How *Not* to Upgrade a PC

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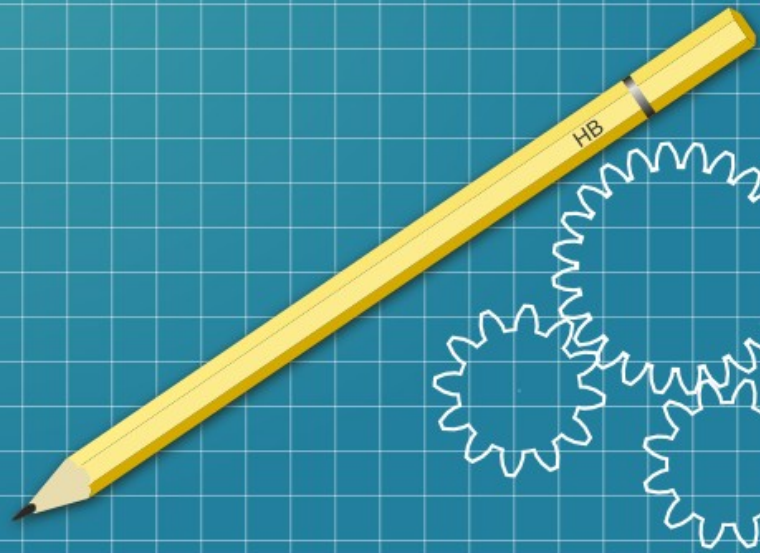

The Patient

- Acer Predator gaming desktop, circa 2019
- Intel Core i5-8400 CPU @ 2.80GHz
- 16 GB RAM (two 8GB strips)
- Nvidia RTX 1060 graphics card, 6GB RAM
- 1 TB Toshiba HDD
- Windows 10 Home, 64-bit
- Complication: 16GB Intel Optane memory (actually an SSD) to boost HDD speed.

The Symptoms

- Hard drive nearly full
- Hard drive (or something) occasionally making noises
- Occasional out-of-memory errors on Blender renderings
- Unexplained system crashes
- Testing with Seagate’s SeaTools on HDD and Optane aborting or failing, usual scan-and-fix tools not availing

The Diagnosis

- Hard-drive too-full-itis, also getting old
- Memory deficiency disorder (not to be confused with owner’s)

The Prognosis

- Without treatment, continuing & worsening problems, possibly leading to complete hard-drive failure
- With treatment, a few more years of useful life

The Prescription

- RAM upgrade to 64 GB
- Hard-drive replacement with 2 TB SSD

The Procedure

- Watch lots of videos on upgrading memory & storage
- Decide where to get components
- Back stuff up
- Clone hard drive to SSD
- Plug things in
- Turn back on
- *Bliss!*

The Reality (1)….

- Decided to do it myself since A) changing memory boards looked easy, B) the storage upgrade seemed within my capacity and C) I’m paranoid about letting my hard drive out of my hands.
- Chose Crucial (part of Micron Technology Inc.) as single source for both memory and SSD, partly because their site could specify exact items for my system.
- Ordered (directly) A) four 16GB DD4-3200 UDIMM memory cards, B) MX500 2000GB 2.5 inch SSD and C) install kit for 2.5-inch internal SSD (some hardware for securing SSD in HDD caddy, SATA to USB cable).

The Reality (2)….

- Using Seagate Toolkit, did “full” backup to 4TB external hard drive.
- Crucial order arrived promptly.
- Downloaded Crucial-branded free version of Acronis cloning software.
- Ran Acronis to clone HDD to SSD, a multi-hour process, apparently successfully. Disabled Optane in BIOS, removed Optane & HDD from box, installed SSD.
- PC would not boot.

The Reality (3)….

- Here began a period of great turmoil and distress.
- Exact order of woes in now hazy in recollection, but the PC’s memory was another problem – new modules were not recognized & the old ones had to be put back.
- Got to know some of Crucial’s support staff, lovely people of (and in) another land.
- Memory problem resolved: plug the modules in one at a time. Which I did, stopping after each to try booting. All recognized, no trouble since.

The Reality (4)….

- SSD a different story. Got “superstitious” answers from Crucial and the web: power it up and leave it alone for *n* hours, etc. Finally became convinced that it should have been connected internally in the PC for cloning, rather than via the install kit’s USB cable.
- Installed SSD in PC with HDD still in place, reran Acronis (many more hours). Result: still not bootable, now not recognizable at all by Windows or BIOS.
- Insult to injury: could not run Acronis again because it did not see any Crucial product.

The Reality (5)….

- Further pleas to Crucial Support rewarded me with an RMA (return of materials authorization) for the SSD.
- Sent SSD back; replacement came faster than expected.
- Fun resumed… Telescoping some of this (owing to incomplete notes)… new cloning attempt succeeded but --
- Now it was Microsoft’s turn. Windows would not boot.

The Reality (6)….

- After weeping & wailing, did the kind of clean install to the SSD that's supposed to preserve your data.
- "Data" of course does *not* include the programs you had installed. I made a long list to reinstall.
- Data was in a folder named Windows.old – which may be removed by the system after 30 days (maybe less) if you don't rename it first.
- New version of Win 10 was more closely coupled to OneDrive than I ever wanted to be.

The Moral

- Some operations (ha ha) should be left to a professional – who presumably has done them before.
- YouTube is a lousy way to learn to do things. The trouble is, it's the most accessible way (and sometimes the only way).
- A clean install *is* traumatic, but it's also an opportunity to rid your PC of programs you probably will never want to run again.
- Listen to Hank when he tells you to back up. (Early & often, and don't forget to test your restoration capability….)