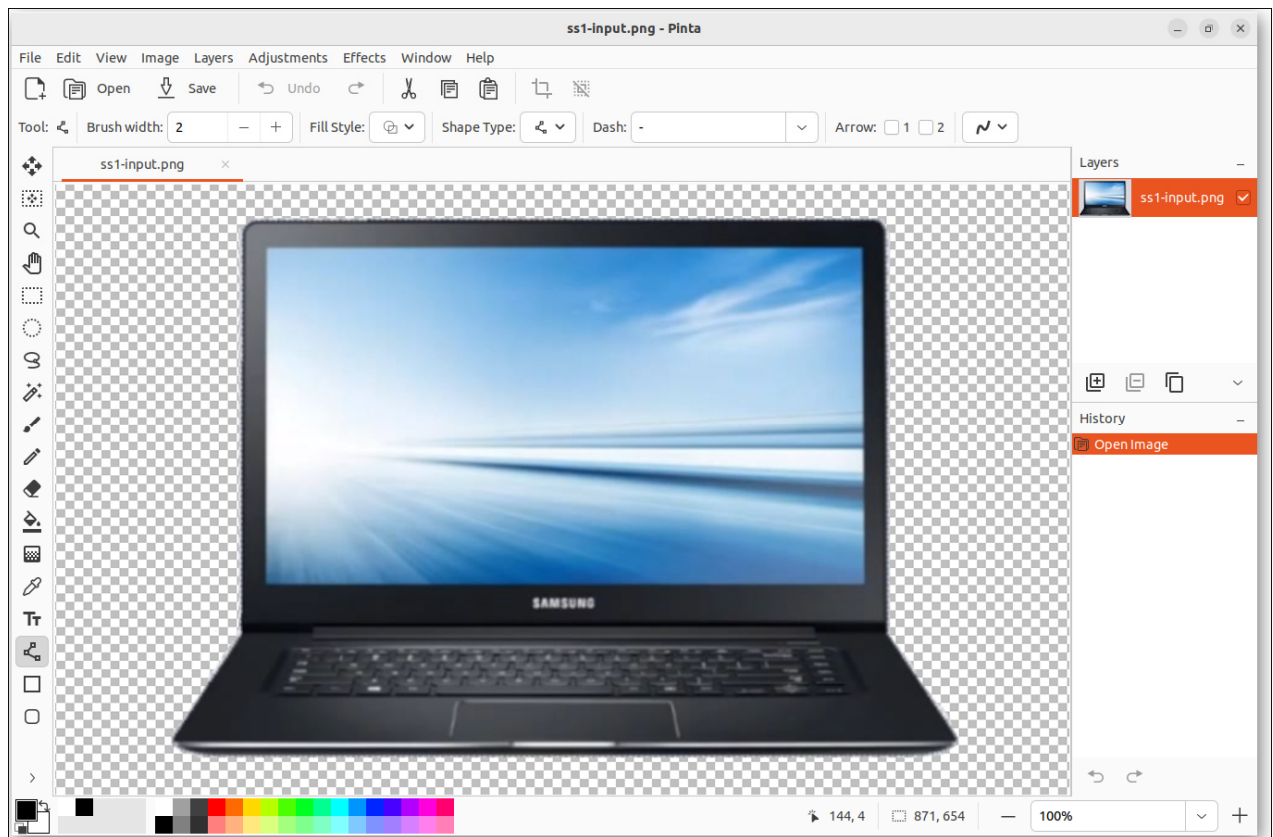


Figure 5 – Pinta User Interface

### **Upgrading a small M.2 SSD to a larger one** by Peter Carpenter

In this presentation Peter Carpenter outlines the steps involve when he upgraded the C drive in his laptop from a small M.2 drive to a larger M.2 drive.

To set the stage for his upgrade, Peter outlined the evolution of solid-state storage, the changing form factors, their physical connectors and interfaces that have given huge advances in speed.

Original Solid-State Drives (SSDs) started out with a form factor that resembles a 2 ½ inch rotating hard drive and used the same SATA connection. These SSDs were followed by a different form factor called M.2 SSDs.

M.2 refers to the physical connector which is a slot on the motherboard. The M.2 SSDs reduced the physical size of the SSD, but gave no speed advantage. Refer Figure 6.

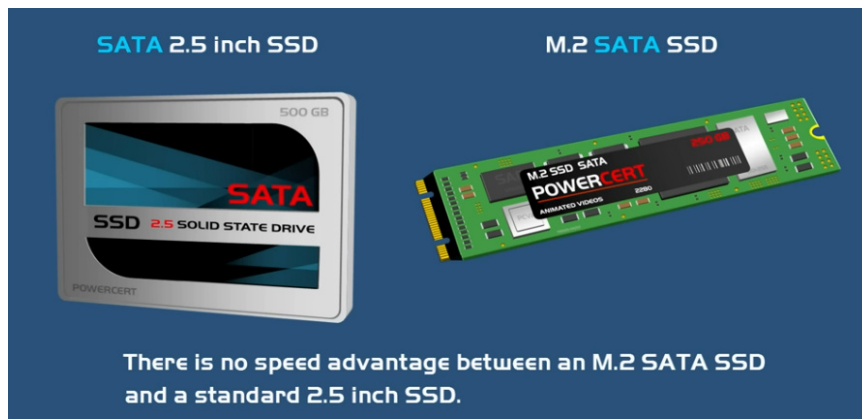


Figure 6 – SATA SSD

The M.2 connector can have different interfaces including USB, SATA & PCIe.

Regular SSDs and M.2 SSDs use flash memory, but to unlock their full potential new technology was needed in the form of M.2 NVMe. The older SATA 3.0 interface was designed for spinning hard drives, not SSDs. The M.2 NVMe SSDs use the lightning-fast PCI Express bus instead, which is much faster than SATA.

M.2 SSDs with NVMe Express are roughly 5 times faster than SATA, reaching data transfer speeds of 3 Gigabytes per second. The actual speed can vary depending on your motherboard and which SSD hardware is used, but it's still gives a significant speed improvement.

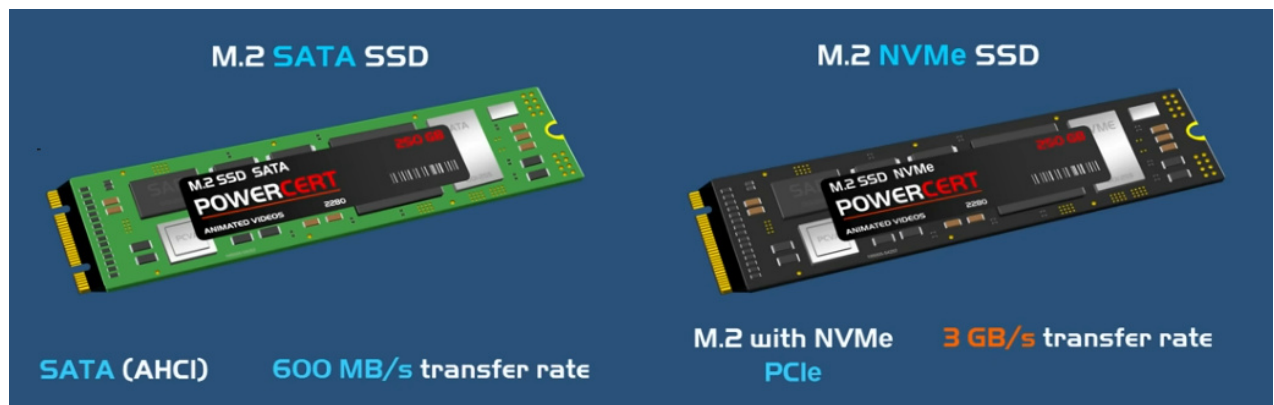


Figure 7 – SATA vs. NVMe SSDs

Reference <https://www.youtube.com/watch?v=HvfIeTieXOI>

NVMe, or Non-Volatile Memory Express, is a protocol specifically built for SSDs. It cuts down on CPU overhead, reduces latency, and boosts input and output operations per second and is incredibly fast.

Warning:

- M.2 SSDs connect to your motherboard's M.2 slot. You just slide them in, secure them with a screw, no extra cables are needed. But not all motherboards have M.2 slots, so check if your motherboard supports this technology before you make a purchase.
- It's also worth noting that not all M.2 SSDs use NVMe or the PCI Express bus; some use the slower SATA bus, offering no speed advantage over standard 2.5-inch SSDs. So, do your homework before you invest in new hardware.



## Cloning an M.2 SSD

### Planning

Using Windows File Manager, Peter ascertained his laptop C or Boot drive was running low on disk space. The C drive was a 120 GB M.2 SATA SSD with only 18 GB of free space available.

Step 1 Peter's research revealed the type of M.2 SSD card his laptop's motherboard required. A new 250 GB M.2 SATA SSD was then purchased from Centrecom for \$120.

Also purchased from Centrecom, was an external M.2 card carrier for \$20. The carrier would later be needed for the cloning process.

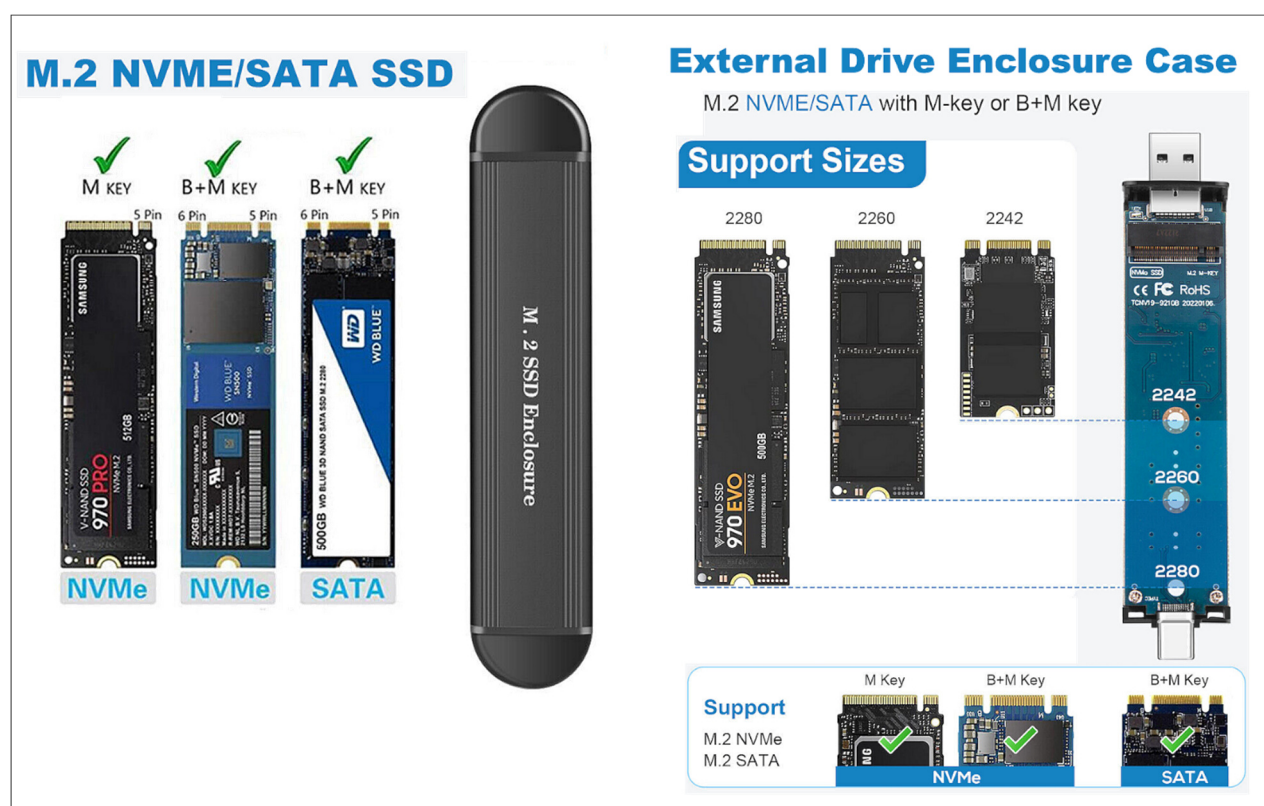


Figure 8 – SSD External Drive Enclosure & Different storage types & form factors.

Step 2 Download disk cloning software. Peter selected Clonezilla, which is free open-source Disk Imaging and cloning software that has a good reputation. The Clonezilla software comes as a 420MB ISO file.

Step 3 Download Rufus software for writing the Clonezilla ISO onto a USB memory stick, needed later in the process.

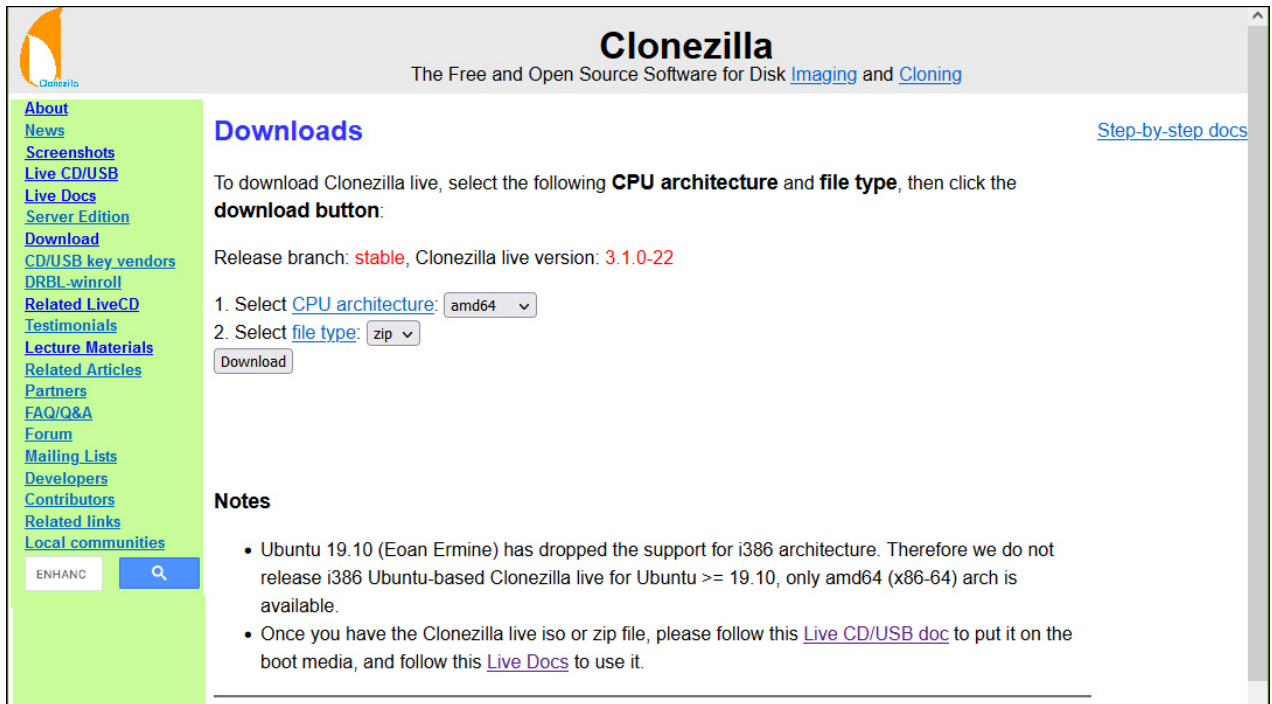


Figure 9 – Clonezilla Website

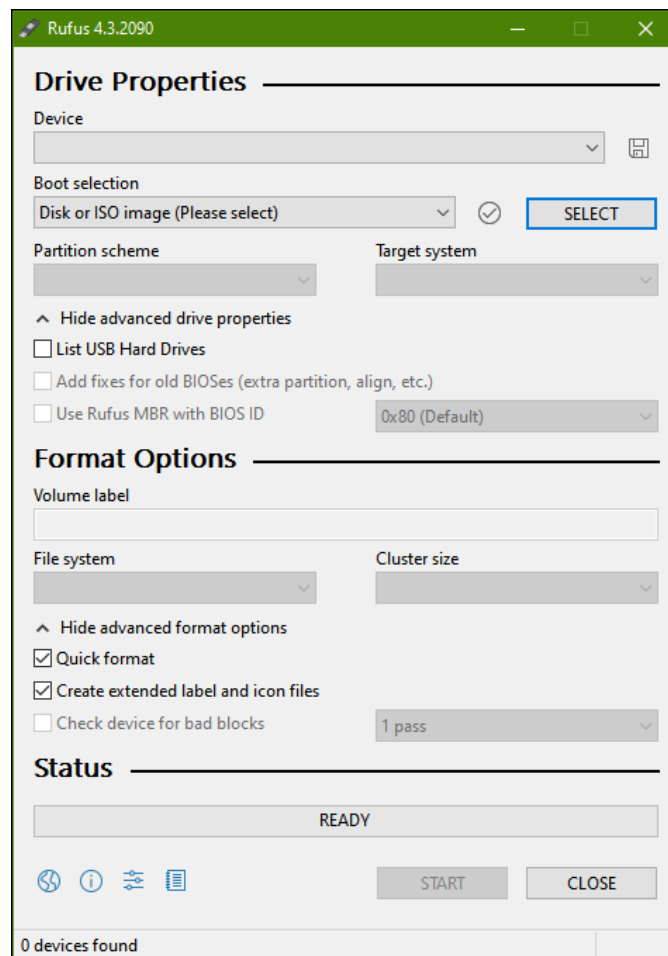


Figure 10 – Rufus User Interface

## Cloning

- Step 4 Ensure that the laptop will boot from USB as the first boot drive. This may require setting the boot order in the BIOS.
- Step 5 Obtain a spare USB memory stick for use in step 6, to write the Clonezilla ISO software onto.
- Step 6 Use Rufus to write the Clonezilla ISO file onto the spare USB memory stick. This process creates a bootable USB drive. The result is a Linux operating system that will boot and run Clonezilla automatically
- Step 7 Insert the new 250GB M.2 SSD into the external M.2 enclosure purchased in step 1.

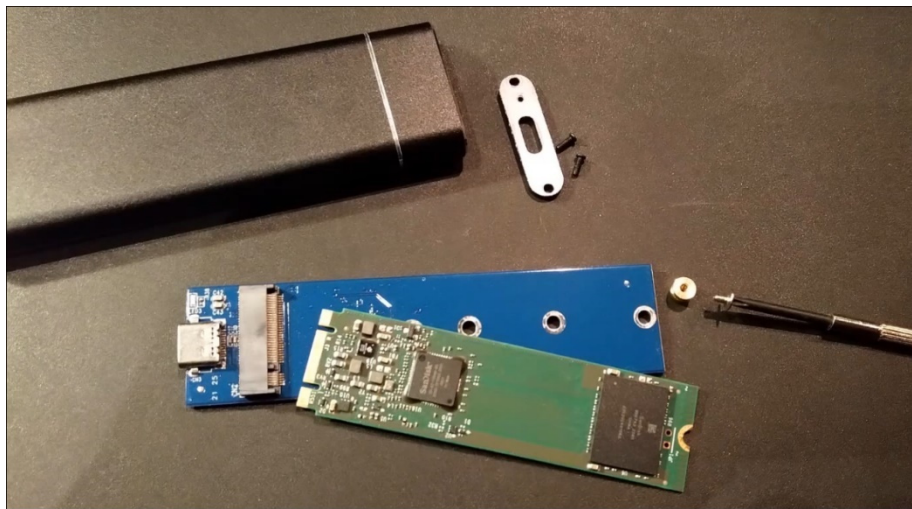


Figure 11 Peter's SSD External Enclosure

- Step 8 Plug the Boot USB drive containing Clonezilla into one USB slot, and the external M.2 enclosure containing the new 250GB card into a second USB slot of the laptop.
- Step 9 Power on the laptop. Clonezilla will start automatically, creating a cloned copy of the laptops current C or boot drive onto the new M.2 drive currently mounted in the external enclosure.  
Selections in Clonezilla are via the keyboard controls rather than a mouse.

When running Clonezilla select "device-device". This option works directly from a disk or partition to a disk or partition.

Peter used the following options when offered:

- Expert Wizard "Expert mode: Choose your own options"
- Next select "disk\_to\_local\_disk local\_disk\_to\_local\_disk\_clone"
- Next select your Source disk (i.e 120GB M.2) & Target (i.e. 250GB M.2)
- Press Enter.
- When selecting parameters accept the defaults, plus select "-icds" which skips checking of the target disk. Peter found this option was needed and assumed as the 250GB was new, it was safe not to check the target drive.
- Finally select "Create Partition table proportionally" for the cloned drive to fill the entire 250GB drive.

- Step 10 On completion of the cloning, power off the laptop and remove the USB memory stick and the external M.2 enclosure. Remove the 250GB M.2 SSD from its enclosure for inserting into the laptop.



Step 11 Open the back of the laptop by removing the retaining screws and swap out the 120GB M.2 SSD, with the new 250GB M.2 SSD.



Figure 12 -Installing the 250GB M.2 SSD into the Laptop

Step 12 Power on the laptop. When Windows boots, Peter used the Windows Disk Management program to confirm the size of the new C drive was shown correctly.

Step 13 The old 120GB M.2 drive can be inserted into the external enclosure for use as a spare drive

### **New Tools on the ScamWatch Website** by Dave Botherway

With October being Cyber Security month, Dave gave a brief overview of the latest tools available on the ScamWatch website. The government has made a significant financial investment to educate the public through the newly established ScamWatch website, which can be found at <https://www.scamwatch.gov.au>. Their aim is to make Australia a harder target for scammers. The website is designed with a user-friendly interface, offering quick and easy access to resources for identifying scams, providing guidance for those who have fallen victim to scams, and delivering news alerts about current trending scams.

In conclusion Dave emphasised that ScamWatch is an invaluable resource for staying informed about the evolving landscape of scams. He recommended members download the Little Black Book of Scams from the ScamWatch website. This is a crucial tool for individuals concerned about their online security.



Figure 13 – The Little Black Book of Scams

## Windows 10, 11 and Beyond by Dave Botherway

With talk about a new Windows operating system on the horizon, Dave Botherway looked at the differences between the current OS's from Microsoft, Windows 10 and 11.

The main differences between Windows 10 and Windows 11 are:

### **Design**

Windows 11 has a more modern and uncluttered design than Windows 10. It has rounded corners on windows, new app icons, and a centred Start menu and Taskbar.

Windows 10 has a more traditional and familiar design with sharp corners, old icons, and a left-aligned Start menu and Taskbar.

You can customize the appearance of both operating systems to some extent, but Windows 11 offers more options for themes, colours, and sounds.

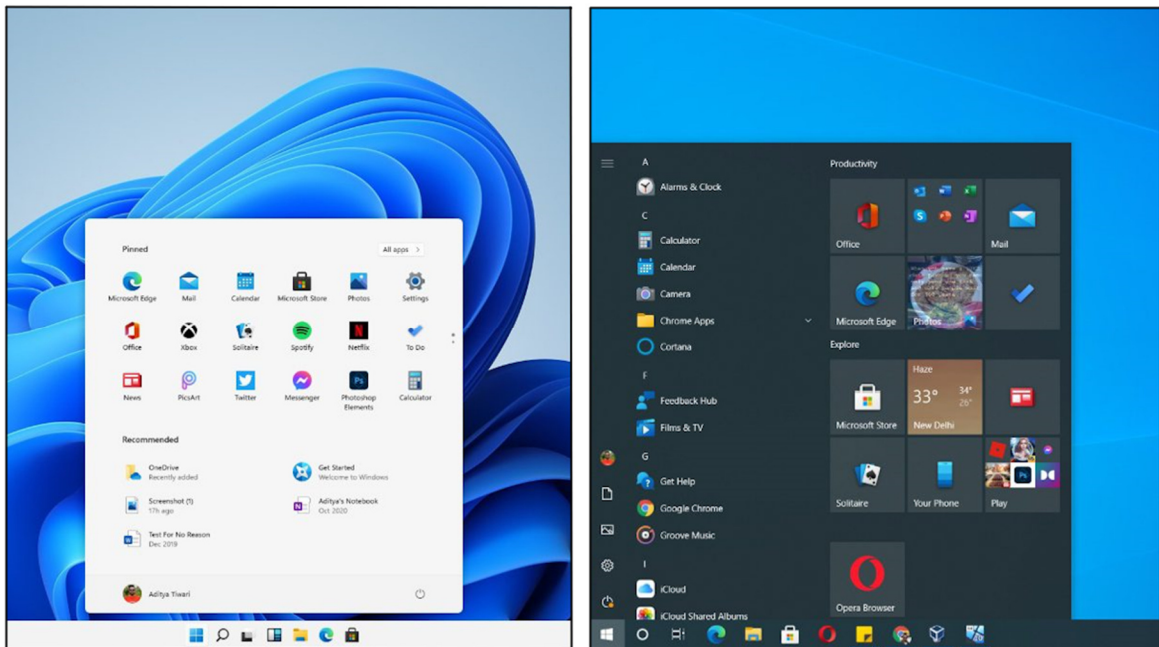


Figure 14 - Windows 11 Design versus Windows 10

### **Features**

Windows 11 has some new features that Windows 10 does not have, such as support for Android apps, live captions for your browser, Focus mode, Snap layouts, Snap groups, Widgets, and Teams integration. Windows 11 also has a redesigned Microsoft Store that allows more types of apps and software to be downloaded.

Windows 10 has some features that Windows 11 does not have, such as Timeline, Cortana, Tablet mode, and Live tiles.

### **Compatibility**

Windows 11 has higher system requirements than Windows 10. It only runs on 64-bit PCs with a TPM 2.0 chip and UEFI firmware with Secure Boot capability.

Windows 10 can run on both 32-bit and 64-bit PCs with lower hardware specifications. Some older PCs that can run Windows 10, may not be able to upgrade to Windows 11. You can check if your PC can run Windows 11 by running Microsoft's free PC Health Check app.

## Upgrade considerations

If you want to upgrade from Windows 10 to Windows 11 you need to consider the pros and cons of each operating system. Windows 11 offers a fresh and modern look, new features, and better security, but it may not work on some older PCs or support some older software.

Windows 10 offers a familiar and stable experience, wider compatibility, and longer support, but it may not have some of the latest innovations or enhancements. The choice is up to you and your preferences

## Windows 11 23H2 Feature Update

Each year Microsoft releases a major feature update to Windows. The latest update to Windows 11 is 23 H2 and was released on 26<sup>th</sup> September. Rumours suggest this will be the final major feature update for Windows 11 before Windows 12 appears.

New features in 23H2 include:

- Changes in File Explorer
  - Addition of a Details button that displays file attributes, such as file type, size, location and date modified.
  - A Share button for sharing the file with people in your mail client
  - the addition of a Gallery for viewing photos, (needs MS account)
- New audio volume mixer,
- Windows Spotlight for daily desktop wallpaper images,
- Dynamic lighting effects in Settings → Personalisation
- Passkey to replace passwords on some websites
- Updates to the Paint app with layers & remove background,
- Introduction of native 7-Zip and WinRAR support,
- Improvements to the Snipping Tool,
- Inclusion of an AI feature called "copilot". (needs MS account)
- Changes in taskbar behaviour,
- New Windows backup feature, (needs MS account)
- The ability to create and manage virtual machines.
- The addition of a VPN icon when connected to a VPN.

Some of these features require signing into a Microsoft account, which might not be suitable for users who prefer a local account.

Reference <https://www.youtube.com/watch?v=DJFGVz95bTQ>

George Skarbek commented that “there was nothing that leap out at him that would make him change from Windows 10 to 11”. George stated that the operating system is not as important as the software you run. “I have no intention to upgrade my Windows 10 to 11 personally. Windows 11 has a few extra nice features, but quite a few things require an extra one or two clicks and are buried.”

Neil Muller