

Windows 11 Tips:

## EXISTING PC UPGRADES

My Win 10 Pro Intel NUC-PC:

Intel® NUC 11 Performance kit - NUC11PAKi5

<https://ark.intel.com/content/www/us/en/ark/products/205032/intel-nuc-11-performance-kit-nuc11paki5.html>

Originally installed with full retail Windows 10 Pro

Upgraded. Checked with WhyNot11

WhyNotWin11 - PC Health Check

<https://www.whynotwin11.com/>

Drivers:

Intel Drivers and Support Assistant.

Run before and after any major Microsoft update.

BIOS is included with the Drivers and Support Assistant.

For the original Windows 11 upgrade

Back up with Macrium Reflect Free:

<https://www.macrium.com/reflectfree>

Set to Verify Image when finished. Make duplicate copies to different external drives.

Back up my personal data separately from the system image backup.

Again, copy data backups to different external drives.

I had previously set up a block on the Windows 11 offer in Group Policies. So I went back into these settings and removed the block. If I had it to do all over again, I would use the utility InControl (formerly Never10) from Gibson Research

InControl

<https://www.grc.com/incontrol.htm>

Does not need the Group Policies and has one-button on/off and set the version. You need to know the official name of the Feature Update you want to freeze at.

I got this upgrade through Windows Update. I first had to get the latest monthly updates, then was offered (after rebooting) Windows 11, 21H2.

This PC was not offered the 22H2 Feature Update through Windows update. If this happens to you, do not force an update to the new version. You could experience serious system instability if you do force this update.

After some research, I found that a driver or two needed to be updated. I did this. And I was still not offered the update.

So I went out to Microsoft and downloaded the Windows 11 Installation Assistant

<https://www.microsoft.com/software-download/windows11>

How to Use the Windows 11 Installation Assistant

<https://www.makeuseof.com/windows-11-installation-assistant-guide/>

The Installation Assistant won't just stop with a cryptic Error Code if it encounters a problem. It will exit the installer, go through Microsoft Update and

try to find and install missing or outdated drivers, to get your system ready for the update or upgrade.

In my case, the process exited with an error: "Your hardware is not ready for this version of Windows."

So I knew I had a hardware block.

A bit more online research and I found the cause(s): sound and possible printer drivers which could result in a Blue Screen of Death:

Windows 11 22H2 blocked due to blue screens on some Intel systems

<https://www.bleepingcomputer.com/news/microsoft/windows-11-22h2-blocked-due-to-blue-screens-on-some-intel-systems/>

I used the Intel Drivers and Support Assistant and got the latest drivers. Still no joy.

One of the updates from Intel was a BIOS reflash update. Still no joy on the Windows 11 22H2 update.

I later found out that there could be printer issues on some systems. This one only affects printing, not system stability. The block could be overridden, but it's not worth the effort.

Windows 11 22H2 blocked on some systems due to printer issues

<https://www.bleepingcomputer.com/news/microsoft/windows-11-22h2-blocked-on-some-systems-due-to-printer-issues/>

But once the Microsoft Windows 11 Installer Assistant was convinced my sound drivers were OK, it went to Microsoft Update and found some updates to apply (Printer drivers?). After that, the installer resumed and ran through to completion.

So now my Intel NUC-PC had an in-place upgrade and a Feature Update successfully applied. Time for another backup round, and call it a day.

We have a year to get things sorted out before the 21H2 updates go out of support. Windows 10 has several years of support to go. So there's definitely no rush to force any upgrades or any updates on PCs which are not ready yet.

## NEW PC SETUP AND UPDATES

I recently experienced what I thought was the death of my Intel NUC-PC. It turned out that only its internal SSD had died. (SimplyNUC replaced the OEM drive with a better OEM drive.) The NUC BIOS sometimes goes to a Black Screen even if the only thing wrong is an internal drive failure and there are bootable USB devices attached. I call this a bug -- Intel calls this a feature.

Anyway, this failure caused me to have to attend a Zoom Meeting of this group using just my Chromebook and a Linux version of Zoom. I determined at that point to get a new PC, and always have a backup PC available for a variety of reasons.

My new PC:

PowerSpec B685 by the Micro Center

<https://www.microcenter.com/product/649266/powerspec-b685-desktop-computer>

(Overview and Specs)

I added faster USB ports to an open slot:

Inateck PCIe to USB 3.2 Gen 2 RedComets U22 Multi-port Extension Card  
(Max speed is USB 3.1, 10 Gbps, with caveats about available MoBo Lanes and multiple drives in the same bus.)

<https://www.amazon.com/Inateck-Extension-Bandwidth-Type-C-RedComets/dp/B0953P5K97>

(There was some modification needed to fit the bracket to my case.)

Once I did initial setup of the new PC, it had Windows 11 Pro, 21H2 already installed. But it did not have my favorite software installed.

If this were Linux, I could have gone to a different, fully populated installation, opened up the package manager, saved the markings then transferred that file to the new PC, and all would be well. (Except for a few settings.) But this is Windows, and software comes from all over the place. Other than license keys which need to be saved manually, software needs mostly to have its installers located online, downloaded and run. (Except for portable apps, which can just be copied over from one PC to another.)

For my installed software I needed a list in a convenient format, to go out and find the installers and populate my new PC with programs. For this I used a neat feature of KC Softwares SUMo Updates Checker.

SUMo

SUMo Software Update Monitor

<https://www.kcsoftwares.com/?sumo>

Two things SUMo can do which apply here: First, show an additional optional column with the file locations of all detected software. This allows identifying which are the main programs, not just little components of bigger programs.

Second, SUMo can export its listing as a .csv file, which is picked up by any good spreadsheet program and displayed in spreadsheet format. (Example) Show SUMo display and how to export the list.

Let's look at some of the software I installed:

LibreOffice is the program I use for anything having to do with spreadsheets, documents or a slide show.

<https://www.libreoffice.org/>

For PDF handling in Windows I like PDFSAM, though to be honest, some Linux-only programs are easier to navigate and use.

PDFsam Basic

<https://pdfsam.org/>

LibreOffice Draw and Inkscape can also help with limited PDF editing.

Inkscape

<https://inkscape.org/about/>

CCleaner and Glary Utilities for Windows light cleanups.

<https://www.ccleaner.com/>

<https://www.glarysoft.com/>

Geek Uninstaller, because programs don't uninstall themselves very well in Windows.

<https://geekuninstaller.com/>

Malwarebytes and AdwCleaner because Windows Defender is not really enough.

<https://www.malwarebytes.com/>

<https://www.malwarebytes.com/adwcleaner>

Paint.NET and GIMP for graphics and photo editing.

<https://www.getpaint.net/>

<https://www.gimp.org/>

VLC Player, which can play almost anything and can do other neat stuff.

<https://www.videolan.org/>

Irfanview, one of the best photo organizers and converters for Windows.

<https://www.irfanview.com/>

The rest of the list is mainly a huge collection of specialized utilities which I very seldom use individually. But when I need them, I don't want to be fishing around on Google to find them.

So I installed the software I wanted, then backed everything up. System and data. Extra copies just in case.

Now I wanted to get up to the 22H2 Feature Update. This PC went through the monthly updates, then upon rebooting, went smoothly through a Feature Update through the normal Windows Update channel. No hardware blocks. Note that the Intel processor was 12th Gen, not 11th Gen.

Another round of backup, and I was ready to install and test Zoom for meetings. That was about it.

I added in my personal files, made a few tweaks, and was on my way.

TWO PROBLEMS -- SECURE BOOT WITH TPM AND CORE ISOLATION/ MEMORY PROTECTION

These two (related) security features caused me a lot of trouble. I had to learn how to export TPM security keys from a properly configured bootable USB flash drive. I had to turn off the Windows 11 features inside of Windows 11 due to drivers which could not be installed and could not run with these security features enabled. I am still looking into which drivers are at fault so they can be updated. The inside of Windows security features are accessed through Windows Defender. (The Windows 11 Security Center.) My goal is to eventually be able to turn these security features back on.

Windows 11 Core Isolation and Memory Protection:

Windows 11's performance-stealing security feature is now on by default

<https://www.pcworld.com/article/1069899/windows-11s-performance-stealing-security-feature-is-now-on-by-default.html>

The rest of my new PC saga is about Linux, which is a whole other kettle of fish, and beyond the scope of this presentation.

I cannot emphasize enough the need to back up your PC at every step along the way. And protect not only your system, but also your personal data. Do NOT assume an in-place upgrade will preserve all of your data and settings!

Anything else I can help with today?

-- Bob Primak --

For the Lexington Computers and Technology Users Group  
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