

# IT@Intel: Preparing Our PC Fleet for the Future of AI

To enable employees—and IT—to take advantage of the growing availability of AI- and GenAI-based application features, we’ve already deployed AI PCs to a quarter of Intel’s workforce

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### Executive Summary

Proliferation of AI and Generative AI (GenAI) is one of the hottest trends in the IT industry. Intel employees are excited about the potential productivity gains offered by AI and GenAI, and Intel IT is committed to providing them with the right tools to enable them to get the most out of these technologies.

As part of our regular PC refresh cycle, we are deploying AI PCs—already in the hands of about a quarter of Intel’s workforce. These PCs, powered by Intel® Core™ Ultra processors, are unique because they don’t just have a CPU. Instead, the processor is an eXtensible processing unit (XPU), consisting of a CPU, a graphical processing unit (GPU), and an energy-efficient neural processing unit (NPU).

We are already seeing GPU- and NPU-enabled features in applications that are central to Intel’s operations. Examples include CrowdStrike security features, Microsoft Copilot+ PC features, and Microsoft Teams, all of which can take advantage of the XPU to drain less power from the battery. Unlike traditional PCs that sometimes sacrifice performance for better battery life, our tests indicate that an AI PC’s battery can last up to 3x longer than a non-AI PC during standard office tasks, with virtually no negative impact on PC performance or user experience (UX).<sup>1</sup>

We have chosen to begin deploying AI PCs now to proactively prepare for the increasing capability of software applications to run various features on a GPU or NPU. Beginning the deployment now—at the front of the AI/GenAI wave—avoids a costly out-of-cycle PC refresh later, delivers a consistent, performant UX, and lets us accelerate innovation.

<sup>1</sup> See configuration information on page 5.

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## Acronyms

<b>AMS</b>	advanced memory scanning
<b>GenAI</b>	Generative AI
<b>GPU</b>	graphical processing unit
<b>NPU</b>	neural processing unit
<b>TOPS</b>	trillion operations per second
<b>UX</b>	user experience
<b>ViTA</b>	Virtual Intel Technical Assistant
<b>XPU</b>	eXtensible processing unit

## Background

Intel employees have been enthusiastically adopting GenAI tools, such as our internally developed GenAI platform,<sup>2</sup> to create AI agents that boost productivity and streamline operations. In addition, most types of software applications—from collaboration and office productivity tools to enterprise resource planning and business software suites—are increasingly offering features that use traditional AI and Generative AI (GenAI). These features include various forms of copilots, chatbots, AI-based analytics capabilities, translation, document and meeting summarization, graphics effects, and more.

Some software vendors have already optimized their products so that AI-based features use neural processing units (NPUs) instead of the CPU; we believe that an increasing number of vendors will follow suit over the next 18-24 months. Trying to run AI-enhanced applications on older, traditional PCs impinges performance, reduces battery life, and can provide a frustrating user experience (UX). Some software features that are optimized for the NPU won't even run on a CPU. To take best advantage of these new capabilities, Intel employees need PCs that are purpose-built for AI—that is, AI PCs. This new generation of PCs is equipped with Intel® Core™ Ultra processors, which are designed with an eXtensible processing unit (XPU)—a combination of a CPU, a graphical processing unit (GPU), and a neural processing unit (NPU). The built-in NPU and GPU can run certain specialized workloads, freeing up the CPU for other tasks.

However, we had two choices:

- Start deploying AI PCs right away.
- Delay deployment until more software applications are optimized for the NPU.

## Deploying Now Versus Later

Our in-depth evaluation of these two options revealed that beginning to deploy AI PCs immediately was the right choice. AI is here to stay. Employees want to explore it and use it to make their jobs easier. Getting ahead of the inevitable user demand for AI PCs enables us to deploy them in the most efficient manner possible:

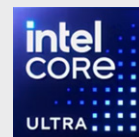
- Avoids the IT cost and effort associated with an out-of-cycle PC refresh.
- Provides employees with a consistent UX, high performance, and ready access to AI-based features and tools as they become available.
- Enables Intel to adapt quickly to the changing software and AI landscape to accelerate innovation and productivity.

We've already deployed 25,000 AI PCs<sup>3</sup> as part of our regular PC refresh cycle, and nearly 100% of the laptop models currently available to Intel employees are AI PCs. We are in the process of certifying AI PCs powered by the next generations of Intel® Core™ Ultra processors.

## AI PC Benefits for the Workforce

Our deployment of AI PCs is already delivering excellent results in the areas of security, productivity, creativity, and collaboration. Here are some of the advantages AI PCs bring to Intel's workforce:

- Using the energy-efficient NPU for certain workloads drains less power from the battery, which over the long term improves battery life span (see the [Testing Results](#) section for details).
- Running AI workloads locally on the AI PC can also help reduce Intel's overall energy consumption and carbon footprint by minimizing cloud data center usage.
- Local execution of AI workloads can also deliver insights faster, mitigate the risk of data-in-motion security breaches, and reduce the network load.
- XPU-enabled security features help to better protect AI PC workloads using AI, by deploying AI-powered security defenses.



## Terms to Know

AI PCs have an Intel® Core™ Ultra processor that is a combination of a CPU, GPU, and NPU. Software developers can use APIs to route workloads to the best-fit component; for example, AI workloads can run on the NPU, which also consumes far less power than the CPU.

Microsoft Copilot+ PCs are a new category of Windows 11 devices characterized by their powerful NPU for AI-intensive tasks. These PCs require an NPU capable of 40+ trillion operations per second (TOPS). AI PCs powered by the Intel Core Ultra 200V and future Intel vPro®-enabled generations meet the Microsoft Copilot+ PC TOPS requirement.

<sup>2</sup> See the white paper, [IT@Intel: Democratizing the Use and Development of Generative AI Across Intel](#).

<sup>3</sup> For now, our use of AI PCs is limited to laptop devices; desktop devices are currently not part of our AI PC deployment.

## AI PC Use Cases at Intel

While various business units across Intel have different adoption patterns for AI and GenAI, we see AI PCs providing the most benefit in the security, collaboration, creativity, and productivity domains. Our internally developed GenAI products are optimized to use the AI PC's built-in XPU and are helping accelerate AI adoption. Here are three examples:

- **Intel® AI Assistant Builder.** Formerly known as Project SuperBuilder, this AI assistant simplifies the process of building and training a targeted on-device chatbot. This enterprise software solution enables the creation of "lite" large language models (LLMs) for specific tasks. AI Assistant Builder uses various different language models that employees can download and launch. Various Intel partners have already rolled out solutions using versions of Intel AI Assistant Builder, and the solution won the "Best AI Debut" award at Mobile World Congress 2025.
- **Virtual Intel Technical Assistant (ViTA).** This AI tool helps Intel's sales organization address technical product questions related to design-in activities. ViTA searches through Intel's extensive document repositories—as well as thousands of open-source and commercial documents—to help answer questions. It also provides references to the resources that were used to answer the questions. ViTA enhances productivity and expedites response times for the sales team.
- **iAudit.** This internally developed AI solution is used in Intel's factories by auditors who verify compliance with various standards (such as ISO certification). The tool uses an LLM and retrieval-augmented generation (RAG) to automatically map audit findings to ISO clauses, upload audit results, and summarize audit reports. Where there are compliance gaps, it can even recommend corrective action plans. With over 40,000 documents that need to be audited annually, this tool saves substantial time for Intel's internal auditors.

Commercial software vendors are also adding NPU-enabled features to their software packages. The following sections describe three of these use cases that are already in use at Intel.

### Using AI PCs at Intel



## Enhancing and Accelerating Endpoint Security with the XPU

Fileless attacks and advanced persistent threats can evade modern attack indicators by hiding in memory. To solve that problem, CrowdStrike and Intel co-engineered a new, hardware-accelerated advanced memory scanning (AMS) capability based on Intel® Threat Detection Technology. The CrowdStrike application offloads the performance-intensive memory scans from the CPU to integrated GPU on Intel Core Ultra processors. Intel IT has enabled the AMS feature across our entire PC fleet, and we have seen no consequential impact on system performance.<sup>4</sup>

Intel's Information Security group is excited about upcoming feature releases from CrowdStrike based on their continued engineering collaboration. For example, CrowdStrike is investigating offloading AMS to the NPU instead of the GPU.<sup>5</sup> This will provide significant opportunity for Intel IT to leverage even more AI-powered security features to further harden our PC security defenses without negatively impacting system performance or UX.

## Boosting Employee Productivity with NPU-enabled Microsoft Copilot+ PC Features

Some of Intel's employees already have access to Microsoft Copilot+ PCs, which can help increase productivity, and as we refresh the fleet, the deployment of these advanced PCs will continue. Microsoft has already introduced some Copilot+ PC features that use the Intel Core Ultra processor's NPU and is previewing several additional NPU-enabled features that run locally for speed, privacy, and efficiency. We are aware of some features, like noise suppression, that were ported from the CPU to the NPU to help save PC battery life. Other, agentic AI features like Recall, were designed specifically for the NPU and not only save battery life, but also empower employee multitasking that can improve user productivity.

The following list describes some example features. Note that all AI features are designed with local processing and user control in mind; features like Recall are opt-in and protected by Windows Hello, encryption, and isolation.

- **Recall.** Acting like a photographic memory for the PC, this feature enables users to search past activity (applications, websites, and documents) using natural language or a timeline. All data is stored and processed locally, not in the cloud.
- **Click to Do (Preview).** This feature enables contextual actions on any text or image on the screen, such as copying text, launching editing applications, rewriting or summarizing text, editing images, and performing web searches. It works across a variety of applications and file types, including PDFs and screenshots.

<sup>4</sup> For more information on AMS, read the [IT@Intel white paper](#).

<sup>5</sup> For more information, [read the blog](#).

- **Cocreator in Paint.** Users can sketch or describe what they want, and Cocreator generates it in real time. This feature supports Ink Anywhere for pen-based prompts.
- **Live Captions with Translation.** Now users can see real-time captions for any audio on their PCs. The feature can translate from 40+ languages into English and runs entirely on-device for privacy and speed.
- **Windows Studio Effects.** Users can use this feature to enhance video calls with background blur, eye contact correction, and voice focus (noise suppression). These workloads are offloaded to the NPU for better performance.<sup>6</sup> This feature is available on all AI PCs, not just on Copilot+ PCs.
- **Restyle Image in the Photos application.** Users can apply AI-powered image transformation, such as artistic styles and enhancements to photos.
- **Improved Windows Search (Preview).** Enhances file search by supporting natural language queries. Users can search for things like “dogs on beach” or “recent budget” even if they can’t remember the file name.
- **Super Resolution (Coming Mid-2025).** Available in the Photos app, this feature automatically enhances low-resolution images using AI.

Fostering Collaboration with XPU-enabled Features in Microsoft Teams

With a hybrid workforce that spans the globe, Intel employees depend on Microsoft Teams to connect, share information, and drive innovation across the enterprise. Several NPU-enabled features in Teams help empower clear communication and connection. Teams takes advantage of the AI PC’s XPU in several ways:

- **Improving audio quality.** Microsoft Teams uses AI algorithms to enhance speech quality, eliminate background noise, and transcribe meetings. Specifically, Teams uses AI for tasks such as canceling echoes, enhancing distorted speech, and reducing reverberation. It also takes advantage of the Copilot+ PC features, such as Live Captions with Translation and Studio Effects.
- **Improving video quality.** For activated cameras, Teams uses AI to enhance backgrounds, adjust brightness, crop frames, and implement soft focus.
- **Screen content processing.** Teams uses AI to detect whether a user’s screen content is static or in motion to deliver higher-quality experiences. In low-bandwidth scenarios, Teams may prioritize picture quality if the content is motionless, such as in a presentation, to improve readability. For video or other moving content, Teams might optimize for a higher frame rate to make content appear smoother.

Note that audio and video data never leave the Teams call; it is processed locally in Teams on the AI PC.

Testing Results

To validate that AI PCs powered by Intel Core Ultra processors can increase battery life, we used the Procyon battery life benchmark. This benchmark measures battery life with a realistic balance of work and idle time: it runs common tasks in Microsoft Office 365 such as Excel, PowerPoint, Word, and Outlook separated by short periods of idle time as the focus moves from one task to another. Table 1 demonstrates that an AI PC’s battery can last up to 3x longer than a non-AI PC during standard office tasks, with virtually no negative impact on performance or UX.

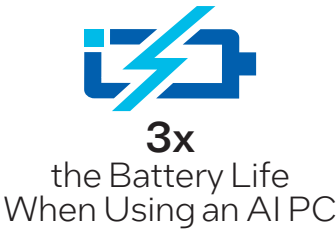


Table 1. Intel® Core™ Ultra Processors’ Positive Effect on Battery Life

Office Productivity Battery Life	
Processor	Battery Life
13th Gen Intel® Core™ i7-1370P @ 1900 MHz	3 hours 42 minutes
Intel Core Ultra 7 165U @ 2100 MHz (AI PC)	5 hours 31 minutes
Intel Core Ultra 7 268V @ 2200 MHz (AI PC)	10 hours 42 minutes

Conclusion

Being ready to quickly take advantage of technology innovation is part of Intel IT’s job. That’s why nearly 100% of our certified PC offerings are AI PCs, and nearly a quarter of Intel employees already have access to an AI PC. AI and GenAI are here to stay, and we want Intel employees to be able to have the best possible UX as an increasing number of software applications add AI capabilities—many of which will be optimized to run on the GPU and/or NPU components of the AI PC’s XPU. Examples already exist, such as Microsoft Teams and CrowdStrike, as well as Microsoft Copilot+ PC features such as Live Captions with Translation. Our internally developed GenAI products are also optimized to use the AI PC’s built-in XPU.

Enterprises and software vendors are just beginning to explore the world of AI. With AI PCs being deployed now, Intel employees can increase productivity at the pace of software innovation, while Intel IT can deploy AI-powered security features without degrading the UX, as well as avoid costly out-of-cycle refreshes.

<sup>6</sup> Availability of preview features are subject to Microsoft’s feature roadmap and timeline.

## Related Content

If you liked this paper, you may also be interested in these related stories:

- IT@Intel: Democratizing the Use and Development of Generative AI Across Intel
- IT@Intel: More Accurately Benchmarking the End-User PC Experience

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<sup>1</sup> Testing by Intel IT, June 2025.

#### Configurations:

**Non-AI PC:** 13th Gen Intel® Core™ i7-1370P @ 1900 MHz. Memory = 32,768 MB (8 modules), battery designed capacity = 57,000 mWh, battery level at start = 92%, Procyon version = 2.10.1729.64, Office Productivity version = 1.3, power plan = UL Benchmark modified: Balanced.

**AI PC #1:** Intel Core Ultra 7 165U @ 2100 MHz. Memory = 32,768 MB (8 modules), battery designed capacity = 57,000 mWh, battery level at start = 99%, Procyon version = 2.6.931.64, Office Productivity version = 1.0, power plan = Balanced.

**AI PC #2:** Intel Core Ultra 7 268V @ 2200 MHz. Memory = 32,768 MB (8 modules), battery designed capacity = 53,890 mWh, battery level at start = 975, Procyon version = 2.10.1729.64, Office Productivity version = 1.3, power plan = UL Benchmark modified: Balanced.

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