



With Autopilot user-driven mode  
**admins never touch  
the end-user device**

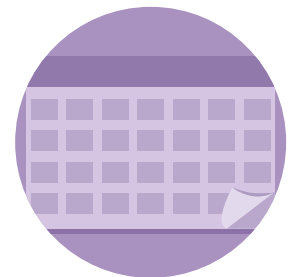
## Save admin time and put new systems in your users' hands sooner with Windows Autopilot

With Autopilot user-driven mode, OEMs or trusted hardware resellers ship your devices directly to users, for zero-IT-touch system provisioning

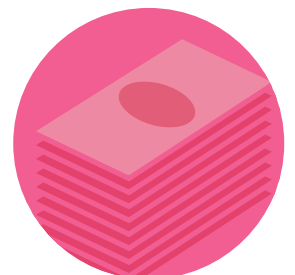
Many of your employees have made the shift to remote working. For them to remain productive and keep sensitive data safe, they need current, ready-to-go devices that have applications pre-installed and adhere to corporate security policies. When your IT staff and those they support are geographically dispersed, tools that streamline the process of provisioning and deploying new systems to users are worth exploring.

Windows Autopilot is a cloud-based tool built into Microsoft Endpoint Manager and Microsoft Intune. It offers several modes for setting up and provisioning devices. Our hands-on testing compared manual laptop provisioning and Windows Autopilot user-driven mode. We found that Autopilot lets IT staff avoid unboxing systems; applying company-specific settings, policies, and applications for each user; and shipping them to the user. Instead, admins perform a brief one-time setup process. Then, after ordering the systems, they create and assign each to a user, and Autopilot does the rest.

\*We tested three systems and extrapolated our findings to estimate the savings a hypothetical, mid-sized business could see when deploying 500 systems.



After initial setup and device assignment, using Autopilot could  
**save 1.8 workweeks  
of IT time**  
(72 hours) for 500 systems\*



By reducing labor and eliminating extra shipping, using Autopilot could  
**reduce costs by 98%**  
for 500 systems\*

## About Windows Autopilot

Windows Autopilot is a cloud-based solution for automating the provisioning of new Windows devices for end-users. When a user first boots an Autopilot-designated device and connects it to the internet, the system automatically downloads files, settings, and applications. Because Autopilot builds on top of the factory OS image the OEM provides, the provisioned device will have all required drivers and system updates. Autopilot works with most professional versions of Windows, including Windows Pro, Enterprise, and Education.<sup>1</sup>

Autopilot is built on Microsoft Endpoint Manager's Intune, and integrates with Azure Active Directory (AD). If your organization already uses Intune, you can use the same applications, settings, users, and groups that you already use.

We tested only the user-driven mode of Windows Autopilot, which targets end users setting up new devices independently of IT admins. According to Microsoft, the tool offers a range of additional functionality, including self-deploying mode, support for existing devices, and Windows Autopilot reset.<sup>2</sup>

Learn more at <https://docs.microsoft.com/en-us/mem/autopilot/windows-autopilot>.

*Note: When we originally published this report in October 2020, the product Windows Pro was named Windows 10 Pro.*

## With Windows Autopilot user-driven mode, devices take a direct flight from OEMs and device resellers to your end users

Unboxing and configuring new devices for end users with the necessary applications and settings can be a time-consuming hands-on task for IT admins. Repackaging systems and shipping them to employees who are working remotely adds extra time, hassle, and expense.

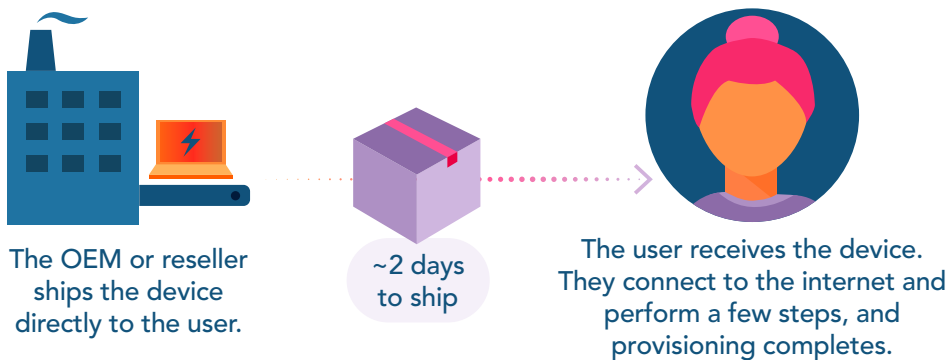
With the cloud-based Windows Autopilot user-driven mode, a company can eliminate the need for all of these activities to provision and distribute systems to end-users, with no one from the company's IT department ever touching them. An admin need only perform a one-time setup process, which took us less than 20 minutes, and after ordering devices, create and assign each to a user (an 11-step, 55-second task). After that, users receive a factory-state Windows Pro device directly from original equipment manufacturers (OEMs) or resellers, connect to the internet and complete an initial sign-in, and Windows Autopilot automatically does the rest to give them a ready-to-use device that is configured with all of the company-specific security settings, policies, and applications. Windows Autopilot also allows IT to continue managing the devices after they reach the user.

To quantify the hands-on IT admin time a company could save by using Autopilot user-driven mode, we measured the time it took to perform the one-time set up of Autopilot and to create and assign each ordered device to a user—the only steps required of an IT admin when getting devices from the OEMs who are pre-enrolled in the Autopilot program. To see how long the manual process required, we configured three devices, each from a different OEM. Times for the devices varied slightly, and we use the median in our calculations. See [the science behind this report](#) for complete results, details on the systems we tested, and the procedures we followed.

## One trip is better than two

When provisioning systems manually, the IT admin may perform the same series of tasks on every system. The final stage of the process is boxing the device and sending it to the end user, which incurs additional shipping cost. Using Windows Autopilot user-driven mode, the IT admin has two tasks: (1) completing a one-time setup that takes the same amount of time—in our testing, roughly 15 minutes—regardless of the number of systems and (2) after ordering devices, creating and assigning a user account to each device. The second task, which they perform by logging into the Autopilot website, took 55 seconds in our testing. (See [the science behind this report](#) for a breakdown of the time and steps the approaches involve.) Figure 1 shows two possible scenarios for getting the device from the OEM or reseller to the end user.

### Windows Autopilot user-driven mode: The device makes only one trip



### The manual approach: The device makes two trips

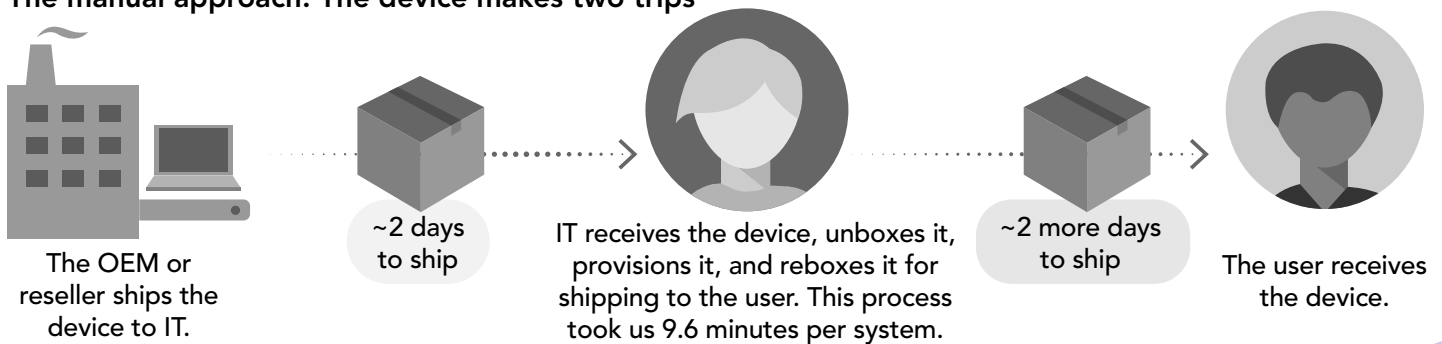


Figure 1: Illustration of the way that Windows Autopilot user-driven mode streamlines the process of distributing provisioned systems to end users compared to a manual approach. Source: Principled Technologies.

## The user experience with Windows Autopilot user-driven mode

Once the user receives their device, all they have to do is unbox the device, plug it in, and power it on; select the appropriate language, location, and keyboard; connect to the internet; and enter their corporate Azure AD credentials. Windows Autopilot automatically downloads everything they need from the cloud and their system is good to go.

Another advantage of Windows Autopilot is that Mobile Device Management through Intune continues after deployment. This means that when IT updates the configuration for provisioning new systems to reflect any important changes, existing systems will automatically receive the updated configuration the next time they connect their system to the internet.

## Windows Autopilot user-driven mode would save hands-on IT admin time even if you were deploying only five systems

With Windows Autopilot user-driven mode, it took 15 minutes and 7 seconds of hands-on admin time to complete the one-time setup process. Creating and assigning each of our three test systems to a user on the Autopilot website took 2 minutes and 45 seconds, or 55 seconds per system.<sup>3</sup> Though the manual approach did not require a one-time setup, deploying the three systems took 28 minutes and 48 seconds total, or 9 minutes and 36 seconds per system. (Note: Manual deployment could take longer depending on the number of corporate applications, VPN configurations, and other settings a company requires.) In Figure 2, we extrapolate our findings to a hypothetical deployment of five systems. **Provisioning five systems manually would take 2.4 times as long as using Autopilot. Even at this small scale, a company would get a return on the time they invested in setting up Autopilot.**

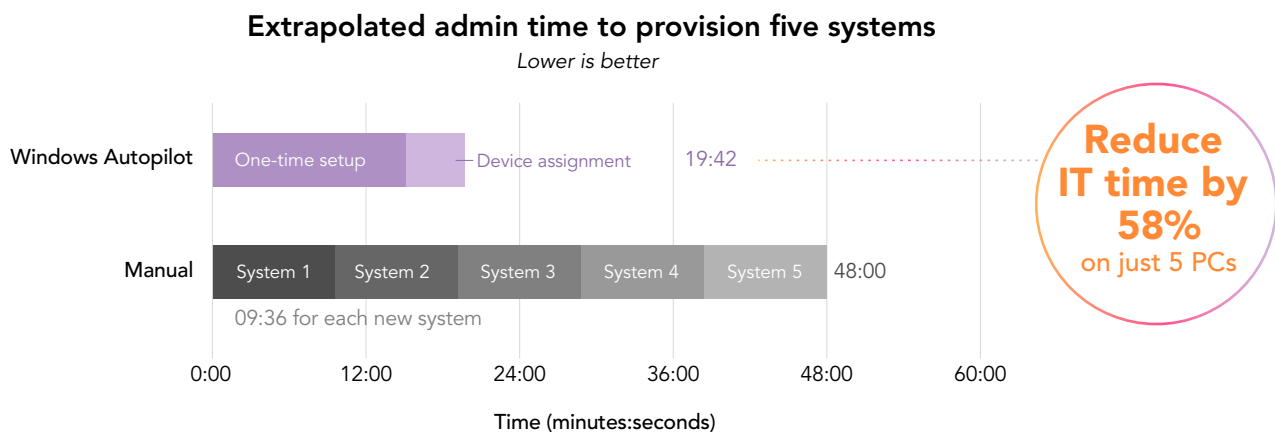


Figure 2: Extrapolated calculation of the hands-on time that would be necessary to provision five systems, based on testing of three systems (minutes:seconds, lower numbers are better). Source: Principled Technologies.

## Save more time when deploying more systems

Because the bulk of the IT effort with Windows Autopilot—the roughly 15-minute initial setup—is the same regardless of how many systems your company is deploying, the savings would increase as the number of systems increases. Figure 3 shows an extrapolation of the hands-on admin time that would be required with four system counts that reflect the scale on which large enterprises operate.

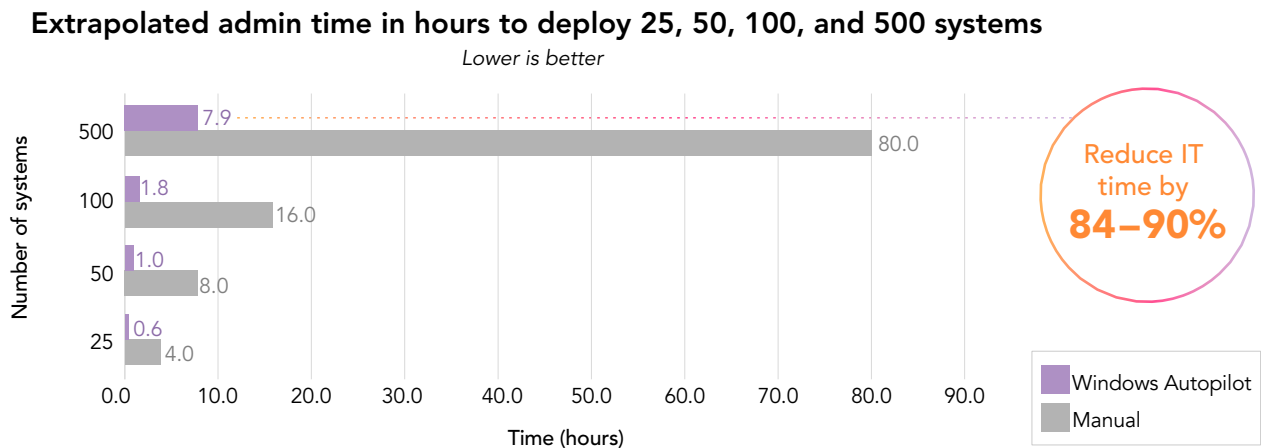


Figure 3: Hands-on time that would be necessary to provision different numbers of systems (hours, lower numbers are better). Source: Principled Technologies.

To make it easier to grasp the real-world implications of these numbers, Figure 4 presents the time in terms of 40-hour workweeks. Provisioning 1,000 laptops manually would occupy an admin for roughly a month, while relying on Windows Autopilot would take less than 16 hours.

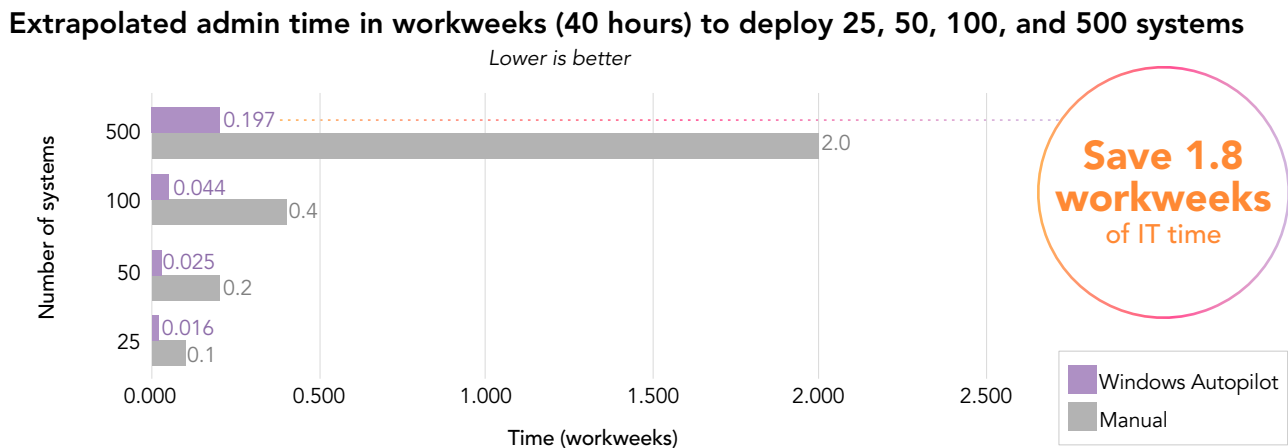


Figure 4: Hands-on time that would be necessary to provision different numbers of systems (40-hour workweeks, lower numbers are better). Source: Principled Technologies.

## Putting a price tag on savings

In this section, we estimate the financial savings a hypothetical organization could enjoy by using Windows Autopilot user-driven mode to deploy 500 devices rather than a manual approach. We start with an estimation of the labor costs associated with each approach. According to Salary.com, the average base salary for an entry-level computer technician is \$44,100, with average total compensation (including benefits) of \$67,290.<sup>4</sup> Based on this, we calculate an hourly rate of \$32.35. Using this rate, we estimate that a company would spend \$255.27 on labor to deploy 500 devices using Autopilot, while labor costs using the manual approach would be \$2,588.00.

Next, we consider the shipping costs associated with each approach. With Windows Autopilot user-driven mode, the OEM or reseller sends devices directly to end users. With the manual approach, the OEM or reseller sends devices to IT staff, who must repackage them and prepare them for shipping to users after setting them up. (We include time for these steps the labor costs above.) Shipping costs will vary depending on factors such as the size of packages, the distances they travel, the shipping provider and service, and volume discounts. Based on the following assumptions, we use an estimated shipping cost of \$22.49 per device:

- The organization ships each device individually to an address 60 miles away we used the distance from Durham, NC to Greensboro, NC) in a four-pound package that measures 18" x 13" x 5".
- The organization ships the package using UPS 2nd Day Air service and insures the package for \$2,000.
- The organization ships 10 or more packages over a six-week period, making them eligible for a discount of 50 percent.<sup>5</sup>

Figure 5 illustrates the estimated labor and shipping costs a hypothetical organization deploying 500 devices could incur with the two approaches. In this scenario, using Window Autopilot user-driven mode would allow the company to save over \$13,500. Note that companies who ship longer distances could realize greater savings by choosing the Autopilot approach.



Figure 5: Estimated costs (USD) a company would incur for labor and shipping when provisioning 500 devices and distributing them to end users (based on extrapolation of test results). Source: Principled Technologies.



## How your hands-on IT time savings could be even greater than what we show

### Microsoft Endpoint Manager

If your organization is already using Microsoft Endpoint Manager, the configuration changes that we performed for the one-time setup of Windows Autopilot would be unnecessary. Your IT admins would need only to order systems. You can use applications, users, and settings that you have already added to Intune.

### Questions of efficiency

In our calculations, we use 9.6 minutes as the time it would take to unbox, manually set up, and rebox each system. This is the median time it took us to perform these tasks on the three systems we used in testing, and it represents a technician who knows exactly what they are doing. In a real-world setting, the actual time could be longer due to various factors. For example, each system we tested had the same configuration of apps and files, which would be appropriate for a general knowledge worker. Manual setup would be more time-consuming for an organization with a variety of types of workers, including those that require specialized applications.



## Conclusion

Using Windows Autopilot can help your company in many ways. IT admins avoid the time-consuming manual provisioning process and gain time to work on more interesting and valuable tasks. Users receive their new devices more quickly, eliminating the potential delays that come with an extra shipment for every device, and the company saves on shipping costs. You ensure that every system gets set up exactly as you intend, with the applications users need to be productive and the security settings the company needs to keep data secure. Finally, systems continue to be managed by Intune after deployment, letting you manage both current and future systems using the same set of tools.

- 1 "Windows Autopilot software requirements", accessed September 22, 2020, <https://docs.microsoft.com/en-us/mem/autopilot/software-requirements>.
- 2 "Windows Autopilot," accessed September 11, 2020, <https://www.microsoft.com/en-us/microsoft-365/windows/windows-autopilot>.
- 3 We exclude the time an IT admin would spend ordering systems because this is variable and necessary in both the Autopilot and manual approaches.
- 4 Salary.com, IT Support Technician, accessed September 29, 2020, <https://www.salary.com/research/salary/listing/it-support-technician-salary>.
- 5 "Enjoy savings of up to 50% and free UPS Smart Pickup® service," accessed September 29, 2020, [https://www.ups.com/mrd/promodiscount?loc=en\\_US&promoCd=CNJFYI18](https://www.ups.com/mrd/promodiscount?loc=en_US&promoCd=CNJFYI18).

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