Copilot+ PC
Surface Laptop for Business (Intel)

Product FAQ

7th Edition

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Premium experiences drive AI advantage

The new Microsoft Surface Laptop for Business is the first Copilot+ PC Surface Laptop built exclusively for business with Intel® Core™ Ultra processors (Series 2). Built with a powerful NPU that amplifies your team's intelligence, efficiency, and creativity through Copilot+ PC AI experiences designed for work. It's uncompromising performance and all-day battery life[1] and reimagined lightweight design with essential business features like anti-reflective touchscreen, more ports like optional smart card reader[2] (optional on 15" only) helps your teams deliver results from anywhere, all backed by Microsoft's enterprise-grade security.

1. Based on local video playback test. Battery life varies significantly based on usage, network and feature configuration, signal strength, settings, and other factors. See aka.ms/SurfaceBatteryPerformance for details.

2. Integrated smart card reader available only on Surface Laptop in Black in one of these configurations: 15" 5/16/512, 5/32/512, 7/16/256, 7/16/512, 7/32/512, 7/32/1TB (TAA only) and only in select markets.

Surface Laptop, 7th Edition technical specifications

Table 1. Surface Laptop, 7th Edition commercial tech specs

Feature	Description	
Processor	**Surface Laptop 13.8" and 15"** – Intel® Core™ Ultra 5 processor 236V – Intel Core Ultra 5 processor 238V – Intel Core Ultra 7 processor 266V – Intel Core Ultra 7 processor 268V	
NPU	**Intel AI Boost with 40 TOPS** – Intel Core Ultra 5 processor 236V – Intel Core Ultra 5 processor 238V **Intel AI Boost with 48 TOPS** – Intel Core Ultra 7 processor 266V – Intel Core Ultra 7 processor 268V	
Graphics	– Intel Arc™ Graphics	
Memory	– 16 GB, 32 GB LPDDR5x RAM – Note: 16 GB configurations will have 236V or 266V processors. 32 GB configurations will have 238V or 268V processors.	
Storage[3]	– Removable[4] solid-state drive (Gen 4 SSD) 256 GB, 512 GB, or 1 TB	
Display	**13.8" models** – Touchscreen: 13.8" PixelSense Flow™ Display – Resolution: 2304 × 1536 (201 PPI) – Aspect ratio: 3:2 – Contrast ratio 1300:1 – Dynamic refresh rate up to 120Hz – Color profile: sRGB and Vivid – Individually color-calibrated display	**15" models** – Touchscreen: 15" PixelSense Flow Display – Resolution: 2496 × 1664 (201 PPI) – Aspect ratio: 3:2 – Contrast ratio: 1300:1 – Dynamic refresh rate up to 120Hz – Color profile: sRGB and Vivid

3. System software and updates use significant storage space. Available storage is subject to change based on system software and updates and apps usage. 1 GB = 1 billion bytes. 1 TB = 1,000 GB. See Surface Storage for more details.
4. Solid State Drive (SSD) Retention is only available on Microsoft Surface devices in which the SSD is marketed as removable per the Technical Specifications. Solid State Drive (SSD) Retention is included in both Extended Hardware Service Plus and Microsoft Complete for Business Plus and is also available as an Optional Add-on when purchasing Microsoft Extended Hardware Service and Microsoft Complete for Business. Devices returned to Microsoft with a missing Solid-State Drive (SSD) are subject to a Solid-State Drive (SSD) replacement fee unless the device is enrolled in the Drive (SSD) Retention offer.

Feature	Description	
	– Adaptive color – Auto color management – Touch: 10-point multi-touch – Dolby Vision IQ™ support[5] – Corning® Gorilla® Glass 5 – Anti-reflective, ISO 9241-307 certified[6]	– Individually color-calibrated display – Adaptive color – Auto color management – Touch: 10-point multi-touch – Dolby Vision IQ support[5] – Corning Gorilla Glass 5 – Anti-reflective, ISO 9241-307 certified[6]
Brightness	– SDR: 600 nits maximum (typical) – HDR[7] 600 nits peak luminance[5]	– SDR: 600 nits maximum (typical) – HDR:[7] 600 nits peak luminance
Size & weight[8]	**Surface Laptop 13.8"** – Length: 11.85" (301 mm) – Width: 8.67" (220 mm) – Height: 0.69" (17.5 mm) – Weight: 2.97 lbs. (1.35 kg)	**Surface Laptop 15"** – Length: 12.96" (329 mm) – Width: 9.41" (239 mm) – Height: 0.72" (18.29 mm) – Weight: 3.66 lbs. (1.66 kg) – With smart card reader: 3.64 lbs. (1.65 kg)
Battery life	**Surface Laptop 13.8"** – Up to 20 hours of local video playback[9] – Up to 12 hours of active web usage[10]	**Surface Laptop 15"** – Up to 22 hours of local video playback[9] – Up to 14 hours of active web usage[10]

5. Requires Dolby Vision® encoded content and video.

6. The Surface Laptop (Intel®) 7th Edition display has been designed to minimize unwanted reflections and has been certified by TÜV SÜD to meet the requirements of ISO 9241-307.

7. HDR requires HDR content and enabling HDR in device settings.

8. Might vary depending on manufacturing processes.

9. Up to 20 hours of battery life based on local video playback test on Surface Laptop 13.8"
Up to 22 hours of battery life based on local video playback test on Surface Laptop 15"
Based on local video playback test. Testing conducted by Microsoft in January 2025 using preproduction software and preproduction Surface Laptop 13" Intel Core Ultra 5 256GB, 16GB RAM devices and Surface Laptop 15" Intel Core Ultra 7 256GB, 16GB RAM devices. Testing consisted of full battery discharge during video playback of a .mov file through the Windows Media Player application in 1080p at 24 FPS. All settings were default except screen brightness set to 150 nits with Auto-brightness disabled. Wi-Fi was connected to a network. Battery life varies significantly with settings, usage, and other factors.

10. Up to 12 hours of battery life based on web browsing test on Surface Laptop 13.8"
Up to 14 hours of battery life based on based web browsing test on Surface Laptop 15"
Based on a web browsing test. Testing conducted by Microsoft in January 2025 using preproduction software and Laptop 13" Intel Core Ultra 5 256GB, 16GB RAM devices and Surface Laptop 15" Intel Core Ultra 7 256GB, 16GB RAM devices. Testing consisted of full battery discharge while accessing eight popular websites over multiple open tabs through the browser. All settings were default except screen brightness set to 150 nits with Auto-Brightness disabled. Wi-Fi was connected to a network. Battery life varies significantly with settings, usage, and other factors.

Feature	Description	
Security	– Enterprise grade security with TPM 2.0 chip and BitLocker support – Windows 11 Secured-core PC – Microsoft Pluton technology – Windows Hello face authentication with Enhanced Sign-in security – Integrated smart card reader[11]	
Cameras	– Full HD front-facing Surface Studio Camera – 1080p Full HD camera – Windows Studio Effects with automatic framing, Portrait Blur, Creative filters, (illustrated, animated, watercolor), Eye Contact, and Portrait light – Windows Hello face authentication camera	
Audio	– Dual Studio Mics with voice focus[12] – Omnisonic® Speakers with Dolby® Atmos®[13] – Support for Bluetooth® LE Audio	

Ports & charging	**13.8" models**
	2 ×USB-C with USB4/Thunderbolt 4 ports with support for:
	  – Charging
	  – Data transfer
	  – DisplayPort 2.1 with support up to 2 x 4K monitor
	  – Surface Thunderbolt™ 4 Dock and other accessories
	– Supports fast charging with minimum 60W charger via Surface Connect or USB-C[14]
	– USB-A 3.2
	– 3.5 mm headphone jack
	– Surface connect port
		15" models
		2 × USB-C with USB4/Thunderbolt 4 ports with support for:
		  – Charging
		  – Data transfer
		  – DisplayPort 2.1 with support up to 2 x 4K monitor
		  – Thunderbolt 4 Dock and other accessories
		– Supports fast charging with minimum 60W power supply via Surface Connect or USB-C[14]
		– USB-A 3.2
		– MicroSDXC card reader
		– 3.5 mm headphone jack
		– Surface Connect port
		– Integrated smart card reader (available on select models and markets)[15]

11. Integrated smart card reader available only on Surface Laptop in Black in one of these configurations: 15" 5/16/512, 5/32/512, 7/16/256, 7/16/512, 7/32/512 and only in select markets.

12. Voice focus requires activation, requires Windows 11 and is available in apps which use integrated device microphones and use certain Windows audio processing modes.

13. Requires Dolby® Atmos® encoded content/audio.

14. In select markets, only specific configurations come with Surface Power Supply. Fast charging is supported with minimum 65W Surface Power Supply or minimum 60W USB Type-C PD charger or higher, sold separately. Testing conducted by Microsoft in December 2024. For details on fast charging, see USB-C and fast charging for Surface - Microsoft Support.

15. Integrated smart card reader available only on Surface Laptop in Black in one of these configurations: 15" 5/16/512, 7/16/256, 7/16/512, 7/32/512 and only in select markets.

Feature	Description
Network & connectivity	– Wi-Fi 7[16] – Bluetooth Wireless 5.4 technology
Software	– Windows 11 Pro 24H2 – Preloaded Microsoft 365 Apps[17] – Microsoft 365 Business Standard, Microsoft 365 Business Premium, or Microsoft 365 Apps 30-day trial[18]
Accessibility	– Surface precision haptic touchpad with adjustable click sensitivity, right click area, and adaptive touch mode[19] – Compatible with Surface Adaptive Kit – Compatible with Microsoft Adaptive Accessories – Supports Microsoft Accessibility Features – Learn More Accessibility Features | Microsoft Accessibility – Discover more Microsoft Accessible Devices & Products - Accessible Devices & Products for PC & Gaming | Assistive Tech Accessories - Microsoft Store
Sustainability	Surface Laptop is designed with sustainability in mind. See more on the Surface Laptop Eco Profile **More recycled materials** – Enclosure is made with a minimum of 67.6% recycled content, including 100% recycled aluminum alloy and 100% recycled rare earth metals.[20] **Thoughtful packaging** – 77% recycled content in wood-based fiber packaging[21] – Paper-based, minimizing plastic use – 100% of our virgin paper sourced comes from responsibly managed forests[22] **More energy efficient** – ENERGY STAR® certified

16. 6GHz band not available in all regions.

17. Sold separately. Software license required for some features.

18. Activation required. If your device is managed by your organization's IT department, contact your IT administrator for activation. If you activate your trial outside your organization, after 30 days, you will be charged the applicable monthly or annual subscription fee. Credit card required. Cancel any time to stop future charges. See https://aka.ms/m365businesstrialinfo.

19. Requires Windows 11.

20. Enclosure includes A Cover and C Bucket. 100% recycled aluminum alloy in A Cover and C Bucket. 100% recycled rare earth metals in magnets. Based on validation performed by Underwriter Laboratories, Inc. using Environmental Claim Validation Procedure (ECVP) for Recycled Content, dated June 20, 2024.

21. Applies to sales packaging. Based on internal analysis using IEEE Std 1680.1-2018. IEEE Standard for Environmental and Social Responsibility Assessment of Computers and Displays, 4.7.3.1 Required—Recycled content in wood-based fiber packaging.

22. Sources must be Forest Stewardship Council (FSC) certified.

Feature	Description
	Repairability – Clear visual icons and built-in access to repair instructions[23] **Surface Trade-in** – We make trade-in convenient and secure for our commercial customers in the USA at Microsoft Trade in Program Microsoft set a goal to be carbon negative, water positive, and achieve zero waste by 2030 Learn more about how we design with sustainability in mind at Microsoft Surface Sustainability
Serviceability	Replaceable components[23] include: – Display assembly (including camera) – Keyboard assembly (including touchpad) – Removable solid-state drive – Battery – Motherboard module (including main processor and main memory) – Surface connect – Audio jack – MicroSDCX Express card reader (15") – Speakers – Enclosure (bucket) – Thermal module – Feet – Fan
Exterior	– Casing: Aluminum – Colors:[24] Platinum and Black
Sensors	– Ambient color sensor
What's in the box	– Surface Laptop 13.8" or Surface Laptop 15" – Power Supply: (In select markets, available only with specific configurations) – 13.8": 39W

23. Replacement components available through online Microsoft Store and iFixIt for out-of-warranty repair. Components can be replaced by individuals with the knowledge and experience to repair electronic devices following Microsoft's Service Guide. Microsoft tools (sold separately) may also be required. Availability of replacement components and service options may vary by product, market and over time. See Self-repair information for your Surface device - Microsoft Support.

24. Colors available on selected models only. Available colors, sizes, finishes, and processors may vary by store, market, and configuration.

Feature	Description
	– 15": 65W – Quick Start Guide – Safety and warranty documents
Keyboard layout	– Activation: Moving (mechanical) keys – Layout: QWERTY, full row of function keys (F1 – F12) – Windows key and dedicated buttons for media controls, screen brightness – Keyboard backlight – Copilot key[25] – Precision Haptic touchpad
Warranty[26]	– 1-year limited hardware warranty
Battery capacities[27]	**13.8" models** – Nominal (WH): 54 – Min (WH): 52 **15" models** – Nominal (WH): 66 – Min (WH): 64

25. Copilot key feature availability varies by market, see aka.ms/keysupport.

26. Microsoft's Limited Warranty is in addition to your consumer law rights. See also: Microsoft Surface Warranty & Protection Plans.

27. Might vary depending on manufacturing processes.

Introduction

What's the one thing that stands out?

- Surface Laptop is the first Copilot+ PC Surface Laptop built exclusively for business with Intel® Core™ Ultra processors (Series 2).

Who is Surface Laptop designed for?

Surface Laptop is built to empower information workers and power workers.

Table 2. Surface Laptop: Target audience

Information workers	Power workers
Professionals like marketing managers, consultants, insurance agents, and project managers rely on Surface Laptop to stay productive in hybrid and remote settings.	Data analysts, executives, lawyers, and bankers use Surface Laptop for demanding workloads and resource-intensive applications.
– High performance and portability for flexible work environments – AI-powered tools and exceptional video capabilities for hybrid collaboration – Seamless connectivity with port variety for multitasking and docking	– Powerful CPU performance for specialized software and data analysis – Portability and long battery life for productivity on the go – Support for larger displays and AI-driven features for efficiency

Why do Copilot+ PCs vary based on silicon?

- We are excited to offer silicon choice for our customers, with hardware and software options that best meet their unique use cases and IT environments.

What does the Copilot key open, Consumer Copilot or M365 Copilot? Is this product available without the Copilot key?

- All SKUs include the Copilot key which can be configured to open Copilot or other applications including Windows Search.
- To learn more, see Evolving the Copilot key experience for commercial businesses - Windows IT Pro Blog

How does this device differ from Surface Laptop 7 with Qualcomm Snapdragon processors?

- **Trusted x86 architecture**: Ensures broad compatibility with a wide range of applications, software, and tools, making it ideal for professionals requiring reliability and versatility across the Windows ecosystem.

- **Support for eGPUs**: Unlike the Qualcomm version, the Intel version supports external GPUs (eGPUs), enhancing its potential for high-performance tasks such as gaming, creative workloads, and intensive graphics processing.
- **Thunderbolt 4 compatibility**: Includes Thunderbolt 4-certified USB-C ports, providing faster data transfer speeds, broader connectivity options, and support for advanced docking solutions.
- **Dynamic USB-C disablement**: Provides IT administrators with greater control over USB-C® ports by allowing them to disable unauthorized access. When connected to an authorized dock, the ports function normally; when undocked or connected to untrusted devices, the ports are disabled, protecting organizational data from potential security threats.
- **Optional Smart Card Reader**: Available on specific models, the Intel version offers enhanced security features like two-factor authentication (2FA), making it a strong choice for organizations with strict regulatory and compliance requirements.
- **Copilot+ PC experiences availability:** Surface devices powered by Intel processors deliver similar Copilot+ PC experiences, including Windows Studio Effects (available now), with additional features like Recall (preview), Live Captions, and Improved Windows Search rolling out through Windows Updates. For more details about the differences, refer to the next question below.

Does this device offer the same AI experiences as Surface Laptop with Qualcomm Snapdragon processors?

Available Copilot+ PC experiences will vary by device and market and some experiences will require updates continuing to roll out into 2025. The following AI experiences in Windows Studios Effects **will not be available** on Surface Laptop with Intel processors::

- Portrait Light
- Creative Filters
- Eye Contact - Teleprompter

Additionally, the new Intel-based devices will support different Windows Studio Effects features compared to Surface Pro powered by Qualcomm Snapdragon processors. The following Windows Studio Effects features **will be available** on the new Intel-based devices but will have the older UI:

- Automatic Framing
- Standard Blur
- Portrait Blur
- Eye Contact – Standard
- Voice Focus (Note: The setting to enable this will not be available on the Windows Studio Effects Quick Settings menu, but instead will be available in the Surface app.)

How does the performance of this device compare to Surface Laptop powered by Qualcomm Snapdragon?

- Surface Copilot+ PCs, available with Snapdragon and Intel-powered processors, offer meaningful improvements on fundamentals like CPU and GPU Performance and Battery Life and lead with unique AI-powered Copilot + PC experiences.
- Visit Copilot+ PC performance details to learn more.

What are the commercial-focused features that are unique to this product?

- Surface Copilot+ PCs, powered by Intel Core Ultra 200V series processors, will enable AI experiences that businesses have come to love including Windows Studio Effects (available now) and additional features that will be rolling out through Windows Update, including Improved Windows Search, Live Captions with translations from over 40 languages into English, Recall (preview), and Click to Do (preview).

Do any other Surface devices include these features?

- Surface Pro 11th Edition and Surface Laptop 7th Edition are the only Copilot+ PCs from Microsoft. Some Copilot+ PC experiences require free updates continuing to roll out through early 2025. Timing varies by device and region. See aka.ms/copilotpluspcs.

Is this device Surface Laptop 8?

- This Surface Copilot+ PC for Business is the Intel Core Ultra (Series 2) variation of the latest Surface Laptop (7th Edition) with all-new AI experiences specifically for business customers.

Has the form factor changed?

- Surface Laptop uses the same chassis as Surface Laptop (7th Edition) with Snapdragon X Elite or Plus Processors, maintaining continuity in design while introducing upgraded hardware and features, including optional Smart Card reader on specific 15" models.
- Surface Laptop offers a stunning, high-contrast PixelSense™ Flow touchscreen display with HDR technology and anti-reflective coating that reduces reflections by up to 50%[28] for optimal visuals in all lighting conditions.
- Near-edgeless display and Surface's signature 3:2 ratio for more screen in a compact footprint.

How does the integrated smart card reader enhance security for customers and is there

28. The Surface Laptop (Intel®) 7th Edition display has been designed to minimize unwanted reflections and has been certified by TÜV SÜD to meet the requirements of ISO 9241-307.

anything unique about how it works on a Surface device?

- The smart card reader, included on select versions of 15" models, delivers enhanced security via its implementation of two-factor authentication (2FA). By requiring both a physical card and a PIN, the smart card reader minimizes the risk of unauthorized access, protecting against sophisticated cyber threats, including phishing and social engineering attacks.
- On Surface Laptop, the smart card reader is built seamlessly into its sleek design without adding any additional weight or thickness.

How can I compare Surface Laptop editions?

- See Appendix B. Comparing Surface Laptop commercial editions

Performance & specifications

What are you highlighting for performance?

- Up to 26% faster than Surface Laptop 5 for Business.[29]
- Up to 4× more local AI performance than Surface Laptop 6.[30]
- More local AI performance than Surface Laptop 6.
- Handles your browser-based applications and tasks 36% faster than Laptop 5.[31]
- Experience up to 2× faster Wi-Fi with Wi-Fi 7 compared to Surface Laptop 6.[32]
- Experience up to 2X faster Wi-Fi with Wi-Fi 7 compared to MacBook Air with M3.[33]
- Up to 2× faster graphics performance than Surface Laptop 5.[34]
- Up to 22% faster graphics performance than Surface Laptop 6.
- Up to 22 hours of local video playback[9] and up to 14 hours of active web usage.[10]

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29. Tested January 2025 using CineBench 2024 Multi-Core benchmark. Up to 26% faster comparing Laptop 13.8" with Intel® Core™ Ultra 7 processors to Surface Laptop 5 13.5" with Intel® Core™ i7. Up to 12% faster comparing Surface Laptop 15" with Intel® Core™ Ultra 7 processors to Surface Laptop 5 15" with Intel® Core™ i7.
30. Configurations with Intel ®Core ™ Ultra 5 processor have up to 40 TOPS and up to 3.5 more processing capacity.
31. Tested January 2025 using WebXPRT 4 benchmark. Up to 36% faster comparing Surface Laptop 15" with Intel® Core™ Ultra 7 processors to Surface Laptop 5 15" with Intel® Core™ i7. Up to 24% faster comparing Laptop 13.8" with Intel® Core™ Ultra 7 processors to Surface Laptop 5 13.5" with Intel® Core™ i7.
32. When comparing Surface Laptop with Wi-Fi 7 320MHz to models with Wi-Fi 6E 160MHz with compatible Wi-Fi 7 routers. 6GHz band not available in all regions
33 When comparing Surface Laptop with Wi-Fi 7 320 MHz to models with Wi-Fi 6E 160MHz with compatible Wi-Fi 7 routers. 6 GHz band not available in all regions.
34. Based on 3D Mark WildLife Extreme Unlimited performance testing conducted by Microsoft in January 2025.

What processors power this device?

- The device is powered by Intel Core Ultra Series 2 processors (Ultra 5 and Ultra 7) designed for high-performance AI and next-generation computing tasks.

What NPU is included?

- Intel AI Boost delivers up to 48 TOPS for AI-enhanced applications, supporting tasks like advanced productivity tools and real-time collaboration.

What are the memory options?

Core Ultra 5

- 236v: 16 GB LPDDR5x RAM
- 238v: 32 GB LPDDR5x RAM

Core Ultra 7

- 266v: 16 GB LPDDR5x RAM
- 268v: 32 GB LPDDR5x RAM

This structure is due to the RAM being integrated into the SoC (System on Chip), requiring distinct processor variants for each memory configuration.

What are the storage options?

- Storage options: Removable Gen 4 SSDs with capacities of 256 GB, 512 GB, or 1 TB.

Does Surface Laptop support 64 GB memory configurations?

- No, Intel Core Ultra Processors (Series 2) used in Surface Laptop, do not include 64 GB memory options due to the embedded memory design. Surface Pro 10 and Surface Laptop 6 are available for customers who need higher memory configurations.

Is there an NFC reader on Surface Laptop?

- No, see Surface Pro 11th Edition.

Does Surface Laptop support pen input?

- Customers looking for pen functionality can consider Surface Laptop Studio 2 or Surface Pro 11th Edition. Pen input is not supported on this device.

What live captions support is available on this device?

- To enhance communications and accessibility, you can enable Live Captions with translation from

more than 40+ languages into English. Live Captions will display when someone is talking in real-time or recorded audio in any app on Windows.[35]

What's the difference between Ultra 5 and Ultra 7 processors?

Table 3. Ultra 5 vs. Ultra 7 processors: Key differences

Feature	Intel Core Ultra 5	Intel Core Ultra 7
Designed for	General productivity tasks and mid-range performance needs. Best for users prioritizing battery life or handling standard business tasks.	Power users requiring advanced performance, such as creative professionals working on 3D rendering or video production. Ideal for top-tier processing needs.
Core performance	Optimized for everyday tasks such as document editing, web browsing, and standard business applications.	Equipped to handle heavy workloads like video editing, large-scale data analysis, and multitasking with resource-intensive programs.
AI capabilities	Features Intel AI Boost with up to **40 TOPS**, sufficient for most AI-enhanced tasks like background noise cancellation and light AI workloads.	Enhanced with Intel AI Boost delivering up to **48 TOPS**, offering superior performance for real-time language translation or complex machine-learning computations.
Graphics and compute power	Provides sufficient graphics performance for basic tasks, including presentations, streaming, and light multitasking.	Provides better support for high-end graphics, 3D modeling, and multi-monitor setups.

How does the 200V series processor compare to the H-class processor in Surface Laptop 6?

- Surface Laptop for Business leverages Intel Core Ultra Series 2 processors. These processors are designed to be faster than their Intel Core Ultra Series 1 U-class counterparts with more battery life but are less powerful than H-class processors in Surface Laptop 6 for Business.
- Intel Core Ultra Series 2 processors are optimized for AI capabilities with a 40+ TOPS NPU, thermals, and battery life and H-class processors are optimized for high performance.

35. Currently supports translation for video and audio subtitles into English from 40+ languages. Learn more.

Benefits and capabilities of Intel Core Ultra Series 2 processors

This section includes processor info sourced from Intel.

Do the new Intel Core Ultra Series 2 processors with integrated RAM on the compute tile impact performance or capability?

The Intel Core Ultra Series 2 processors feature Memory on Package (MoP) technology, which integrates Low Power DDR5X (LPDDR5X-8533) memory directly on the processor package. This memory configuration is not user-configurable and is available in two fixed capacities: 16 GB and 32 GB. It supports dual channels and is validated to operate at 8533 MT/s, delivering high-speed performance with low power consumption.

While the fixed memory capacity means users cannot upgrade it, this design provides several key benefits:

- **High bandwidth**: The LPDDR5X memory delivers fast data transfer speeds, making it well-suited for demanding applications.
- **Energy efficiency**: The integration reduces power consumption compared to traditional external memory configurations.
- **Compact device design:** This architecture aligns with the design principles of Surface Laptop and Surface Pro helping us deliver slimmer, lighter form factors without compromising on performance or battery efficiency.

Does the use of integrated RAM in the new Intel Core Ultra Series 2 processors limit their capabilities?

It depends on how you define capability, as it is workload-dependent. To provide clarity, here's a quick comparison of memory configurations between the previous generation and the new Intel Core Ultra Series 2 processors:

Table 4. Intel Core Ultra Series 2 vs. previous generation

Feature	Previous Generation	Intel Core Ultra Series 2
Memory type	LPDDR5 - 6400	LPDDR5X-8533 MoP
Memory cache	N/A	8MB integrated memory side cache
Memory capacity	16 GB & 32 GB (2ch) capacity	16 GB or 32 GB fixed capacity
Maximum capacity	64 GB (expandable)	16 GB or 32 GB fixed

Key considerations:

- **Faster memory performance:** The new processors feature next-generation JEDEC memory speeds of 8533 MT/s, significantly faster than the previous generation's 6400 MHz

- **Trade-offs in scalability:** While the new processors prioritize power efficiency and compact design with fixed memory capacities (16 GB or 32 GB), the previous generation offers flexibility and scalability, supporting up to 64 GB of RAM.
- **Optimized for specific workloads:** The new architecture is ideal for workloads that benefit from high-speed, low-power memory, while the previous generation suits users needing higher memory capacity for their applications.

What benefits does a customer gain with the new architecture?

One of the key focus areas of the new architecture is optimizing power efficiency for mobile devices like Surface Laptop and Surface Pro. The use of Memory on Package (MoP) technology provides several significant advantages:

- **Reduced footprint**: By stacking memory on the same package as the processor, the design reduces the required PCB space. This helps us achieve the thinner, more compact designs customers love about Surface Laptop and Surface Pro.
- **Improved performance and battery efficiency**: The shorter signal paths between the processor and memory enhance data transfer speeds and reduce power consumption, allowing us to deliver excellent performance with longer battery life.

This architecture reflects the Surface engineering team's commitment to designing devices that balance portability and energy efficiency with uncompromising performance, meeting the needs of modern users.

Why isn't a 64 GB RAM configuration available for Surface devices with Intel Core Ultra Series 2?

- The Intel Core Ultra Series 2 processors utilize Memory on Package (MoP) technology, which integrates memory directly into the processor package. As a result, the memory configuration is not user-configurable and is only available in two fixed capacities: 16 GB and 32 GB.
- These configurations are designed with dual channels and validated for JEDEC-compliant 8533 MHz speeds, providing high performance and energy efficiency. While this design limits the available memory options, it helps facilitate the power-efficient architecture in our latest Surface devices.

Display

What are you highlighting for display features?

- Remarkably bright with enriched HDR, it unveils crisper whites, darker blacks, and an extended color spectrum. It delivers up to 600 nits of peak brightness for better contrast and details
- The display on Surface Laptop has been designed to reduce reflections by up to 50% and minimize unwanted reflections and has been certified by TÜV SÜD to meet the requirements of

ISO 9241-307.[36]

Cost & value

SKUs & availability

When are commercial SKUs available?

- SKUs are generally available starting February 18, 2025, in Surface markets. Availability varies per market.

What are the SKUs for Surface Laptop?

Table 5. SKUs: Surface Laptop 13.8"

Configuration	Colors	Price
Intel Core Ultra 5 / 16 / 256	Platinum/Black	$1,499
Intel Core Ultra 5 / 16 / 512	Platinum/Black	$1,599
Intel Core Ultra 5 / 32 / 256	Platinum/Black	$1,799
Intel Core Ultra 5 / 32 / 512	Platinum/Black	$1,999
Intel Core Ultra 7 / 16 / 256	Platinum/Black	$1,699
Intel Core Ultra 7 / 16 / 512	Platinum/Black	$1,799
Intel Core Ultra 7 / 32 / 256	Platinum/Black	$1,999
Intel Core Ultra 7 / 32 / 512	Platinum/Black	$2,199
Intel Core Ultra 7 / 32 / 1 TB	Platinum/Black	$2,399

36. Testing and certification has been performed by TÜV SÜD and only applies to Surface Laptop (Intel®) 7th Edition.

Table 6. SKUs: Surface Laptop 15"

Processor/RAM/Storage	Colors	Price	Additional features
Intel Core Ultra 5 / 16 / 256	Platinum/Black	$1,699	
Intel Core Ultra 5 / 16 / 512	Platinum/Black	$1,799	Optional Smart Card Reader (+$50) Black only
Intel Core Ultra 5 / 32 / 256	Platinum/Black	$1,999	
Intel Core Ultra 5 / 32 / 512	Platinum/Black	$2,199	Optional Smart Card Reader (+$50) Black only
Intel Core Ultra 7 / 16 / 256	Platinum/Black	$1,899	Optional Smart Card Reader (+$50) Black only
Intel Core Ultra 7 / 16 / 512	Platinum/Black	$1,999	Optional Smart Card Reader (+$50) Black only
Intel Core Ultra 7 / 32 / 256	Platinum/Black	$2,199	
Intel Core Ultra 7 / 32 / 512	Platinum/Black	$2,399	Optional Smart Card Reader (+$50) Black only
Intel Core Ultra 7 / 32 / 1 TB[37]	Platinum/Black	$2,599	Optional Smart Card Reader (US TAA +$100) Black only

What is TAA compliance, and how does it apply to Surface Laptop for Business?

- TAA compliance refers to the U.S. Trade Agreements Act, which requires that products purchased by the U.S. government or government-funded contracts be manufactured in the United States or designated trade-compliant countries. For Surface Laptop, a TAA-compliant configuration with the optional Smart Card Reader meets these requirements, making it eligible for government procurement..

Why are colors not available in the commercial channel?

- Surface is focused on meeting the unique needs and different use cases of customers and IT environments with differentiated hardware features.
- We're always listening and evaluating based on customer feedback.

37. Available in US only. US TAA: Trade Agreements Act compliance.

When will 5G be available for Surface Laptop and when can we learn more about it?

- Surface Laptop for Business with 5G will be available later this year in select markets. Microsoft will have more to share later.

How can I place an order?

- Visit Authorized Microsoft Reseller List - Surface Business.

Is there any way for a consumer or a self-employed individual to purchase the Intel-based Surface Pro?

- This device is designed for our commercial customers and authorized for sale to commercial entities on microsoft.com and through authorized Surface for Business commercial resellers.

Power & battery

What's the battery life?

Table 7. Surface Laptop battery life

Metric	Surface Laptop 13.8"	Surface Laptop 15"
Local video playback	Up to 20 hours[9]	Up to 22 hours[9]
Active web usage	Up to 12 hours[10]	Up to 14 hours[10]

What else are you highlighting for battery performance?

- Up to 2× longer battery life when using Microsoft Teams than Surface Laptop 5.[38]
- Up to 6.5 hours more of battery life than Laptop 6.[39]

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38. Based on a Microsoft Teams 10-person call test. Testing conducted by 3rd party lab in January 2025 using preproduction software and preproduction Surface Laptop Intel® Core™ Ultra 7 266V, 16GB RAM, 256 GB and Surface Laptop 5 15-inch Intel Core i7-1265U, 16 GB RAM, 512 GB. Testing consisted of full battery discharge during a Microsoft Teams 10-person video call. All settings were default except screen brightness set to 150 nits with Auto-brightness disabled. Wi-Fi was connected to a network. Tested with Windows 11. Battery life varies significantly with settings, usage, and other factors.

39. Based on local video playback test. Testing conducted by Microsoft in January 2025 using preproduction software and Laptop 13.8" Intel Core Ultra 5 256GB, 16GB RAM devices and Surface Laptop 15" Intel Core Ultra 7 256GB, 16GB RAM devices and Surface Laptop 6 13.5" Intel Core Ultra 7 165H 256GB, 16GB RAM and Surface Laptop 6 15" Intel Core Ultra 7 165H 512GB, 16GB RAM. Testing consisted of full battery discharge while accessing eight popular websites over multiple open tabs through the browser. All settings were default except screen brightness set to 150 nits with Auto-Brightness disabled. Wi-Fi was connected to a network. Battery life varies significantly with settings, usage, and other factors.

Does this device come with a charger?

- Yes, this device includes a charger by default in most regions. However, to support EU initiatives aimed at reducing e-waste, the charger is optional in the EU. Customers in the EU can choose whether to include a power supply with their purchase or opt out if they already have a compatible charger.
- EU customers who need a charger can purchase one separately:
  - **Surface Connect:** Buy Microsoft Surface 65W Power Supply - Microsoft Store.
  - **USB-C:** Minimum 60W charger recommended.

What charger is included with eligible Surface Laptop devices?

- **13.8" models:** 39W PSU
- **15" models:** 65W PSU

Can you recommend a 65W power supply to purchase for this device?

- See Buy Microsoft Surface 65W Power Supply - Microsoft Store.

Can I charge this device with another Surface Charger?

- Yes, but if the wattage is insufficient, a message will be displayed indicating the slow charge status.

Will inbox PSUs continue to have Surface Connect?

- Yes.

Is fast charging supported?

- Surface Laptop supports fast charging with minimum 60W charger,[40] allowing you to go from 5% to 80% in about an hour via Surface Connect or USB-C.

How long does it take to charge using the 39W PSU?

- Surface Laptop charges quickly, reaching full capacity in just over an hour using the 39W PSU included with 13.8" models. Opting for a higher wattage (65W) PSU can reduce the charging time to under an hour.

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40. Fast charging is supported with minimum 65W Surface Power Supply (sold separately for 13.8") or minimum 60W USB Type-C® PD charger or higher, sold separately. Testing conducted by Microsoft in December 2024. For details on fast charging see USB-C® and fast charging for Surface - Microsoft Support.

Can I charge Surface Laptop via the USB-C port?

- Yes, with Surface Laptop, you can charge your devices in two ways – via USB-C or the inbox PSU. For fast charging with USB-C, ensure your charger delivers sufficient watts, equal to or greater than 60 watts.[43]

What are the smart charging features?

Surface Bancroft includes a new smart charging UI in the Surface app that provides customers with enhanced control over charging behavior to optimize battery performance and extend device lifespan. Key features include:

- **Adaptive**: Automatically determines when to enable or disable Smart Charging based on usage patterns.
- **Limit to 80%:** Restricts charging to a maximum of 80% to protect battery health.
- **Charge to 100%:** Allows device to fully charge to 100% temporarily, with configurable options for 1 day or 1 week.

These features empower IT administrators and users to maintain battery health efficiently without compromising productivity.

Will it harm the battery to have the device plugged in and on all the time?

- No, the Surface charger automatically stops charging once the battery reaches full capacity.

How are you measuring battery life?

- **Local video playback.** Measures battery life based on playing video files stored locally, rather than streamed over the internet This scenario typically involves less power consumption than active web usage because it doesn't require the use of networking hardware and often relies on optimized playback software that can take advantage of hardware acceleration.
- **Active web usage.** Reflects battery life during continuous use of web-based applications and browsing. This scenario is more demanding than local video playback since it involves constant data exchange over Wi-Fi or cellular networks, frequent screen refreshes, and possibly more intensive CPU and GPU usage.

Accessibility

What's your approach to accessibility?

Surface products are thoughtfully designed to empower everyone to achieve more. By prioritizing inclusiveness in our designs, we deliver a more comfortable and empowering experience for all, ensuring that no one is left behind. Our comprehensive accessibility offerings span from adaptive accessories to

features embedded in both hardware and software, seamlessly integrating Surface devices, Copilot, Microsoft 365, and Windows 11 into a unified Microsoft accessibility solution.

Key benefits

- **Adaptive touch mode**: Customize the Surface Precision Haptic Touchpad to work with various inputs, including your palm, foot, edges of your hand, and residual limbs. Plus, users can toggle settings to adjust haptic feedback and sensitivity for personalized input.
- Activate this mode in the Surface app by navigating to **Touchpad Settings** and toggling **adaptive touch mode**. Adjust haptic settings to meet your specific needs.
- **Copilot**: Intelligent assistance for everyday tasks.
- **Windows 11:** Accessibility innovations built into the OS.
- **High-quality microphones:** Enable clear and accurate voice dictation for all users.
- **Multi-touch screens**: Provide intuitive interaction at your fingertips.

Additional accessibility resources

- Pair your Surface Laptop with Microsoft adaptive accessories to create a personalized setup tailored to your needs.
- Access free support from the **Enterprise Disability Answer Desk**, a service that provides accessibility solutions for organizations of any size. To learn more, see Accessibility support for enterprise customers.

How does a customizable haptic touchpad offer a more inclusive experience?

A precision haptic touchpad that is customizable for accessibility needs is important because it enhances usability for a wide range of users, including those with physical, sensory, or cognitive challenges. Here's how:

- **Tactile feedback:** Haptic feedback provides a physical sensation, helping users feel actions like clicks or gestures. This is especially beneficial for individuals with visual impairments who rely on tactile cues to interact with the device.
- **Customizable sensitivity:** Users with limited motor control or conditions such as tremors can adjust the touchpad's sensitivity and responsiveness to match their specific needs, making it easier to use without accidental inputs.
- **Gesture adjustments:** The ability to customize gestures allows users to tailor the touchpad experience to what works best for their physical capabilities.
- **Reduced strain:** For users with limited dexterity or mobility, a well-calibrated touchpad can reduce the effort required for precise movements, minimizing discomfort during extended use.
- **Adaptive touch mode:** Users with limited mobility can customize the touchpad's settings. They can resize the right-click region of the touchpad and adjust the time required between clicks to register a double-click, ensuring the touchpad responds accurately to limb different inputs.
- **Inclusive design:** Customization options ensure the device can cater to diverse users, from those

with disabilities to people with temporary injuries (e.g., a broken hand) or those who prefer alternative interaction methods.

Security

General security overview

What security features are you highlighting?

- Secured-core PC with hardware-based protection.
- Microsoft-designed firmware, including Surface UEFI for enhanced configurability.
- TPM 2.0 and Microsoft Pluton for secure data storage.
- Windows Hello for Business with facial recognition and Enhanced Sign-In Security.
- Optional smart card reader for additional security.

How does Secure Boot protect my Surface device?

- Secure Boot ensures that only trusted software is loaded during the startup process. It prevents malicious code, such as rootkits, from running, ensuring your device starts securely every time.

How does BitLocker help secure my data?

- BitLocker encrypts your data, protecting it from unauthorized access. Even if your device is lost or stolen, the data remains secure because decryption requires authentication.

What is hardware-backed root of trust, and how does it protect my device?

- Hardware-backed root of trust ensures that an authentic version of Windows runs on the device. It uses secure processors, such as TPM or dynamic root of trust in ARM-based devices, to verify the integrity of the firmware and operating system.

Secured Core PCs

What is a Secured Core PC?

- A Secured Core PC is designed to provide advanced protections against common and sophisticated malware attacks. It integrates hardware, firmware, and software security measures to safeguard your data and ensure the integrity of your device.
- All built-in hardware and software security protections turned on by default. Key features include protection against:

- **External threats** with Windows Hello and Credential Guard, safeguarding identities and isolating sensitive company data.
- **Malware** through Hypervisor Enforced Code Integrity (HVCI) and Virtualization Based Security (VBS), ensuring only trusted code runs.
- **Firmware attacks** with a hardware-enforced root of trust that ensures a secure state regardless of firmware integrity.

Why are Secured Core PCs important for businesses?

- Secured Core PCs offer advanced hardware and software security for protecting sensitive data, making them ideal for industries handling critical information, such as healthcare, finance, and government. These devices ensure compliance with strict security standards and minimize risks of data breaches.

What advantages do Secured-Core PCs offer for handling sensitive data?

- Designed with deep integration between hardware and software and featuring the most advanced CPUs available, Secured-core PCs are intended to handle mission-critical data in some of the most data-sensitive industries. A Secured-core PC is a modern Windows device that comes with the highest level of hardware, software, and identity protection ready right out-of-the-box. To learn more, see Windows 11 Secured-Core PCs | Microsoft.
- Secured-core PCs, like Surface Laptop, are the most secure Windows 11 devices for workers who need a multi-layered security system (L3 requirements) to handle the most sensitive data.

Are the security features for Surface Laptop the same as Windows 11?

- Surface Laptop provides the highest default level of security for Windows 11 devices.
  - **Secured-core PC** – Surface Laptop is a Secured-core PC. To learn more, see Secured-core PCs.
  - **Microsoft Pluton** Security processor is included in Surface Laptop. To learn more, see Microsoft Pluton security processor - Windows Security | Microsoft Learn.
  - Surface Laptop ships with **Windows Hello Enhanced Sign-in Security (ESS),** which enables more secure sign-in using biometric. To learn more, see Windows Hello Enhanced Sign-in Security (ESS).

Advanced features

What is Hypervisor Code Integrity, and why is it important?

- Hypervisor Code Integrity creates a secure layer that isolates critical code execution from malicious interference. This feature is enabled by default on all Windows 11 Surface devices, adding a vital layer of protection.

Does Surface Laptop support Dynamic USB-C disablement?

- Yes, with the Surface Thunderbolt™ 4 Dock[41]you can protect your organization's data from unauthorized USB access. Dynamic USB-C disablement allows IT admins to control the functionality of the USB-C ports on Surface Laptop. When the device is connected to an authorized dock, the USB-C ports work normally. When the device is undocked or connected to an untrusted dock, the USB-C ports are disabled for data transfer. This way, you have more control and can prevent data theft and have more security over your devices.
- To learn more, see Manage USB ports on Surface devices - Surface | Microsoft Learn.

Is NFC included with Surface Laptop?

- No. See Surface Pro 11th Edition running Intel Core Ultra processors, Surface Pro 10 for Business, or Surface Go 4 for Business.

TPM

What TPM is supported on Surface Laptop?

- Commercial versions of Surface Laptop utilize a discrete Trusted Platform Module (TPM) 2.0 and are certified for government and security-minded enterprise standards, achieving FIPS 140-2 Level 2 with Intrusion Detection and Common Criteria/EAL4.

Why is a discrete TPM 2.0 chip important for security in a commercial environment?

- **Enhanced security and integrity:** TPM 2.0 offers a hardware-based solution for securing cryptographic keys, ensuring that only trusted software is run during the boot process, thereby protecting against unauthorized access and malicious attacks.
- **Advanced encryption and authentication:** It securely manages encryption keys for disk encryption like BitLocker, supports multi-factor authentication methods, and protects against brute-force attacks, enhancing data protection and user authentication.
- **Compliance and remote attestation:** Meets regulatory compliance requirements for security standards, and facilitates remote attestation, allowing devices to verify their integrity and trustworthiness in remote and cloud computing environments.

Pluton security

What is Microsoft Pluton?

- Designed by Microsoft and built by silicon partners, Microsoft Pluton is a secure crypto-processor

41. Sold separately. Software license required for some features.

built into the CPU for security at the core to ensure code integrity and the latest protection with updates delivered by Microsoft through Windows Update. Pluton protects credentials, identities, personal data, and encryption keys. Information is significantly harder to be removed even if an attacker installs malware or has complete physical possession of the PC.

- Pluton is a requirement for all Copilot+ PCs, including Surface Laptop.
- To learn more, see Microsoft Pluton security processor - Windows Security | Microsoft Learn.

Does Pluton provide TPM functionality on Surface Laptop?

- No. Although Pluton is enabled on Surface Laptop, the TPM is provided by a discrete TPM 2.0 chip, validated by FIPS 140-3.

What value does Pluton provide commercial customers if it's not being used as a TPM?

- One of the other major security problems solved by Pluton is keeping the system firmware up to date across the entire PC ecosystem. Pluton for Windows computers will be integrated with the Windows Update process in the same way that the Azure Sphere Security Service connects to IoT devices.

Are Windows 11 devices without Pluton not secure?

- Windows 11 is our most secure operating system ever and Pluton is taking that security to the next level. We're continually iterating on and improving security on Windows to help protect against the evolving threat landscape.

Why is Pluton better than TPM?

- The TPM is a critical part of the security of Windows 11 and is part of the minimum hardware baseline. On supported hardware Pluton also implements a TPM.
- The TPM specification is an industry standard that helps to prescribe methods for the various layers of the system like UEFI firmware, the OS bootloader and kernel to track security information like how the system booted and gate usage of resources like keys based on that information
- Pluton is a flexible platform that can add additional capabilities beyond the TPM specification and its core areas of focus. As an example, with the KSP we have focused on building interfaces that allow applications on Windows to benefit from hardware-based key protection with greater reliability across device events like firmware updates that application developers do not control.

What is a key storage provider (KSP)? How does it keep a customer secure?

- Key storage providers, or KSPs, are a long-standing architectural feature of the Windows cryptography APIs used by numerous 1st and 3rd party applications.
- Key storage providers are used to create, delete, export, import, open and store keys which can

be used to perform cryptographic operations used by OS functionality and applications.

- Windows has had support for various KSPs like the software and TPM KSP. The Pluton KSP creates a way to benefit from the security properties of Pluton like higher isolation, using an approach that is familiar to Windows developers.

When will KSPs be made available?

- One of the core benefits of Pluton is its integration with the Windows Update system that has delivered security and feature updates that enhance the customer experience over time while adhering to safe deployment practices.
- The Pluton KSP and the enhanced protection of Entra and Intune assets demand a high degree of quality and reliability to ensure they meet the needs of customers running mission critical activities on Windows. These capabilities will be made available when we have met the quality and reliability bar set by our customers.

Will the Pluton KSP be coming to all devices with Pluton chips? Will it be available across silicon – Intel & Qualcomm?

- The Pluton KSP will be available across silicon from Intel and Qualcomm for Copilot+ PCs.

SSD retention

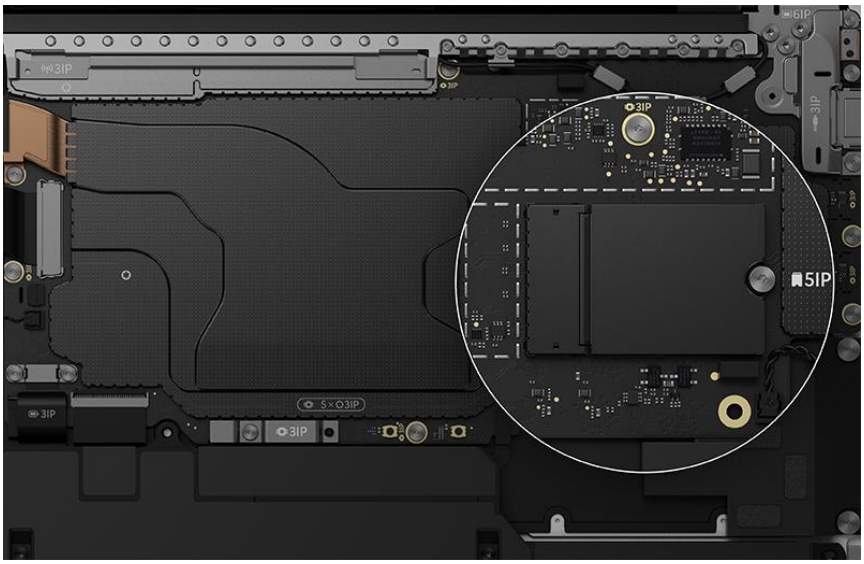

Figure 1. Removable SSD in Surface Laptop

What's the primary purpose of having a removable SSD for commercial enterprises?

- The removable SSD (rSSD) helps businesses maintain control of their sensitive information.[4]
- It also facilitates servicing and repair: Retaining data is made easy with the ability to retain the SSD.

When will the Surface Drive Retention service plan offer be available for purchase?

- Surface Drive (SSD) Retention is available on Surface devices where the SSD is marketed as removable, subject to terms and conditions. To learn more, see Surface Warranty, Protection Plans & Support.

Optional smart card reader

Figure 2. Smart card reader on Surface Laptop 15" model

Why would my organization need a smart card reader?

- **Enhanced security and risk mitigation:** The smart card reader, included on select versions of the 15" model,[42] provides enhanced security via its implementation of two-factor authentication (2FA). By requiring both a physical card and a PIN, the smart card reader minimizes the risk of unauthorized access, protecting against sophisticated cyber threats, including phishing and social engineering attacks.
- **Compliance and regulatory adherence:** For organizations operating in sectors where regulatory compliance is stringent (e.g., government, defense, healthcare, and finance), the smart card reader helps meet strict access control and data protection requirements. It helps ensure organizations adhere to laws and regulations such as HIPAA, FISMA, and GDPR, which mandate

42. Integrated smart card reader available only on Surface Laptop in Black in one of these configurations: 15" 5/16/512, 7/16/256, 7/16/512, 7/32/512 and only in select markets.

strong authentication measures to protect sensitive data. This compliance is not just about avoiding penalties but also about demonstrating to stakeholders and customers a commitment to maintaining high security and privacy standards.

- **Operational efficiency and access management:** Implementing a smart card reader streamlines access management across the organization. It simplifies the process of granting or revoking access rights, enhances user experience by consolidating multiple credentials into a single authentication mechanism, and supports a secure mobile workforce. This centralized access management improves operational efficiency, reduces administrative overhead, and enhances the overall security posture by ensuring consistent application of access policies.

How secure are devices that lack a smart card reader?

- For the first time, we built in a smart card reader to give customers more options to authenticate with a password. Organizations can achieve a similar level of security protection with the following passwordless solutions:
  - Multi-factor authentication (MFA)
  - Biometric authentication (Windows Hello for Business)
  - Mobile authentication apps

What's the difference between a smart card reader and a CAC reader?

- The smart card reader is specifically designed to read the Common Access Card (CAC), which is a specialized form of smart card used by the United States Department of Defense (DoD). The CAC provides secure two-factor authentication for active-duty military personnel, reserve personnel, civilian employees, and eligible contractor personnel.
- The smart card reader in Surface Laptop facilitates authorized users with access to DoD computers, networks, and certain DoD facilities, and it can also encrypt and sign emails.

Where can IT admins learn more about Surface security?

- See Surface security overview - Surface | Microsoft Learn

Manageability & integration

Is an N-1 OS supported for Surface Laptop, 7th Edition?

- No. This device ships with Windows 11 24H2.

How are you applying AI to Windows 365 to make Cloud PC management easier for IT teams?

- Using AI, Windows 365 analyzes your employees' usage patterns and performance needs to offer

recommendations to IT that help find optimal Cloud PC configurations to improve the overall experience for your employees and reduce costs. Cloud PC recommendations are then created with utilization and performance insights gathered in Microsoft Intune. This feature is now in public preview.

Surface Management Portal and IT tools

What's new with the Surface Management Portal and IT tools?

- With the new Security Copilot in the Surface Management Portal, users will be able to interact with their device data and warranty data that is in Intune. This will save IT time by completing multi-step tasks in one click and eliminating the need to navigate multiple areas in the Surface Management Portal. Copilot can also generate contextually relevant reports based on users' tenant data, such as Service Order history or end-of-servicing dates for their devices.

What are the requirements to use Surface Management Portal?

- Customers must be licensed to access Microsoft Intune.
- Surface devices must be enrolled in the Surface Management Portal via automatic device enrollment through Intune
- To learn more, visit: Surface Management Portal overview | Microsoft Learn.

How will IT pros be able to use Copilot? Is this new Copilot functionality? What actions are now available in the Copilot in Surface Management Portal?

Yes, this is brand new functionality. IT Pros will be able to use the various prompts located in the Surface Management Portal to:

- Build reports on end of servicing dates for their devices.
- Get assistance in troubleshooting devices.
- Build reports on Service Orders for a given device.
- Generate warranty reports for the entire fleet.

What data protections are in place for data Copilot engages within the Surface Management Portal?

- When users interact with Microsoft Security Copilot, Customer Data and system-generated logs are stored and processed as part of the service.
- Data sharing is turned on by default. Global Administrators and Security Administrators are assigned a Copilot owner role in Security Copilot. Copilot owners can change data sharing settings for Customer Data during the first run experience and at any time thereafter. For more information on roles, see:

  - Security Copilot roles
  - Privacy and data security in Microsoft Security Copilot | Microsoft Learn

- When users interact with the Security Copilot to get Intune data, the Security Copilot pulls that data from Intune. The prompts, the retrieved Intune data, and the output shown in the prompt results are processed and stored within the Security Copilot service.
- Security Copilot adheres to the RBAC roles and Intune scope tags assigned to users when accessing data.
- When users use Security Copilot to get Intune data, Security Copilot also has access to the data and permissions defined by the RBAC roles and Intune scope tags assigned to them. To learn more, see Security Copilot in Microsoft Intune | Microsoft Learn.

What are the security uses of Copilot in the Surface Management Portal?

- Users can prompt Copilot to learn how to set up compliance policies and prevent malware. Additional security-centric functionality will be added in the future.

When will Copilot be made available in Surface Management Portal?

- Public Preview will launch on February 17, 2025.

What licenses are needed to access Copilot in SMP?

- Users will need Security Compute Units (SCUs). To learn more, see Manage usage of security compute units in Security Copilot | Microsoft Learn.
- Microsoft Intune licensing is required.
- No license is needed for SMP itself.

Will Copilot in the Surface Management Portal be made available on Intel & Qualcomm-based devices?

- Yes, Copilot will work for any Surface device enrolled in the Surface Management Portal, regardless of chipset, as it runs in the cloud.

Will Copilot roll out to other OEMs management tools/portals?

- Surface aims to enhance the Windows experience. While we cannot comment on other OEMs' plans, the recent integration of HP and Dell portals with Intune showcases the growing value of OEM collaboration with Microsoft.

Recall (preview) and Click to Do (preview)

Should Commercial Customers roll out Recall? What about security concerns?

- Recall (preview) is available in the Windows Insider Program, and commercial customers are encouraged to test and provide feedback. Once feedback is gathered, we plan to make Recall available more widely.
- Recall includes granular management controls for IT, such as enabling/disabling the feature via policy and managing settings. To learn more, see Manage Recall | Microsoft Learn.
- Enhanced security measures include data encryption and Windows Hello protection, ensuring Recall offers robust personal data protection.
- To learn more, see Update on Recall security and privacy architecture | Windows Experience Blog.

Do the latest AI features like Recall (preview) and Click to Do (preview) comply with the EU AI Act?

- Microsoft complies with applicable laws, regulations, and sanctions, and requires our suppliers to do the same while conducting business on behalf of or with Microsoft.

What actions are being taken to address concerns about Recall (preview) capturing sensitive information such as social security and credit card numbers?

- Recall is currently in preview in the Windows Insider Program, and Microsoft is actively working on updates to enhance data protection based on feedback from Insiders.
- Customers are encouraged to report their experiences via the Feedback Hub.

Can organizations manage features like Recall (preview)?

- Yes, Recall (preview) includes policy controls for IT to manage availability and snapshots. To learn more, see Previewing More Copilot+ Experiences with Windows Insiders in the Dev Channel | Windows Insider Blog.

Can organizations manage features like Click to Do (preview)?

- Click to Do (preview), launched on December 6 in the Windows Insider Program, currently does not have IT controls. To learn more, see Previewing More Copilot+ Experiences with Windows Insiders in the Dev Channel | Windows Insider Blog.

Will Recall (preview) be available on these devices when they ship? When will it be available?

- Recall (preview) has been available to Windows Insiders since November 22, 2024. It will be made generally available after leveraging feedback from the Insider community. To learn more, see

Previewing Recall with Click to Do on Copilot+ PCs with Windows Insiders in the Dev Channel | Windows Insider Blog.

Will there be exclusive commercial features for Recall (preview) on these devices?

- Recall (preview) has been available for commercial devices via the Windows Insider Program since November 2024. To learn more, see: Update on the Recall preview feature for Copilot+ PCs | Windows Experience Blog.

What licensing is needed to take advantage of these new features?

- No additional licenses are needed for Recall (preview) or Click to Do (preview) during their availability in the Windows Insider Program.

Durability & service

When and where will replaceable components be available to purchase?

- Components will be available from Authorized Microsoft Resellers shortly after the initial launch in September 2024; availability varies by component and market.
- New SSDs will be available for purchase via commercial channels and published on pricelist. To learn more, see Authorized Microsoft Reseller List.

What are you doing to reduce the environmental impact of your devices?

- Sustainability has long been a core priority for Microsoft, and that goal is embedded in all we do – including our devices. To learn more, see Microsoft Surface Sustainability - Microsoft Sustainability.
- Over the past decade, we've steadily improved energy efficiency, decreased packaging waste, reduced, or eliminated hazardous substances, and improved our devices' serviceability and recyclability. We are constantly developing initiatives to lower our carbon emissions by using more recycled materials such as our use of 100% recycled aluminum.
- In FY24, we expanded truckload electric vehicle capabilities to cover both of our United States distribution centers, enabling full truckloads within a 100-mile range of the distribution centers to be delivered via EV.
- We have also worked to help improve the sustainability of our suppliers and supply chain. For example, this year, we converted our main European distribution center for Surface devices into a facility powered 100% by Renewable Energy. Our supply chain for devices is shifting to 100% carbon-free electricity for Microsoft-related production.[43]

43. Learn more about supplier carbon-free electricity criteria at the Environmental Protection FAQs of our Supplier Code of Conduct.

- Our newest devices feature our most significant sustainability advancements yet including enclosures made from 100% recycled aluminum, 100% rare-earth magnets, reducing plastic waste with all-new paper-based packaging with more recyclable components, and extending the lifetime of the device with innovative repairability features.

How have you increased use of recycled materials in Surface Laptop?

- Surface Laptop' enclosure is made with a minimum of 67.6% recycled content, including 100% recycled aluminum alloy and 100% recycled rare earth metals.[20]
- Surface Laptop is made with more recycled materials than any previous Surface Laptop, containing a minimum of 28% recycled content.[20]
- Surface Laptop is our first Surface device to make use of 100% recycled cobalt in the battery cell.[44]
- Surface Laptop' enclosure contains 41.8% more recycled content than the enclosure of Surface Laptop 6.[45]

What's Microsoft's stance on the Right to Repair?

- Microsoft has a longstanding commitment to environmental sustainability. We also have a longstanding commitment to building high-quality, innovative, and safe devices that customers love. We have been taking steps for years to improve device repairability and to expand the available choices for device repair.
- For more information on our work around sustainability, including repairability, see the 2024 Environmental Sustainability Report.

Where can I learn more about service and repair?

- Surface for Business service and repair
- Downloadable Surface Service Guides

Connectivity & expansion

What ports are available on the device?

- It includes 2 USB-C with USB4®/Thunderbolt™ 4 ports, 1 USB-A port, 1 MicroSDXC Express card

44. Minimum 1.5% of device (excluding PSU) contains 100% recycled cobalt. Based on validation performed by Underwriter Laboratories, Inc. using Environmental Claim Validation Procedure (EVCP) for Recycled Content, UL EVCP-2809-2, Second Edition, dated June 20, 2024. Recycled Content is defined in accordance with ISO 14201.

45. Based on validation performed by Underwriter Laboratories, Inc. using Environmental Claim Validation Procedure (ECVP) for Recycled Content, UL ECVP 2809-2, Second Edition, dated June 20, 2024.

reader (on 15" models), and a smart card reader (on select 15" models).

What connectivity options does the device offer?

- Wi-Fi 7 for high-speed internet access.
- Bluetooth® Core 5.4 for seamless device pairing.

Does Surface Laptop come with a USB-A port?

- Yes. USB 3.2.

Does Surface Laptop come with an audio jack?

- Yes.

Why is there no HDMI port on Surface Laptop?

- In each product release cycle, we carefully evaluate customer needs and feedback alongside our commitment to innovative and impactful product design. For Surface Laptop, we prioritized incorporating highly requested commercial features, such as an additional USB-C port to offer versatile office setup options. While an HDMI port is not featured in this model, we have equipped the device with USB-C and USB-A ports. We are confident that these ports will offer a broad range of connectivity solutions for our commercial customers.

What's the external monitor support?

- As shown in the table below, Surface Laptop supports up to two external monitors, each with a resolution of up to 3840×2160 at 60Hz. It can connect to these displays through various downstream devices, including adapters, docking stations, or by daisy-chaining. Each Type-C port or Surface Connect port on Surface Laptop can support up to two displays.
- Surface Laptop enhances connectivity with advanced SuperSpeed USB and DisplayPort capabilities through its in-chassis USB-C port. Leveraging our Surface Thunderbolt 4 Dock, Surface Laptop provides a comprehensive single-connection solution for multi-monitor setups, connected peripherals, and power delivery via USB-C. Key features include:
- **USB4 support**: Offers speeds up to 40 Gbps for rapid data transfer.
- **DisplayPort capabilities:**
  - **Multi-monitor support:** Using a USB-C dock with display support, Surface Laptop can drive one or more external displays, supporting up to two 4K UltraHD monitors at 60Hz.
  - **High-resolution displays:** With a dedicated USB-C display adapter, it can support a single 5K UltraHD display at 60Hz or dual UltraHD 4K displays at 60Hz, depending on the adapter's capabilities.
  - **HDR support:** Includes DisplayPort HDR (High Dynamic Range) for vibrant and detailed visual performance.

What's the external monitor support on Surface Laptop?

- The following table shows the maximum refresh rates and resolution when connecting external monitors to Surface Laptop.

Table 8. Surface Laptop external monitor support

Interface	One External Display (Plus Internal LCD)		Two External Displays (Plus Internal LCD)	
	Max Refresh	Max Resolution	Max Refresh	Max Resolution
USB-C (USB4)	60 Hz	5120 × 2880 (5K)	60 Hz	3840 × 2160 (4K)
	120 Hz	3840 × 2160 (4K)		
Reeves	60 Hz	3840 × 2160 (4K)	60 Hz	3840 × 2160 (4K)
USB-C on Surface Thunderbolt 4 Dock	60 Hz	5120 × 2880 (5K)	60 Hz	3840 × 2160 (4K)
	120 Hz	3840 × 2160 (4K)		
USB-C on Surface Dock 2	60 Hz	5120 × 2880 (5K)	60 Hz	3840 × 2160 (4K)

Tested peripherals

What peripherals have you tested for Surface Laptop?

- The most used monitors, docks, cables, and adapters in commercial are tested extensively to ensure interoperability with Surface Laptop. For a complete list, see Tested peripherals for Surface devices.
- For the best experience, be sure to get the latest updates. To manage your options and see available updates, select **Start** > **Settings** > **Windows Update**.

What if a peripheral is not included in your testing? Will it still work?

- The testing results cover popular in-market peripherals but are not intended to be comprehensive. Many peripherals not shown may still function as expected.

- Based on our research, we estimate that customers will have a generally positive experience with these peripherals.

Audio & camera

What are the audio highlights?

- Dual Studio Mics with voice focus, Omnisonic® speakers with Dolby Atmos®, and Bluetooth LE Audio support.

What are the camera capabilities?

- Features a 1080p Full HD Surface Studio Camera with Windows Studio Effects, including automatic framing, portrait blur, and eye contact.

What Windows Studio Effects are available on Surface Laptop?

- Surface Laptop includes key Windows Studio Effects such as Automatic Framing, Portrait Blur, Background Blur, and Eye Contact. Creative filters are exclusive to Qualcomm-based devices currently.

Surface Accessories

What accessories are recommended for Surface?

- Surface Accessories enhance the Surface Laptop experience, allowing employees to personalize and optimize their device to suit their individual needs and preferences. Many Designed for Surface and Accessible accessories options are also available to build your ideal workspace. These are especially important for employees who need more adaptive workspaces to meet their accessibility requirements.

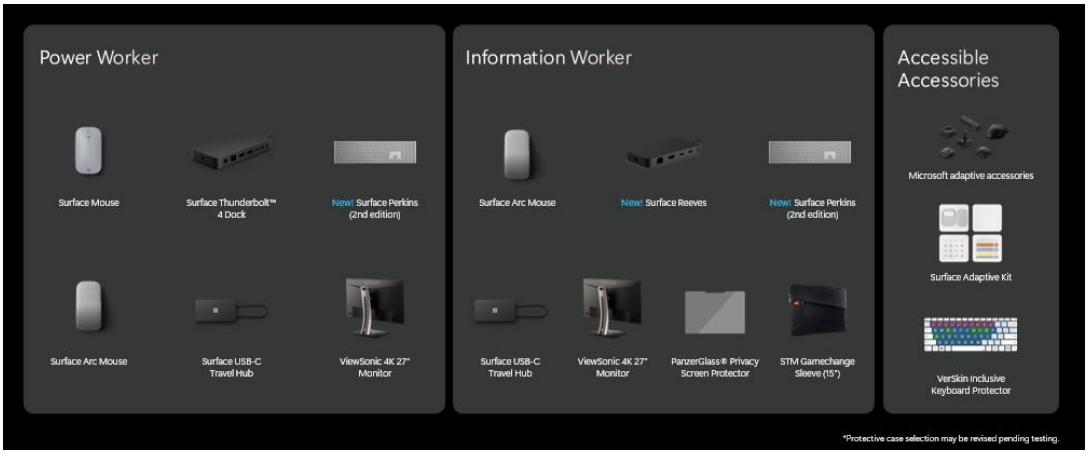

Figure 3. Surface Laptop accessories listed in priority order

Table 9. Supported accessories

Category	Accessory	Supported?
Charger	65W Power Supply (SL)	✓
	127W Power Supply (SL)	✓
Mice	Surface Arc Mouse	✓
	Surface Mouse	✓
Keyboards	Surface Keyboard (2nd Edition)	✓
	Surface Pro Keyboard	n/a
	Surface Pro Flex Keyboard	n/a
Pen	Surface Slim Pen (2nd Edition)	**No pen support**
Docks	Surface USB-C Travel Hub	✓
	Surface Reeves	✓
	Surface Thunderbolt 4 Dock	✓
Accessibility	Surface Adaptive Kit	✓
	Microsoft Adaptive Accessories	✓

Appendix A: Microsoft Surface USB4 Dock

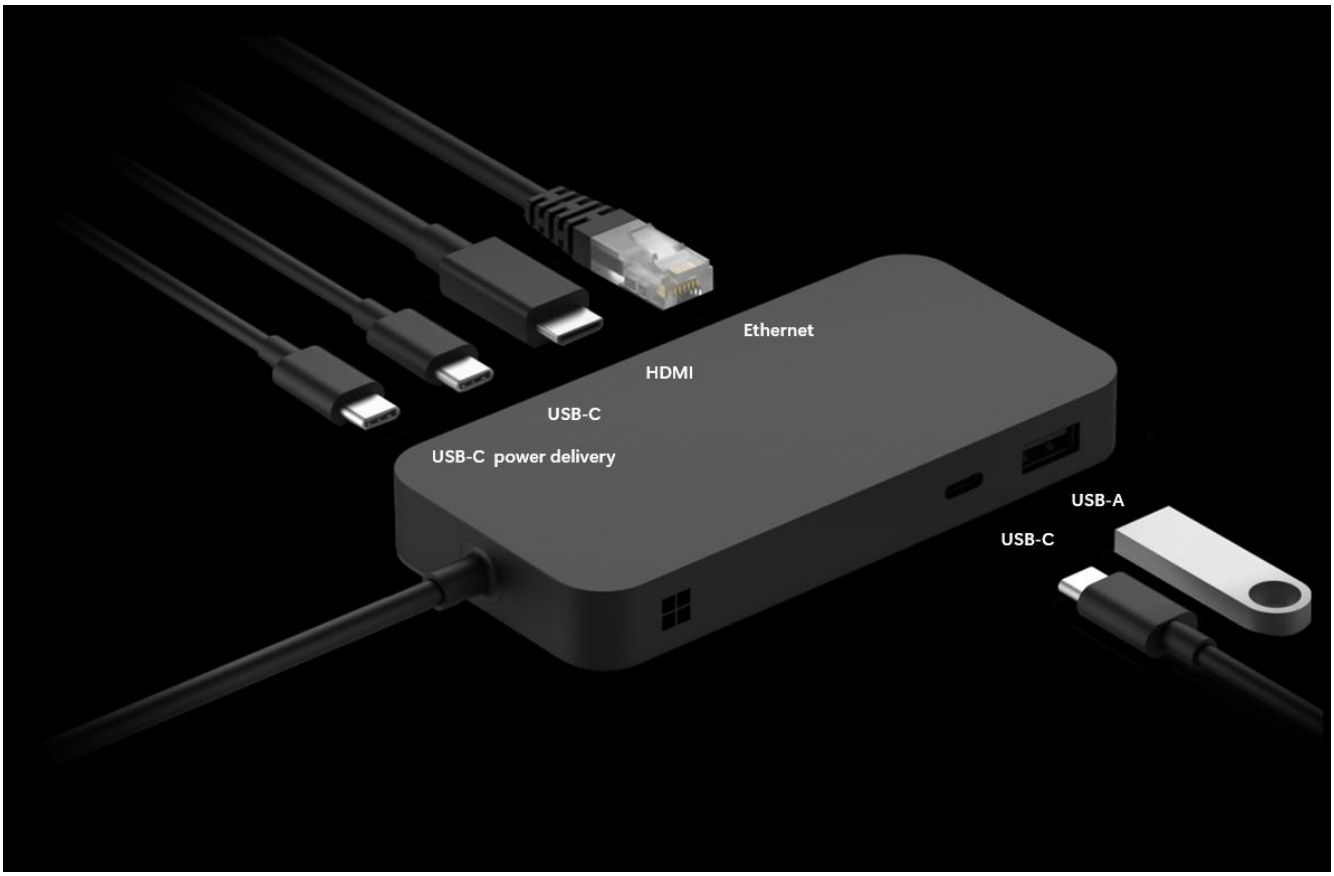

Figure 4. Surface USB4 Dock delivers expanded connectivity including HDMI

What's the new Surface USB4 Dock?

The Microsoft Surface USB4 Dock is the best value dock, for productivity and connectivity, allowing commercial customers to optimize their team's workspace with a blend of speed, power, and versatility. Commercial customers can connect and power devices like the new Surface Pro and Surface Laptop with essential accessories via two USB-C®, one USB-A, Ethernet and HDMI ports.

Designed to keep your workspace organized, it offers:

- **Expanded connectivity**: More ports to connect essential accessories
- **Power delivery**: 65W charging to keep your devices powered throughout the workday
- **Fast data transfer**: Benefit from ultra-fast speeds via USB4® or Thunderbolt 4™.
- **Dual 4K monitor support**: Connect via USB-C or HDMI for enhanced multitasking
- **Compact design**: Sleek and space-saving, ensuring a clutter-free environment

Surface USB4 Dock is optimized for Surface devices and is compatible with a wide range of USB-C, USB4, and Thunderbolt 4 devices. It strikes the perfect balance between speed, power, and versatility, making it a versatile solution for modern IT environments.

What are the commercial manageability features of the Surface USB4 Dock?

The Surface USB4 Dock includes core commercial features designed to enhance IT management, security, and productivity:

- **PXE Boot:** Enables streamlined deployment and management by allowing devices to boot from a network. To learn more, see https://aka.ms/Surface-USB4-Dock.
- **Windows Management Instrumentation (WMI):** Allows IT administrators to monitor and manage connected devices remotely.
- **MAC Address Passthrough:** Simplifies shared workspace environments by maintaining device network identity across docks.
- **Wake on LAN (WOL) from Modern Standby and Wake on Power**: Provides remote power-on capabilities for efficient maintenance. Note that WOL requires a planned Windows Update to be fully functional on Surface USB4 Dock.[46]

NOTE: Surface USB4 Dock supports Wake-on-LAN from Connected Standby, instead of Wake-on-LAN from S4/S5, or via dock MAC address passthrough instead of device MAC Address passthrough. Surface USB4 Dock does not currently support Wake-on-LAN with MAC address passthrough**.**

- To learn more about managing these features, see https://aka.ms/Surface-USB4-Dock.

What are the key features of the Surface USB4 Dock?

- Single USB-C/USB4 cable connectivity for power and device connection
- Designed for Surface devices[47] and compatible with many USB-C, USB4 and Thunderbolt 4 devices
- Dual 4K monitor support at 60Hz through USB-C or HDMI 2.1 ports
- Commercial features like PXE boot,[48] MAC Address Passthrough, WMI, and Wake on LAN[49]
- Data speed of up to 40 Gbps through USB 4
- A variety of ports including 2 USB-C/USB4, 1 USB-C PD port (Power), 1 USB-A, 1 HDMI, and 1 Gigabit Ethernet
- Inclusive design with front-facing and versatile rear-facing ports with raised tactile indicators
- Sustainable supply chain and use of recycled materials

46. Wake on LAN (WOL) does not work with MAC Address Passthrough.
47. Surface USB4 Dock is compatible with Surface devices that support USB-C® charging (devices later than Surface Pro 7 and Surface Laptop 3). For more details on compatibility, please visit: USB-C and Fast Charging for Surface - Microsoft Support.
48. Network PXE boot requires the latest UEFI update on host devices., pending availability anticipated for MSD. See How to use Surface UEFI - Microsoft Support.
49. To support WOL, Surface devices must be plugged into AC power and use a Surface Ethernet adapter or docking device that is connected to a wired network.

- 100W USB-C PSU with up to 65W power passthrough
- Sleek and compact design
- Compatibility with Windows Updates and the Surface app
- Security lock port[50] feature for added security

How does Surface USB 4 Dock compare to other Surface docks? How should customers choose which dock is right for them?

Our current Surface Hub and Dock portfolio offers three main options that together bring the right docking solution for every customer.

Surface USB-C Travel Hub: Perfect for on-the-go professionals in need of a portable hub that allows them to extend ports with USB-C, USB-A and HDMI ports.

Surface Thunderbolt 4 Dock: The most premium, full featured dock in the portfolio, ideal for performance-driven environments requiring advanced capabilities.

- Built for power users who need a premium, comprehensive docking solution.
- Offers more ports and advanced manageability features, such as Surface Enterprise Management Mode (SEMM) for enhanced security.
- Provides up to 96W power passthrough to meet demanding workloads.

Surface USB4 Dock: Designed for organizations seeking a balance between functionality and affordability:

- A cost-effective docking option that delivers essential connectivity and productivity features.
- Supports dual 4K monitors via USB-C and HDMI, catering to multitasking needs.
- Includes core commercial manageability features, such as PXE boot, MAC address passthrough, and WMI.
- Compact design and a 100W USB-C power supply with 65W passthrough, ensuring devices stay charged throughout the day.

What dock is the Surface USB4 dock replacing in the portfolio?

- Surface USB4 Dock is set to replace Surface Dock 2 in the portfolio by Spring 2025.

Can Surface USB4 Dock support dual 4K monitors?

- Yes, Surface USB4 Dock supports two 4K monitors at 60Hz via USB-C® or HDMI 2.1 ports, or a single 8K monitor at 30Hz when connected over USB-C. Surface USB4 Dock allows you to expand your visual workspace while working simultaneously on three screens. This requires a device with

50. Security lock not included.

USB4/Thunderbolt 4 port and a supported device and display.

Is Surface USB4 Dock compatible with non-Surface devices?

- Yes, it offers compatibility with many USB-C USB4.0/Thunderbolt 4 devices ensuring seamless connectivity for your docking needs.

Is Surface USB4 Dock backwards compatible with older Surface devices

- Surface USB4 Dock is designed to support **Surface devices that are tested and validated for USB-C charging with up to 65 W power passthrough via USB-C ports**. For more information on USB-C charging compatibility, see USB-C and Fast Charging for Surface - Microsoft Support.
- While the USB4 Dock may work with some older Surface devices that support USB-C charging--like Surface Pro X or Surface Laptop 3--performance has not been validated and compatibility may vary. When connected to devices with USB3, the dock operates at the speeds and capabilities of the USB3 standard.

What type of USB ports does Surface USB4 Dock have?

- Surface USB4 Dock includes 2 USB-C ports, 1 USB-C PD port, 1 USB-A port, 1 HDMI and 1 Gigabit Ethernet port. Plus, a security lock port.

Does the Surface USB4 Dock come with a power supply unit (PSU)?

- Yes, it includes a 100W USB-C PSU that offers up to 65W power passthrough.

Can Surface USB4 Dock charge my Surface device even if it has a Surface Connect?

- Yes, it can charge Surface devices that support USB-C charging with up to 65W power passthrough via USB-C port. For more information on USB-C charging compatibility, visit: USB-C and Fast Charging for Surface - Microsoft Support.

How does the Surface USB4 Dock maintain device network identity with MAC Address Passthrough?

- It allows the device's network identity to be maintained when switching between docks.

What makes the Surface USB4 Dock an inclusive design?

- Surface USB4 Dock offers front and rear-facing ports with raised tactile indicators to help you find and identify ports with ease. Surface USB4 Dock port selection has been thoughtfully designed to allow you to utilize the ports more easily. The most frequently used ports are positioned at the front for effortless access and connectivity, while the rear-facing ports are distinguishable by their tactile cues, providing a user-friendly reminder of port functionality, such as the power icon.

How is Surface USB4 Dock sustainable by design?

The Surface USB4 Dock is designed with sustainability in mind, incorporating significant amounts of recycled materials while meeting evolving environmental regulations:

- Overall, the dock features a minimum of **55.2% recycled content**, including 100% recycled tin, 100% recycled gold, and 50% recycled plastic, setting a new standard for sustainable design in the Surface portfolio.[51]

What are the security features of the Surface USB4 Dock?

- You can invest in peace of mind using the convenient security lock port[50] in Surface USB4 Dock to physically secure the docking station and connected devices. The security lock port provides a hassle-free security experience, allowing you to focus on your core business without security concerns.

What is the price point of the Surface USB4 Dock and how does it offer value?

- Surface USB4 Dock is priced at $199.99, offering a cost-effective docking solution with versatile connectivity options. It includes a USB-C 100W PSU with 65W power passthrough, data transfer speeds of up to 40 Gbps, and delivers essential commercial manageability features. Designed to balance affordability and functionality, it's the best value Surface dock in the portfolio, comparing favorably to other options on the market.

How does the Surface USB4 Dock enhance productivity and connectivity for users?

- It simplifies the workspace with a single USB-C/USB4 cable connection, supports high-resolution displays, and offers a variety of ports for peripheral connections, enhancing user productivity and connectivity.

What are the main differences between Thunderbolt 4 and USB4 protocol?

This device uses USB4 technology, not Thunderbolt 4. While both technologies share similarities, there are key distinctions:

USB4:

- An open standard that builds on Thunderbolt 3 but is not identical to the Thunderbolt 4 protocol.
- Supports data transfer speeds of up to 40 Gbps, depending on cable quality and length. USB4 supports Thunderbolt 3 but does not mandate Thunderbolt 4 features.

Thunderbolt 4:

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51. Dock (excluding PSU) contains 55.2% recycled content. This includes 11.8% recycled plastics, consisting of a minimum of 50% recycled plastics and 0.3% other recycled metals, consisting of 100% recycled gold in PCB and 100% recycled tin in solder. Based on validation performed by Underwriter Laboratories, Inc. using Environmental Claim Validation Procedure (EVCP) for Recycled Content, UL EVCP-2809-2, Second Edition, dated June 20, 2024. Recycled Content is defined in accordance with ISO 14201.

- A proprietary standard by Intel that includes mandatory certification and guarantees compatibility with Thunderbolt 3 and USB4 devices.
- Supports up to 40 Gbps data transfer speeds with longer cable lengths (up to 2 meters), while USB4 typically achieves these speeds with cables up to 1 meter.
- Includes stricter requirements for power delivery, video output, and external GPU support.

Both USB4 and Thunderbolt 4 cables have distinct logos to differentiate them. For customers requiring Thunderbolt 4 functionality, such as longer cable lengths or certified compatibility, we recommend using a Thunderbolt 4 dock, such as the Surface Thunderbolt 4 Dock.

Why is Surface USB4 Dock using a USB4 protocol and not Thunderbolt 4 protocol?

- The USB4 protocol provides a balance of high-speed data transfer and compatibility with a wide range of devices, including those with USB4 and Thunderbolt 4 ports. The Surface USB4 Dock is designed to support most Thunderbolt 4 features, including 40Gbps throughput, dual 4K@60Hz displays, and 2x downstream-facing USB4 ports.

Is the USB-C connection in Surface USB4 Dock compatible with all Surface models?

- The Surface USB4 Dock will be compatible with devices that support USB-C charging. For more information on USB-C charging visit: USB-C and Fast Charging for Surface - Microsoft Support.

Where can I learn more about Surface USB4 dock?

- See https://aka.ms/Surface-USB4-Dock

Appendix B. Comparing Surface Laptop commercial editions

Table 10. Compare Surface Laptop commercial editions

Feature	Surface Laptop 6 Intel Core Ultra (Series 1) H-Class	Surface Laptop 7th Edition Copilot+ PC Snapdragon X Elite or Plus Processor	Surface Laptop 7th Edition Copilot+ PC Intel Core Ultra Processor (Series 2)
Starting MSRP	$1,499 (8/256)	$1,099 (16/256)	$1,499 (16/256)
Processor	**13.5" & 15" models** – Intel® Core™ Ultra 5 processor 135H – Intel Core Ultra 7 processor 165H	**13.8" models** – Qualcomm® Snapdragon® X Plus – Qualcomm Snapdragon X Elite **15" models** – Qualcomm Snapdragon X Elite	**13.8" and 15" models** – Intel Core Ultra 5 processor 236V – Intel Core Ultra 5 processor 238V – Intel Core Ultra 7 processor 266V – Intel Core Ultra 7 processor 268V
CPU performance	Up to 47% faster than Surface Laptop 5[52]	Up to 89% faster than Surface Laptop 5[49]	Up to 29% faster than Surface Laptop 5[49]
CPU performance (R23)	Up to 62% faster than Surface Laptop 5[53]	Up to 18% faster than Surface Laptop 5[50]	Up to 27% faster than Surface Laptop 5[50]
Graphics	**13.5" & 15" models** – 8 GB memory: Intel Graphics – 16 GB or more memory: Intel Arc™ Graphics (13.5" & 15")	**13.8" & 15" models** – Snapdragon X Elite - X1E80100 - Qualcomm Adreno™ GPU (12 Core) – Snapdragon X Elite - X1P64100 - Qualcomm Adreno GPU (10 core)	**13.8" & 15" models** – Intel Arc™ Graphics
NPU	**Intel AI Boost**	**Qualcomm Hexagon™ with 45 TOPS**	**Intel AI Boost with 40 TOPS** – Intel Core Ultra 5 processor 236V – Intel Core Ultra 5 processor 238V **Intel AI Boost with 48 TOPS** – Intel Core Ultra 7 processor 266V

52. Cinebench 2024 multi-thread.

53. Cinebench R23 multi-thread.

Feature	Surface Laptop 6 Intel Core Ultra (Series 1) H-Class	Surface Laptop 7th Edition Copilot+ PC Snapdragon X Elite or Plus Processor	Surface Laptop 7th Edition Copilot+ PC Intel Core Ultra Processor (Series 2)
			– Intel Core Ultra 7 processor 268V
Memory	**13.5" & 15" models** – 8 GB: LPDDR5 RAM 6400 MHz – 16 GB, 32 GB, or 64 GB: LPDDR5x RAM 7500 MHz	**13.8" & 15" models** – 16 GB or 32 GB LPDDR5x RAM	**13.8" & 15" models** – 16 GB or 32 GB LPDDR5x RAM
OS compatibility	Windows 10 Pro 23H3 and later	Windows 11 Pro 24H2 and later (Commercial)	Windows 11 Pro 24H2 and later (Commercial)
Architecture	x86 architecture	ARM Native applications, Prism emulation	x86 architecture
rSSD options	PCIe Gen 4 SSD: 256 GB/512 GB/1 TB (13.5" & 15" models)	Removable[54] solid-state drive (Gen 4×4 22×30 rSSD) 256 GB, 512 GB, or 1 TB	Removable[55] solid-state drive (Gen 4×4 22×30 rSSD) 256 GB, 512 GB, or 1 TB
Battery life	**13.5" models** – Up to 13.5 hours of local video playback – Up to 8.5 hours of active web usage.	**13.8" models** – Up to 20 hours of local video playback[56] – Up to 13 hours of active web usage[57]	**13.8" models** – Up to 20 hours of local video playback[9] – Up to 12 hours of active web usage[10]

54. Solid State Drive (SSD) Retention is only available on Microsoft Surface devices in which the SSD is marketed as removable per the Technical Specifications. Solid State Drive (SSD) Retention is included in both Extended Hardware Service Plus and Microsoft Complete for Business Plus and is also available as an Optional Add-on when purchasing Microsoft Extended Hardware Service and Microsoft Complete for Business. Devices returned to Microsoft with a missing Solid-State Drive (SSD) are subject to a Solid-State Drive (SSD) replacement fee unless the device is enrolled in the Drive (SSD) Retention offer.

55. Solid State Drive (SSD) Retention is only available on Microsoft Surface devices in which the SSD is marketed as removable per the Technical Specifications. Solid State Drive (SSD) Retention is included in both Extended Hardware Service Plus and Microsoft Complete for Business Plus and is also available as an Optional Add-on when purchasing Microsoft Extended Hardware Service and Microsoft Complete for Business. Devices returned to Microsoft with a missing Solid-State Drive (SSD) are subject to a Solid-State Drive (SSD) replacement fee unless the device is enrolled in the Drive (SSD) Retention offer.

56. **Up to 20 hours of battery life based on local video playback test on Surface Laptop 13.8".** Testing conducted by Microsoft in April 2024 using preproduction software and preproduction Surface Laptop Snapdragon® X Plus C10 256GB, 16GB RAM devices. Testing consisted of full battery discharge during video playback of a .mov file through the Windows Media Player application in 1080p at 24 FPS. All settings were default except screen brightness set to 150 nits with Auto-brightness disabled. Wi-Fi was connected to a network. Tested with Windows 11. Battery life varies significantly with settings, usage, and other factors.

57. **Up to 13 hours of battery life based on web browsing test on Surface Laptop 13.8**" Based on web browsing test. Testing conducted by Microsoft in April 2024 using preproduction software and preproduction Surface Laptop Snapdragon® X Plus 256GB, 16GB RAM devices. Testing consisted of full battery discharge while accessing eight popular websites over multiple open tabs through the browser. All settings were default except screen brightness set to 150 nits with Auto-Brightness disabled. Wi-Fi was connected to a network. Tested with Windows 11. Battery life varies significantly with settings, usage, and other factors.

Feature	Surface Laptop 6 Intel Core Ultra (Series 1) H-Class	Surface Laptop 7th Edition Copilot+ PC Snapdragon X Elite or Plus Processor	Surface Laptop 7th Edition Copilot+ PC Intel Core Ultra Processor (Series 2)
	15" models – Up to 13.5 hours of local video playback – Up to 8.5 hours of active web usage.	**15" models** – Up to 22 hours of local video playback[58] – Up to 15 hours of active web usage[59]	**15" models** – Up to 22 hours of local video playback[9] – Up to 14 hours of active web usage[10]
Display	Anti-reflective touchscreen with thicker bezels (60Hz)	Touchscreen with thin bezels (120Hz)	Anti-reflective touchscreen with thin bezels (120Hz)
Anti-reflective technology	✓	N/A	✓
Pen support	✓	✓	N/A
Weight	**13.5" models** – 3.04 lbs. (1.37 kg)	**13.8" models** – 2.96 lbs. (1.34 kg)	**13.8" models** – 2.97 lbs. (1.35 kg)
	15" models – 3.69 lbs. (1.67 kg) – With smart card reader: 3.72 lbs. (1.68 kg)	**15" models** – 3.67 lbs. (1.66 kg)	**15" models** – 3.66 lbs. (1.66 kg) – With smart card reader: 3.64 lbs. (1.65 kg)
Inbox PSU	– **13.5" models:** 39W – **15" models:** 60W + 5W	– **13.8" models:** 39W – **15" models:** 65W	– **13.8" models:** 39W – **15" models:** 65W
Design	– Classic Surface Laptop design	– Lightweight, more repairable design	– Lightweight, more repairable design

58. Up to 22 hours of battery life based on local video playback test on Surface Laptop 15"
Testing conducted by Microsoft in April 2024 using preproduction software and preproduction Surface Laptop Snapdragon® X Elite 512GB, 16GB RAM devices. Testing consisted of full battery discharge during video playback of a .mov file through the Windows Media Player application in 1080p at 24 FPS. All settings were default except screen brightness set to 150 nits with Auto-brightness disabled. Wi-Fi was connected to a network. Tested with Windows 11. Battery life varies significantly with settings, usage, and other factors.

59. Up to 15 hours of battery life based on based web browsing test on Surface Laptop 15"
Based on web browsing test. Testing conducted by Microsoft in April 2024 using preproduction software and preproduction Surface Laptop Snapdragon® X Elite 512GB, 16GB RAM devices. Testing consisted of full battery discharge while accessing eight popular websites over multiple open tabs through the browser. All settings were default except screen brightness set to 150 nits with Auto-Brightness disabled. Wi-Fi was connected to a network. Tested with Windows 11. Battery life varies significantly with settings, usage, and other factors.

Feature	Surface Laptop 6 Intel Core Ultra (Series 1) H-Class	Surface Laptop 7th Edition Copilot+ PC Snapdragon X Elite or Plus Processor	Surface Laptop 7th Edition Copilot+ PC Intel Core Ultra Processor (Series 2)
Security			
Hardware TPM 2.0 chip for enterprise-grade security and BitLocker support	✓	✓	✓
Microsoft Pluton technology	N/A	✓	✓
Windows Hello face sign-in	✓	✓	✓
ESS (Enhanced Sign-In Security)	✓	✓	✓
Windows 11 Secured-core PC	✓	✓	✓
Smart card reader	✓ 15" select models	N/A	✓ 15" select models
Cameras & Video			
Front facing camera	Windows Hello Face Authentication camera, 1080p FHD	Windows Hello Face Authentication, 2MP/Full HD 1080p Front Facing camera	Windows Hello Face Authentication, 2MP/Full HD 1080p Front Facing camera
Network & Connections			
Network Connectivity	– Wi-Fi 6E (802.11ax) – Bluetooth 5.3 LE Audio	– Wi-Fi 7 – Bluetooth 5.4 LE Audio	– Wi-Fi 7 – Bluetooth 5.4 LE Audio

Feature	Surface Laptop 6 Intel Core Ultra (Series 1) H-Class	Surface Laptop 7th Edition Copilot+ PC Snapdragon X Elite or Plus Processor	Surface Laptop 7th Edition Copilot+ PC Intel Core Ultra Processor (Series 2)
Connections	**13.5" models** – 1×USB-C 4.0/Thunderbolt 4 – 1×USB-A 3.1 – 3.5 mm headphone jack – Surface Connect Port	**13.8" models** – 2 × USB-C/USB 4 – 1×USB-A 3.2 – 3.5 mm headphone jack – Surface Connect Port	**13.8" models** – 2 × USB-C with USB4®/Thunderbolt 4 ports – 1×USB-A 3.2 – 3.5 mm headphone jack – Surface Connect port
	15" models – 2 × USB-C with USB 4.0/Thunderbolt 4 – USB-A 3.1 – 3.5 mm headphone jack	**15" models** – 2 × USB-C/USB 4 – USB-A 3.2 – 3.5 mm headphone jack – Surface Connect Port – MicroSDXC Express card reader	**15" models** – 2 × USB-C with USB4/Thunderbolt 4 – USB-A 3.2 – MicroSDXC Express card reader – 3.5 mm headphone jack – Surface Connect port
Serviceability			
Replaceable components	– Display assembly (including camera) – Keyboard assembly – rSSD drive – Battery – Motherboard module (main processor and main memory) – Surface Connect – Audio jack – Speakers – Touchpad – Enclosure – Thermal module – Feet	– Display assembly (including camera) – Keyboard assembly (including touchpad) – rSSD drive – Battery – Motherboard module (including main processor and main memory) – Surface connect – Audio jack – MicroSD reader (15") – Speakers – Enclosure (bucket) – Thermal module – Feet	– Display assembly (including camera) – Keyboard assembly (including touchpad) – Removable solid-state drive – Battery – Motherboard module (including main processor and main memory) – Surface connect – Audio jack – MicroSDCX Express card reader (15") – Speakers – Enclosure (bucket) – Thermal module – Feet – Fan
Built-in guidance	– Visual wayfinding icons – Access via a QR code to repair instructions	– Visual wayfinding icons – Access via a QR code to repair instructions	– Visual wayfinding icons – Access via a QR code to repair instructions

Learn more

- Surface devices documentation