ANALYST BRIEF

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As AI becomes an integral part of enterprise business strategy and operations, it will be critically important for enterprises to plan their workplace evolution strategy around the transformative potential of AI PCs.

Democratizing the Power of AI with the AI PC

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AT A GLANCE

KEY STATS

- IDC predicts that "by mid-2026, 60% of G2000 will have new KPIs to align AI-infused processes and employees' workflows, which will drive 45% improvements in overall operational efficiency and employee productivity". The AI PC will be key to realizing this vision of the future.
- IDC's research indicates that only about 20% of enterprises would stick to their current brand of PC provider if an alternate vendor were to provide AI PCs with notably better performance.
- IDC forecasts that worldwide NPU-equipped AI PC subsegment will grow at a CAGR of 42.1% over the 2024–2028 period.

WHAT'S IMPORTANT

AI PCs are a category of personal computing devices that have new, specific system-on-a-chip (SoC) capabilities — typically realized through neural processing units (NPUs) that are designed to run AI tasks locally. These capabilities translate into important performance, efficiency, experience and security improvements for end users.

Introduction

In a business world defined by hybrid and remote work, enterprise end-user devices such as laptops and desktops are more than tools — they are essential enablers of seamless workplace operations and exceptional employee experiences. These devices are the infrastructural backbone fostering productivity, collaboration, and efficiency for a millennial and postmillennial workforce that demands personalization, flexibility, and access to cutting-edge technologies. As businesses strive to attract and retain top talent, ensuring these devices meet the needs of the digital-native generation is critical to sustaining competitiveness and driving innovation in the modern workplace.

The rapid emergence of generative AI (GenAI) as a major new must-have capability transforms every facet of an enterprise's business and operations and is ushering the accelerated development and deployment of new AI-ready hardware and software infrastructure, with the intent to bring AI-enabled capabilities to every device and endpoint in the organization. The AI PC is among the most significant manifestations of this disruptive technological evolution that promises to fundamentally transform the personal computing paradigm and deliver the promise and power of AI to every employee within the organization. IDC predicts that "*by mid-2026, 60% of G2000 will have new KPIs to align AI-infused processes and employees' workflows, which will drive 45% improvements in overall operational efficiency and employee productivity,*" and the AI PC is expected to play a key role in realizing this future.

What Is an AI PC and How Is It Different from a Traditional PC?

Currently, most GenAI-enhanced experiences in the enterprise context rely on inferencing done mostly in the cloud, on high-end graphic processing units (GPUs) that are needed to execute compute-intensive workloads. The CPUs and

GPUs on traditional client PCs are not optimized to run these workloads, which can cause a disproportionate strain on the system's resources. IDC defines AI PCs as a category of personal computing devices that have new, specific system-on-a-chip (SoC) capabilities — typically realized through NPUs that are designed to run AI tasks locally. AI PCs are further classified into hardware-enabled AI PCs (<40 trillion operations per second or TOPS of SoC NPU performance), and next-gen AI PCs (>40 TOPS of NPU performance).

Of course, although NPUs are designed to run AI, they are not the only platforms that have such capacity. High-throughput GPUs and CPUs can be deployed for GenAI and machine learning tasks, but carry a significant power consumption penalty, among other limitations. As such, practical considerations dictate the availability of an NPU as a key requirement to efficiently run on-device AI tasks.

The AI PC segment is poised to redefine the PC market, and IDC forecasts that NPU-equipped AI PC subsegment is expected to register a CAGR of 42.1% worldwide for the 2024–2028 period, while the overall worldwide PC market is expected to grow at 1.5% annually over the same forecast period, suggesting that AI PCs will increasingly account for both the growth and share of the broader PC market. Market enthusiasm for AI PCs and the capabilities they represent is reflected in the results of IDC's *2024 US Commercial PCD Survey* (4Q24), which indicate that 62% of respondents were either actively choosing or considering AI PCs. The number increases to 74% among large enterprise respondents. By 2026, we will reach an inflection point with AI PCs expected to comprise more than 50% of the PC fleets of more than half of all enterprises. IDC's research further indicates that only about 20% of enterprises would stick to their current brand of PC provider if an alternate vendor were to provide AI PCs with notably better performance. This suggests that the enterprise end-user devices market is primed for some disruption and upheaval as AI PCs become mainstream.

By 2026, AI PCs are expected to comprise more than 50% of the PC fleets of more than half of all enterprises.

Unlocking New Value with the AI PC

AI PCs provide several unique capabilities and features including specialized hardware and optimized architecture for local AI processing, on-device integration with AI assistants and AI-enhanced applications, and improved power management efficiency. These capabilities translate into several key performance, efficiency, experience, and security improvements for end users. Data from IDC's *2024 US Commercial PCD Survey* (4Q24) reveals that enterprises expect a few key benefits from their adoption of AI PCs:

- Improved productivity through infusion of AI capabilities into a diversity of applications, processes, and workflows
- Enhanced privacy and data security by keeping data local during AI inferencing
- Reduced latency as network access is not needed for AI tasks
- Increased innovation through AI enablement of workforce at scale
- Reduction in cloud-based AI costs and improved sustainability
- Better end-user experience through hyper-personalization that improves over time

IDC Guidance: Considerations in Selecting the Right AI PC for Your Organization

Not all AI PCs are built the same, and the choice of the AI PC can greatly influence the success of the enterprise workplace and end-user devices strategy. An enterprise looking to deploy a fleet of AI PCs to optimally support and enable its workforce with hyper-personalized AI capabilities needs to think though several key considerations when choosing the right AI PC for its needs:

- **Platform architecture**. It takes more than just throwing an NPU into the mix to make a good AI PC. The entire system needs to be designed and architected ground-up to optimally run AI workloads natively. This demands tight integration and cooperation across process technology, system architecture, and product design to deliver a functionally excellent AI PC. Look for vendor ecosystems that can assure such a closed loop development process for their AI PC offerings.
- **Intelligence ecosystem**. An AI PC is only as good as the intelligence capability that is enabled to run on top of it. The AI PC needs to be equipped with an ecosystem of optimized foundational models that supports on-device intelligence capabilities across a wide variety of enterprise applications and a diversity of workplace workflows; and a clear road map of how this ecosystem will be enriched with additional capabilities and services over time to further enhance the value of the AI PC.
- **Personalization with privacy**. A major selling point of the AI PC is the ability to run AI tasks natively on the device that assures greater privacy and protection of data than those executed in the cloud. However, there will be end-user AI workloads that cannot be supported by the resources in a single device. Enterprises should carefully evaluate the architectural appropriateness of, and operational solutions provided in different AI PC models to assure themselves of the ability of the devices to execute AI tasks in a private and confidential manner that conforms to the applicable compliance requirements.**Track record of innovation**. The past is often a reasonably reliable indicator of the future. Look at the AI PC vendor's track record of product innovation and its commitment to support previous generations of its devices with the latest software innovations to ensure that your AI PC estate is always equipped to deliver to the best of its capability as it ages gracefully.
- **Life-cycle device services and support.** Introducing a fleet of AI PCs into the enterprise workplace environment will likely require additional change management and adoption support to ensure efficient usage of the new device capabilities, and the hand-holding that is required therein. The device-as-a-service (DaaS) model provides organizations with numerous operational, financial, and other organizational benefits and may be well suited to help enterprises evolve into AI PC-enabled, hyper-personalized, hybrid-first, remote-first workplaces.

Conclusion

The age of the AI PC promises to transform the workplace by bringing the power of AI to every member of the workforce, delivering enhanced and hyper-personalized experiences, improved productivity, and greater privacy and data security that assures compliance with increasingly stringent regulatory requirements. However, realizing this future requires enterprises to take deliberate and mindful steps in their choice, procurement, and introduction of AI PCs into their enterprise workplace environment. The right AI PC needs to be architected ground-up for optimal AI performance, be supported by a comprehensive on-device intelligence software ecosystem, assure privacy in situations that necessitate off-device AI processing and continuously deliver optimal AI performance and experience over the duration of the device's life. A capable device life-cycle services vendor, with a well-defined device life-cycle strategy that incorporates adoption of AI PCs, OEM partnerships, and the necessary change management and support capabilities to ensure optimal value realization from these devices can be a valuable partner to enterprises on this exciting journey to a reimagined, AI-enhanced future workplace.

About the Analyst

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