Lenovo ThinkPad T14s Gen 4: Heightened productivity, lower cost

In tests, the ThinkPad T14s Gen 4—which cost significantly less—achieved better system performance and saved time on Microsoft 365 tasks compared to the 14-inch Apple MacBook Pro with M2 Max chip (2023)

Whether you're purchasing a new device for yourself or others, the countless laptops on the market can turn a seemingly simple choice into a paralyzing decision. Not only do you need a system that can hold up to everyday use, you also almost certainly have to keep budget in mind. At Principled Technologies (PT), we compared two popular choices: the 14-inch Apple® MacBook Pro® with M2 Max processor (2023) and the Lenovo® ThinkPad® T14s Gen 4, which was $1,401.50 less expensive at the time of testing.

Our hands-on testing revealed the ThinkPad T14s Gen 4 achieved better Cinebench R23 and WebXPRT 4 benchmark scores, indicating a more responsive system. It also completed common Microsoft 365 tasks in less time, utilized less CPU during Zoom meetings, and offered better background noise reduction. Available in touchscreen configurations, the ThinkPad T14s Gen 4 offers flexibility to those who thrive on extra interaction with their systems.

While no two individuals use their laptop identically, a device that enables collaboration and productivity can be a boon to users across organizations. Read on for more details on testing and results.

Quickly check items off the to-do list

Higher Cinebench and WebXPRT benchmark overall scores

Deftly create and collaborate

Less time to complete common Microsoft 365 tasks

Multitask with ease

Lower CPU usage during Zoom video conferencing calls

About the Lenovo ThinkPad T14s Gen 4

According to Lenovo, the ThinkPad T14s Gen 4 "takes multitasking to the next level."[1] Built with recycled materials, this lightweight device is equipped with a 13th Generation Intel® Core™ U-Series processor, Intel Iris® Xe graphics, DDR5 memory, 1TB SSD storage, and rapid-charging technology for professionals on the go. Lenovo tests their ThinkPad laptops for military-grade durability against conditions ranging from the freezing tundra to desert dust storms, making the T14s Gen 4 a solid choice for a workforce spread across the globe.[2]

Lenovo ThinkPad T14s Gen 4 *vs. 14-inch Apple MacBook Pro with M2 Max processor (2023)*

Available with touchscreen

Built in touchscreen[3] *vs. none*

21.7% lighter

2.80 lbs. *vs. 3.58 lbs.*

Meets strict Intel processor-based laptop criteria

Intel EVO™ certified
vs. not

Modern wireless connectivity

Wi-Fi 6E*

Connects with Android or iOS phones

Intel Unison™ connects PCs with Android and iOS phones[4]

Apple Continuity connects macOS devices with iOS phones[5]

More business-focused connections

2x Thunderbolt™ 4 ports
2x USB-A ports
1x MicroSD card reader
1x HDMI port
1x headphone/mic combo
1x Kensington Nano Security Slot™

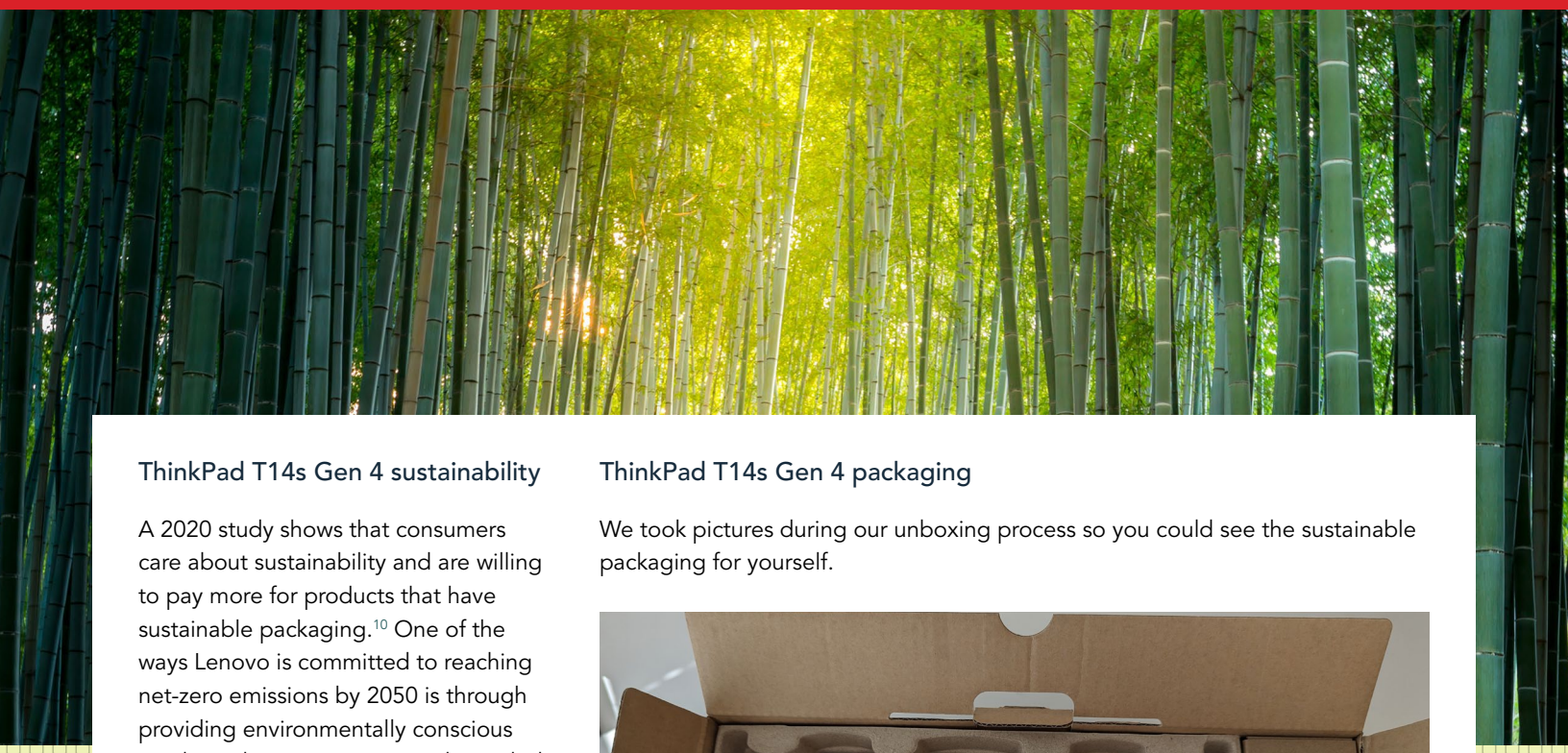
vs.

2x Thunderbolt 4 ports
1x SDXC card slot
1x HDMI® port
1x headphone jack
No security slots
*No USB-A ports**

*Both systems had these features.
**USB-A is a common connection type for wired and wireless connections to office essentials such as printers, scanners, mice, and external hard drives.[6] Instead, the 14-inch Apple MacBook Pro (2023) has an SDXC card slot that allows users to store information on an external drive or import images from a digital camera.[7]

About the Intel Core i7-1365U processor

13th Generation Intel Core U-Series mobile processors are "optimized for the performance and portability needs of modern, mobile PC experiences."[8] The Intel Core i7-1365U processor we tested has a 12MB Intel Smart Cache, a max turbo frequency of 5.2 GHz, 10 cores (2 Performance-cores and 8 Efficient-cores), 12 threads, an Intel Thread Director controller, and Intel Hyper-threading Technology.[9]



ThinkPad T14s Gen 4 sustainability

A 2020 study shows that consumers care about sustainability and are willing to pay more for products that have sustainable packaging.[10] One of the ways Lenovo is committed to reaching net-zero emissions by 2050 is through providing environmentally conscious products that arrive in minimal recycled or biodegradable packaging materials.[11] To this end, Lenovo says that the ThinkPad T14s Gen 4 is ENERGY STAR® certified and designed with these sustainability specs:

- The speaker enclosure contains 90 percent post-consumer content (PCC) recycled plastic
- The 57 WHr battery enclosure contains 90 percent PCC recycled plastic
- The 65W adapter contains 90 percent PCC recycled plastic
- The bottom cover contains 55 percent recycled aluminum
- Components are attached with low-temperature solder
- The laptops ship in plastic-free packaging with 90 percent recycled and/or sustainable content[12]

ThinkPad T14s Gen 4 packaging

We took pictures during our unboxing process so you could see the sustainable packaging for yourself.

Figure 1: Lenovo ThinkPad T14s Gen 4 packaging. Source: Principled Technologies.

How we tested

Before we started our hands-on evaluation, we set the Windows power mode on the Lenovo ThinkPad T14s Gen 4 to "Best performance." Because the 14-inch MacBook Pro (2023) has no such performance-boosting setting, we left it with default settings Other than making and verifying that change, we used out-of-box OEM performance settings for both laptops:

- **Lenovo ThinkPad T14s Gen 4** running Windows 11 Pro, powered by a 10-core 13th generation Intel Core i9-1365U processor (3.9 – 5.2 GHz), Intel Iris® Xe graphics, 32 GB of LPDDR5 memory, and 1 TB of SSD storage. Cost on July 12, 2023: $1,897.50.
- **14-inch Apple MacBook Pro (2023)** running macOS Ventura, powered by an M2 Max processor (3.68 GHz) with a 12-core CPU and a 38-core GPU, 32 GB of unified memory, and 1 TB of SSD storage. Cost on July 12, 2023: $3,299.00. Note: The MacBook Pro (2023) now supports a newer M3 processor, but this system was not available at the time of testing.

To assess performance, we ran the following benchmarks on both devices:

- **Cinebench R23** is a content creation benchmark that evaluates CPU and GPU capabilities using Redshift, a Cinema 4D rendering engine, and reports system performance under a heavy load.[13]
- **WebXPRT 4** is a browser benchmark that runs a series of tests that include HTML and JavaScript handling as well as online homework, photo manipulation, and face detection tasks.[14]

For another angle on user experience, we hand-timed how long it took to complete tasks with Microsoft 365 apps. We also compared CPU usage during Zoom meetings, conducted microphone comparisons on both systems, and compared camera quality.

All the results we report reflect the specific configurations we tested. Any difference in the configurations you test, as well as browsers, screen brightness, network traffic, or software additions, can affect results. For more information on these 14-inch laptops, as well as our testing parameters and procedures, see the science behind the report.

System responsiveness (performance) results

Portability, display quality, and ports for accessories are all important, but to enable high productivity, a laptop must offer the performance users need to stay productive. Because everyone uses their laptop differently, we used benchmarks and hand-timed tests to stress the systems in different ways, getting a fuller picture of how each system might perform during everyday use. Despite its significantly lower price tag, the Lenovo ThinkPad T14s achieved performance better than or on par with the 14-inch Apple MacBook Pro with M2 processor (2023).

Benchmark scores

We used Cinebench R23 workload to see how the systems handled resource-intensive tasks such as scientific simulations, complex spreadsheets, and computer-aided design programs. A higher score here indicates better performance under these types of taxing workloads.

Cinebench R23 single-core

Overall score | Higher is better

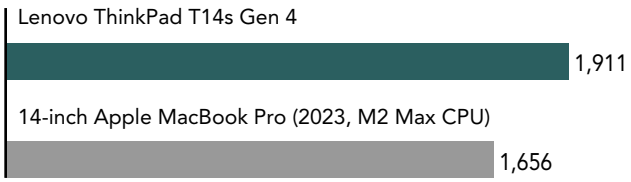


Figure 2: Cinebench R23 single-core scores. Higher is better.
Source: Principled Technologies.

Whatever your job title, chances are you rely on the internet and access web-based applications every day. As a browser benchmark, WebXPRT gives an idea of the online performance you could expect, where higher scores indicate a superior browsing experience.

WebXPRT 4

Overall score | Higher is better

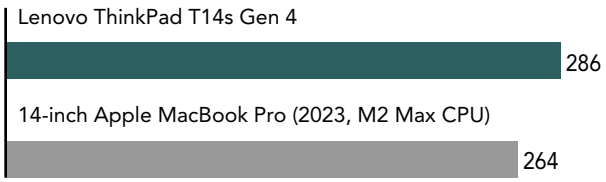


Figure 3: WebXPRT 4 with Chrome overall scores. Higher is better.
Source: Principled Technologies.

Hand-timed Microsoft 365 tasks

For another look at system performance, we completed common Microsoft 365 tasks that reflect the work users might do every day. As our results show, the Lenovo ThinkPad T14s Gen 4 finished the tasks faster than the 14-inch Apple MacBook Pro with M2 processor (2023). Some of these differences in seconds or fractions of seconds might seem tiny, but these wait times can quickly add up to create a noticeable difference. If you encounter these scenarios often in a single day, then imagine how much these wait times could get under your skin over a week, a month, or a year. Saving time with a faster system could improve your mood and productivity.

Time to complete tasks in Microsoft 365

Seconds | Less time is better

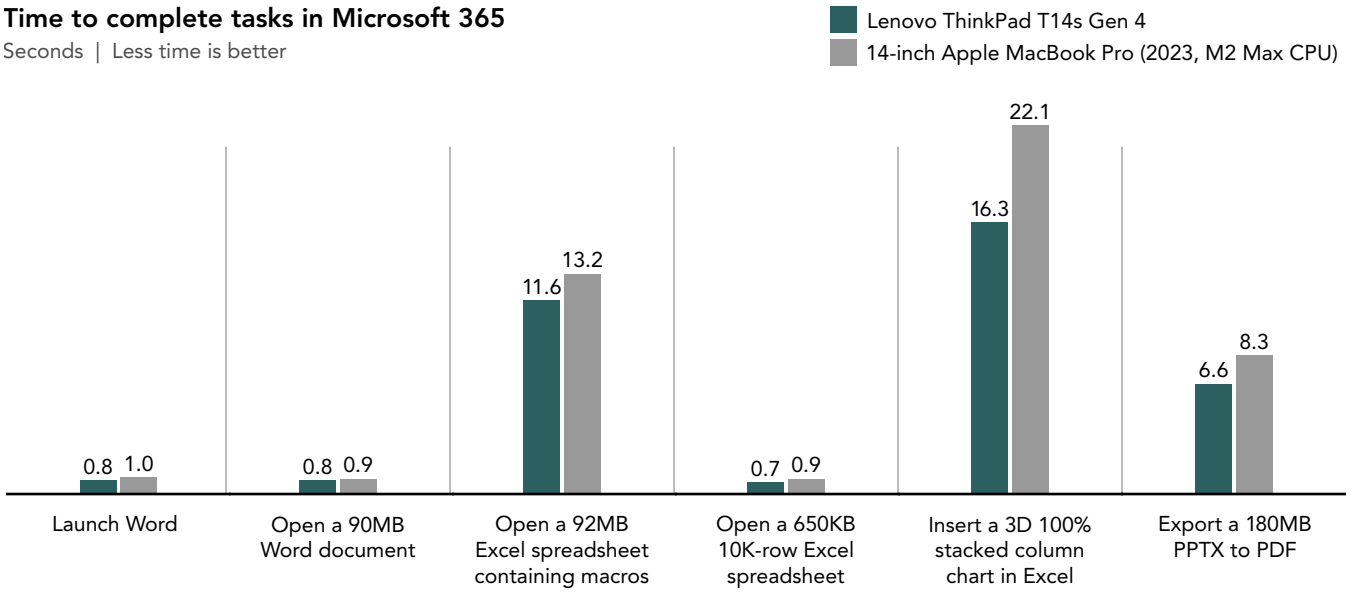


Figure 4: Time to perform various tasks in Microsoft 365. Less time is better. Source: Principled Technologies.

Zoom video conferencing results

In this phase of our testing, we evaluated CPU usage in one-on-one and group meetings using Zoom. We configured Zoom to enter full-screen automatically when starting or joining a meeting, chose the audio and video on options when joining a meeting, and opted for side-by-side mode when screen-sharing. This last choice was to ensure the cameras were always on-screen along with the screenshare. We played a YouTube video on the host device to get repeatable audio measurements. Many users require their computers to multitask during meetings—for example, by using virtual backgrounds and filters, delivering interactive presentations with polls, and running large events with virtual breakout rooms—making lower CPU usage a definite advantage.

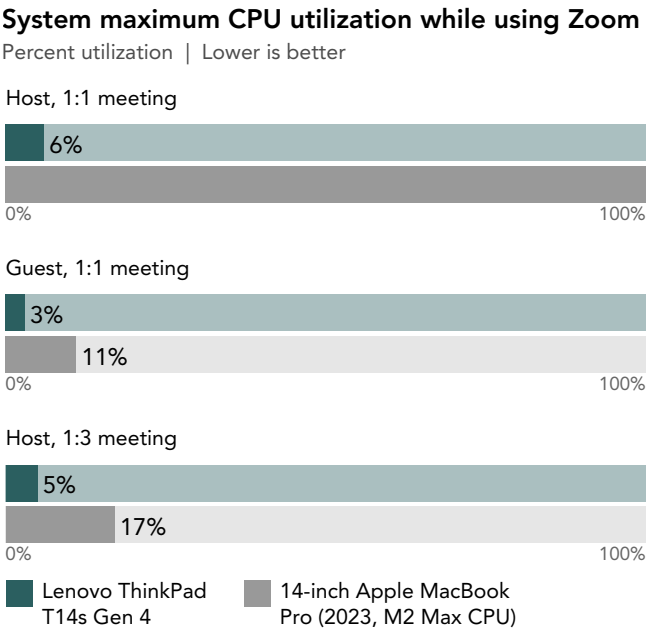


Figure 5: Zoom CPU usage as reported by Zoom. Lower usage is better. Source: Principled Technologies.

Audio experience results

Remote and hybrid work is increasingly widespread. Not only do many users virtually collaborate with coworkers, team leads, and project managers, they also rely on videoconferencing to meet with clients and customers. In settings where professionalism is paramount—or when you simply need to focus—background noise reduction can make a big difference.

In our testing, the Lenovo ThinkPad T14s, with its 360-degree dual-microphone array and Dolby Voice®, was better at reducing background noise than the 14-inch MacBook Pro with M2 processor (2023), with its three-mic array with high signal-to-noise ratio and directional beamforming.[15,16]

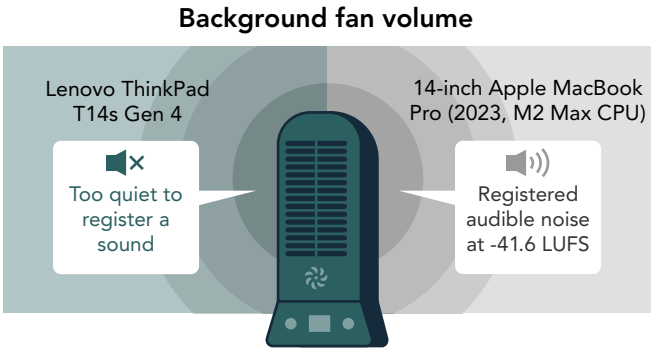


Figure 6: Microphone test background fan volume results. Lower signal levels are better. Source: Principled Technologies.

Security from supply chain trust through end of life

According to Help Net Security, supply chain attacks in 2022 caused more data compromises than malware—and impacted more than 10 million people.[17] Lenovo and Intel have partnered to provide deeper and broader protections from the point of manufacture through transport and until the end user has the device in their hands. The first step in this secure supply chain is Intel Trusted Device Setup and Intel Transparent Supply Chain. These services fall under the Lenovo ThinkShield umbrella, which, in addition to the device protection services mentioned above, provides end-to-end protection of sensitive data with secure hardware, software, and services. With Lenovo ThinkShield and the Intel vPro platform, companies can fortify their business and protect their assets from manufacturing floor to final disposal.[18]

Camera quality

Just as different individuals use their laptops in different ways, opinions may also differ on camera quality. To help you decide which device's camera you prefer, a PT engineer took two selfies in the same well-lit room using the built-in webcams for both laptops (Figure 7). The ThinkPad T14s Gen 4 has a wider angle camera than the 14-inch MacBook Pro with M2 processor (2023), so the images do not have the same aspect ratio.

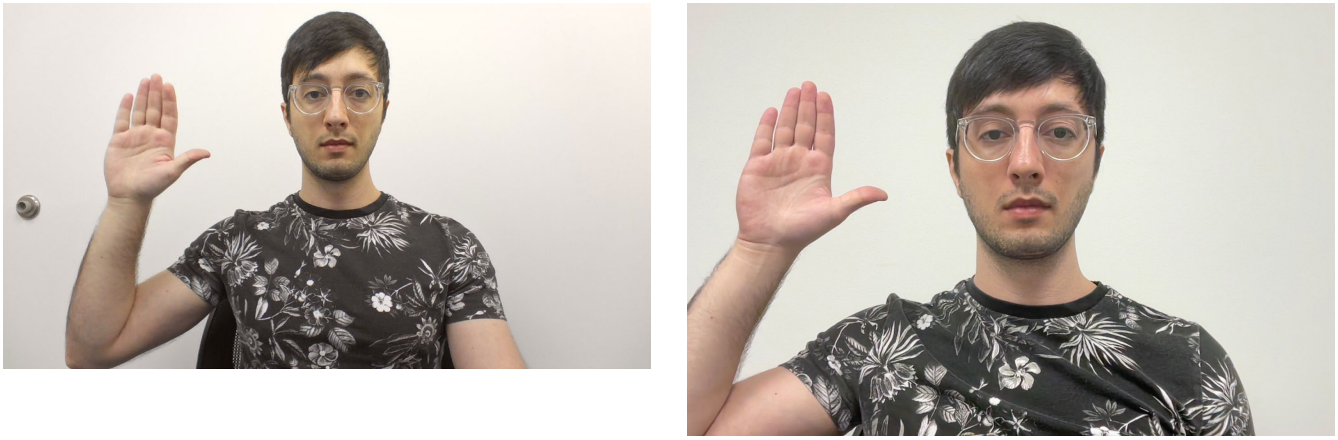


Figure 7: Lenovo ThinkPad T14s Gen 4 (left) and 14-inch Apple MacBook Pro (2023) (right) unedited selfies in a ~638 lux room with screen brightness set to ~200 nits. Source: Principled Technologies.

About Intel Unison

Intel Unison enables users to sync their Evo-certified laptops with Android™ or iOS-based phones. With Intel Unison, users can take photos and videos on their phones before transferring them to their laptops for storage and editing. Users have access to their phone's full contact list and can receive and manage phone notifications on their laptop screen. They can also use their laptop mouse or keyboard to receive or initiate voice calls and text messages.[19]

We tried out this feature and found the ThinkPad T14s Gen 4, which is a non-macOS device, paired successfully with an Apple iPhone®. We were also able to easily share iPhone files to the ThinkPad and access those files.

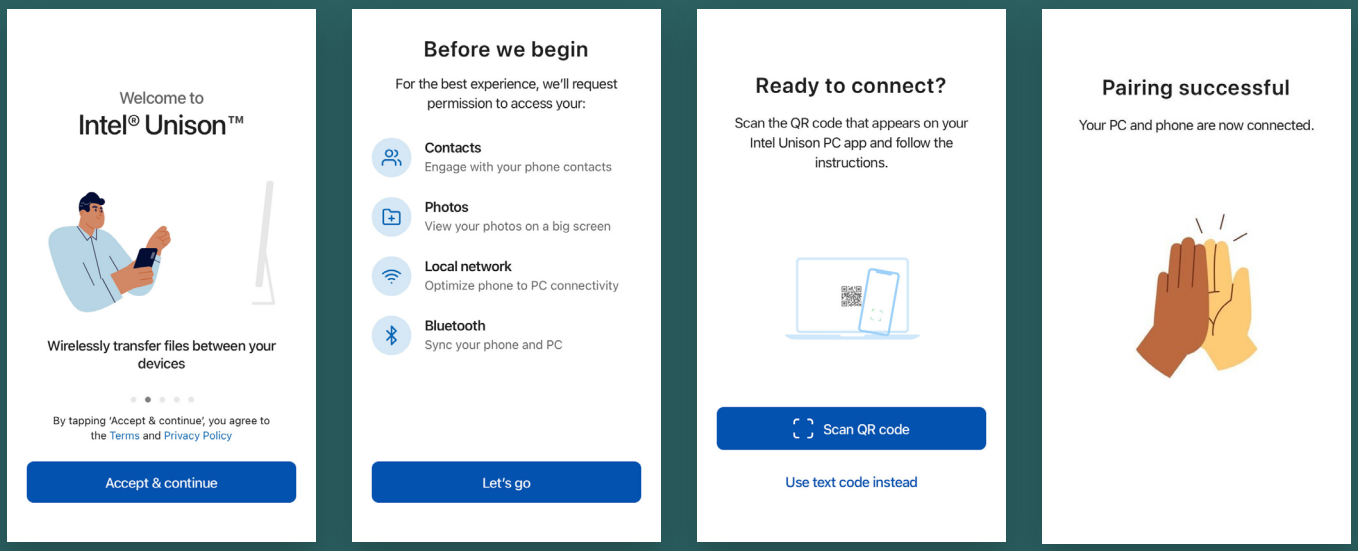
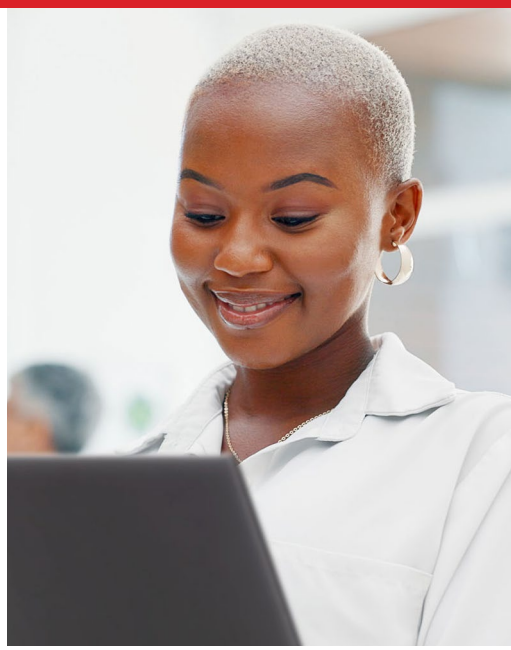
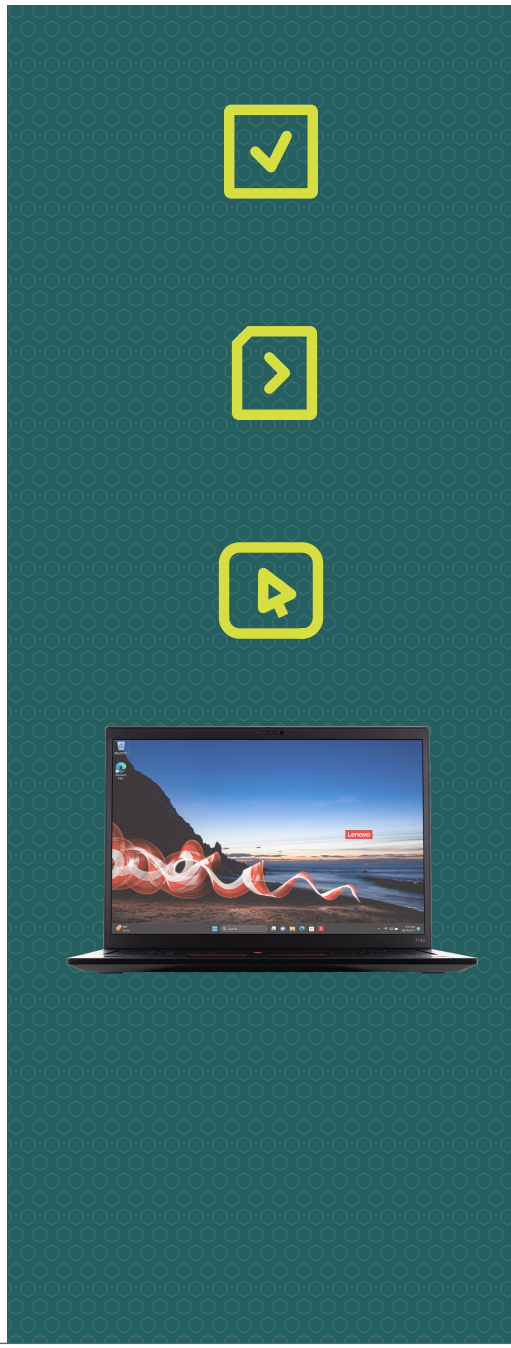


Figure 8: Screenshots of successful pairing of an Apple iPhone and a Lenovo ThinkPad T14s Gen 4 using Intel Unison. Source: Principled Technologies.

Conclusion

When we tested Lenovo ThinkPad T14s Gen 4 and the 14-inch Apple MacBook Pro with M2 processor (2023) with the Cinebench R23 single-core and WebXPRT 4 benchmarks, the ThinkPad T14s Gen 4 received higher scores. It also saved time on Microsoft 365 tasks, utilized less CPU during Zoom meetings, and reduced background noise more effectively. In addition to these benefits, the lighter-weight ThinkPad T14s Gen 4 cost $1,401.50 less than the MacBook Pro with M2 processor (2023).





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Read the science behind this report at https://facts.pt/igS9HB2 ▶

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