

**THE MICROSOFT PATCH LADY**

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OPINION

Will the shift to Windows 11 mean more e-waste?

Because the move to Windows 11 is likely to force users to buy new hardware, a lot of older computers may wind up in the trash — worsening environmental issues for everyone.

With [Windows 11 now here](#), there has been a lot of doom and gloom talk about the 2025 end-of-life for Windows 10. But between now and 2025, we first have to figure out what to do with a lot of computer hardware that can't run Windows 11.

In my own home computer network — two desktops, two laptops and a Surface device — only the Surface can support Windows 11. The rest either don't have a qualifying Trusted Platform Module (TPM 2.0) or use a processor that won't meet Microsoft's requirements. My office isn't much better: out of approximately 20 computers, only two can be updated to Windows 11.

Over the next four years, I (and a lot of other Windows users in the same boat) will likely need to replace every machine that won't run Windows 11 with new hardware to ensure we're running secure systems. (I don't recommend hanging onto old hardware and running it unpatched.)

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That leads us to a big problem: Dealing with the electronic waste we'll be generating. That waste comes in a variety of forms.

First is the hard drive. Whenever I'm retiring a computer or server from a network, I'm most concerned about the hard drives. I can't merely take a computer and throw it away. The data it holds can include a lot of sensitive information, especially if it's not

encrypted with Bitlocker. While some laptops purchased in recent years enable Bitlocker by default when used with a Microsoft account (Surface and Dell laptops, in particular), most still do not.

Several years ago, a local TV station would go to a local swap meet, buy used hard drives and then show how easy it was to find left-over sensitive information on them. You want to ensure you either physically destroy the hard drives or rewrite over the top of the drives to ensure that old data cannot be retrieved.

Next, we need to be aware of the potential for toxic waste that we generate with each computer we send to electronic waste facilities. As noted on the [World Counts website](#), here are some frightening statistics on the impact of electronic waste:

- 40 million tons of electronic waste is generated every year. As the site notes, it's like throwing out 800 laptops every second.
- The average cellphone user replaces the device every 18 months.
- E-waste comprises 70% of our overall toxic waste.
- Only 12.5% of E-Waste is recycled.
- 85% of E-Waste going to landfills and incinerators is mostly burned, releasing toxins into the air.
- Electronics contain lead, which can damage the central nervous system and kidneys. (A child's mental development can be affected by low level exposure to lead.)
- The most common hazardous electronic items include LCD desktop monitors, LCD TVs, Plasma TVs, and TVs and computers with Cathode Ray Tubes.
- E-waste contains hundreds of substances, many of them toxic. This includes mercury, lead, arsenic, cadmium, selenium, chromium, and flame retardants.
- 80% of E-Waste in the US and most other countries is transported to Asia.
- 300 million computers and 1 billion cellphones go into production annually. That number is expected to grow by 8% per year.

Now, layer on the increasing amount of e-waste that will be created by the retirement of Windows 10 hardware and you can imagine we're going to have a big problem on our hands.

One possible plus would seem to be the recently announced release of Windows 11 SE — a special version of Windows 11 specifically for the education market. “Windows 11 SE is a new, cloud-first operating system [that] offers the power and reliability of Windows 11 with a simplified design and modern management tools that are optimized for low-cost devices in educational settings, especially grades K-8,” the company said. One would assume Windows 11 SE would not need the same strict hardware requirements of Windows 11. But the same TPM 2.0 requirement is there — so even in education, a mandatory migration of unsupported machines will be needed.

So what if you don’t want to fill up your nearest landfill and pollute the planet? You *do* have options.

You can, of course, continue using your Windows 10 computer after the drop-dead date of 2025 (though I don’t recommend doing so). You would be constantly at risk for vulnerabilities. In addition, the applications you rely on might not run for long on older, unsupported platforms. I strongly recommend you avoid a situation where your browser, in particular, can no longer be updated. This is true also for applications that have a cloud component such as Microsoft 365. I guarantee at some point you’ll be forced to move to a supported platform.

I anticipate that when 2025 arrives, Microsoft will again offer an extended security update like it did for Windows 7. I have a few machines that I keep specifically to run old programs when needed. I keep them patched with Microsoft’s ESU offering. It’s made it easy for even small businesses like mine to keep my machines protected. Alternatively, you can look into services such as Opatch that provide micropatches to keep older OSes protected. And you can keep such devices off the Internet completely by blocking the ability to surf the web and risk attack. (One way to do this is to edit the network connection to use an invalid gateway IP address, or edit the Internet proxy settings to block the ability to browse to the web.

You can also repurpose old hardware by putting a different OS on it, such as Cloudready, which installs Chrome on older devices. Or move directly to a Linux distribution such as Mint. If all you need is a platform to browse the internet and read and respond to emails, this may be a great way to repurpose an older computer.

Bottom line, I hope Microsoft can be a better “sustainable computing” vendor and not force us to damage the environment. Here’s hoping that Microsoft considers its impact on our landfills in future years and allows for a more graceful transition to new software and hardware than what I anticipate is coming in 2025.

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