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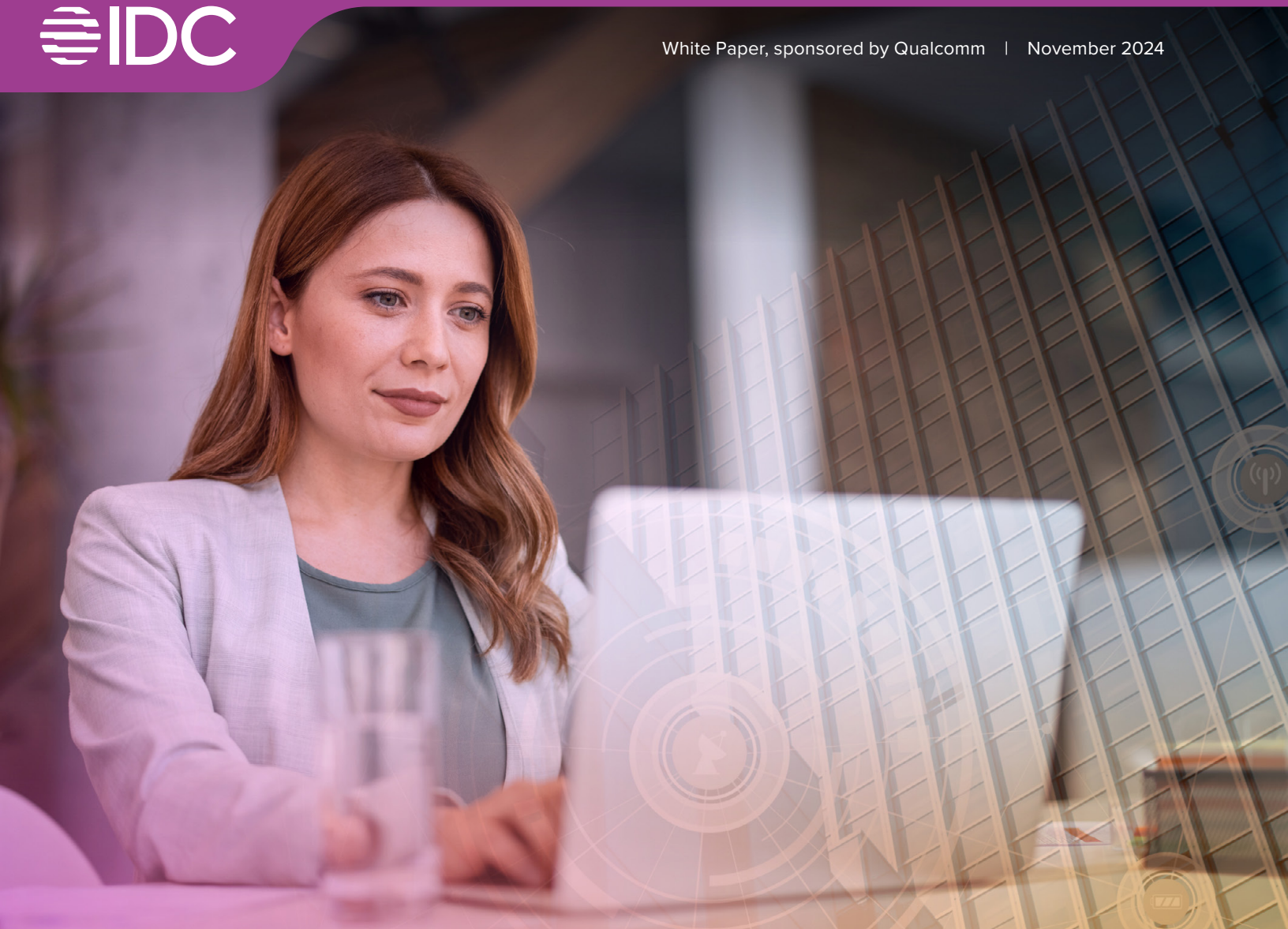

Embracing Next-Generation AI PCs Today to Support Your Workforce's Current and Future Requirements

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IDC's Opinion

Companies are adopting artificial intelligence (AI) and generative AI (GenAI) technologies at a breakneck pace, rolling them out to a wide range of employees as the number of use cases skyrockets. Across industries, among companies big and small, organizations are moving fast to stay ahead of the competition by leveraging new AI features in their existing apps and adopting new AI apps where appropriate. AI is not only driving increased efficiencies across the workforce; it is also contributing to employee job satisfaction by enhancing their ability to collaborate with others and allowing them to prioritize meaningful work over tedious and repetitive tasks.

From generating presentations to summarizing meetings to creating draft documents, AI has quickly become a critical tool for employees in a wide range of jobs. Today, most employees access these AI tools on their PCs, but the AI workloads run in the cloud. This cloud dependency has drawbacks, including high service costs; enormous power-related environmental, social, and governance (ESG) impacts; a heavy reliance on networks (and related latency); and potential data security and user privacy concerns.

The next generation of AI PCs, shipping into the market today, addresses these drawbacks while simultaneously enabling companies to efficiently and affordably scale their AI efforts across their workforce. These PCs include a new piece of silicon called a neural processing unit (NPU) designed specifically to run AI workloads efficiently on the device itself. This will allow app developers to add AI features and functionality that run without the need to tap into cloud services. This helps address cloud cost, power, and latency issues while offering enhanced data security and privacy by keeping data on the device instead of round-tripping to the cloud.

Microsoft and its partners call these PCs with greater than 40 tera operations per second (TOPS) of NPU-based AI performance Copilot+ PCs. The first Copilot+ PCs feature Qualcomm Snapdragon X Series chips, and the debut systems offer new levels of on-device AI performance and exceptional, ESG-friendly battery life.

As your organization begins making plans to replace its aging fleet of PCs ahead of the October 2025 Microsoft Windows 10 end of service (EOS) date, it's important to think differently about this cycle. Employee needs have changed dramatically, as have IT requirements around AI support, employee device satisfaction, and company sustainability targets. As you contemplate your next move, consider all your options.

Methodology

Online survey:

207
respondents

60%
ITDM

40%
LOB

AI or GenAI
apps or services

To better understand IT decision maker (ITDM) and line-of-business (LOB) managers' perspectives on the current and future advantages of next-generation AI PCs, IDC conducted an online survey with 207 respondents in April and May 2024.

The survey was fielded in the United States. ITDMs represented 60% of respondents; LOB represented 40%. It included companies across different industries and sizes, ranging from 500 employees to 10,000+.

For inclusion in the survey, respondents needed to affirmatively answer that their company was at least in the testing phase of AI or GenAI apps or services. Our respondent pool claimed that 60% of their installed base was Windows 10, 20% was Windows 11, and the remainder was macOS, ChromeOS, or Linux.

Note: All percentages in this document may not equal 100% due to rounding.

Situation Overview

As noted previously, most AI workloads today are run in the cloud. Respondents in our survey pointed to a long list of benefits their companies are enjoying thanks to cloud-based AI.

Over half of the respondents (57%) said they already use AI for automated decision-making and natural language processing, 58% use it today for document summation and content creation, and 70% currently use it for cybersecurity and fraud detection. Respondents said the top 3 benefits AI has brought to their business to date are improved accessibility (43%), increased efficiency and productivity (36%), and innovation and competitive advantage (34%). This respondent pool is well-versed in the benefits of AI and has moved aggressively to implement it in their companies.

While cloud-based AI tools have become familiar topics to ITDMs and LOB managers, the AI PC is a more recent development. IDC defines an AI PC as a system that includes an NPU. The first AI PCs included NPUs capable of fewer than 40 TOPS of AI performance, and we labeled these as hardware-enabled AI PCs. In 2024, the first systems with greater than 40 TOPS of performance shipped into the market, and we labeled these as next-generation AI PCs. With more TOPS, a PC can run more AI features and apps locally. In addition, Microsoft sets 40 TOPS (plus 16GB of RAM and 256GB of storage) as the minimum specification to qualify for branding as a Copilot+ PC. This new class of PCs runs a set of new AI-centric operating system features enabled in an updated version of Windows 11.

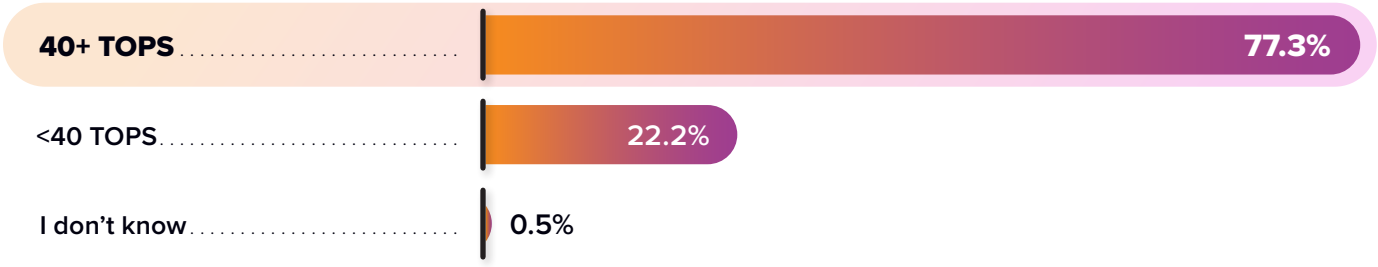
This version of Windows 11 will also support Windows Copilot Runtime, a set of frameworks and models that enables developers to add new AI features to apps leveraging the more than 40 on-device models that ship with the OS. The first Copilot+ systems, which started shipping in June 2024, featured Qualcomm's Snapdragon X Elite and Snapdragon X Plus processors, each featuring 45 TOPS of NPU performance.

While the concepts of NPUs and TOPS are still relatively new to the market, when we queried respondents about their understanding of these topics, they showed an inherent understanding of the differences between a <40 TOPS NPU system and a 40+ TOPS NPU system, which is that with more NPU TOPS, a system can run more AI functions on device in a fast yet power-efficient way. As you might expect, most said that given the choice between the two, they'd choose the higher TOPS system, as reflected in **Figure 1**. Respondents were willing to put more money toward this choice. On average, they said they'd be willing to pay a 14% premium to acquire a next-generation AI PC over a non-AI PC.

FIGURE 1

Understanding the Value of a High TOPS NPU

Given the choice between <40 TOPS and 40+ TOPS, which would you select?
(% of respondents)



n = 207 ; Source: *IDC's Qualcomm AI PC Survey,* 2024

It's early days for next-generation AI PCs, but the promise of moving more AI workloads from the cloud to the client resonates loudly with ITDMs and LOB managers for a number of reasons. Chief among them is cost: Today's cloud-based services are expensive to access and typically require ongoing payments, which means companies must carefully decide which employees should have access, even as it becomes increasingly apparent that most workers will benefit from access to such tools.

In addition to the cost of such services, there is the impact such services can have on a company's networking infrastructure, as employees heavily leverage their internet connections to send prompt after prompt to the cloud, dealing with the inherent latency of sending data on frequent round trips to the cloud. And this presumes most employees have fast, stable internet access, which is certainly not true across a wide array of jobs. And, of course, all this cloud computing requires vast amounts of electrical power to run, negatively impacting sustainability.

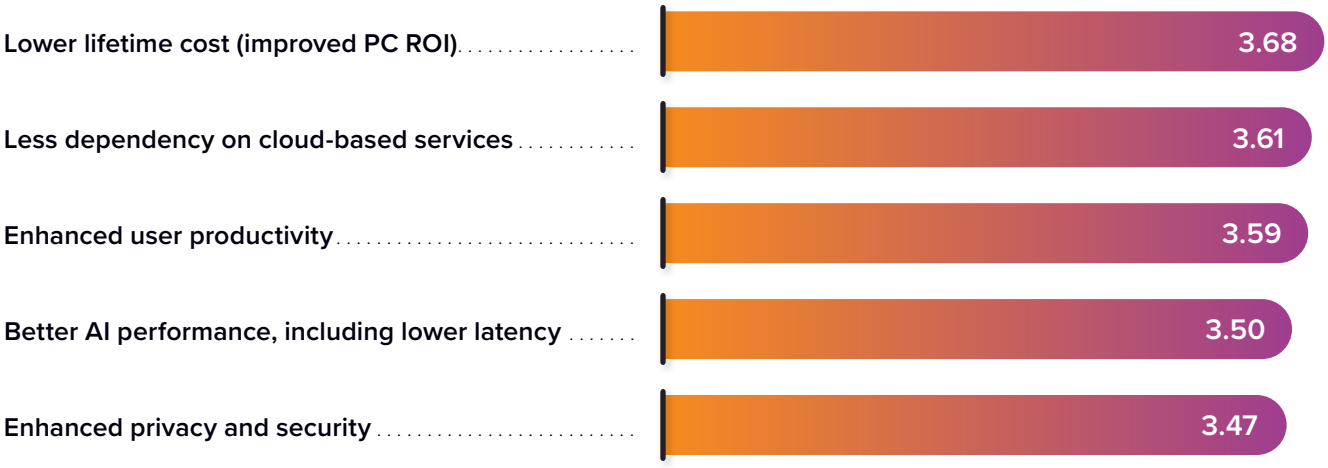
Finally, one of the key concerns of nearly all businesses leveraging cloud-based AI is fear about the safety of their company data, intellectual property, and employee privacy. Concerns include everything from data being intercepted en route to the cloud to company IP appearing in future versions of LLMs to employee details showing up in unintended places.

For all these reasons, it is easy to see why the benefits of running AI workloads on the PC appeal to ITDM and LOB managers. When we asked what they thought were the most compelling future benefits of next-generation AI PCs, we found that lower lifetime cost was first, followed by less dependency on cloud-based services. For the complete list, see **Figure 2**.

FIGURE 2

Next-Gen AI PC Future Benefits

As existing applications evolve and new applications appear, next-gen AI PCs (45 TOPS) promise numerous benefits. On a scale of 1 to 5, with 1 being the least compelling and 5 being the most compelling, how would you rate the following benefits?
(Mean)



n = 207; Source: *IDC's Qualcomm AI PC Survey,* 2024

A Fast Deployment Ramp

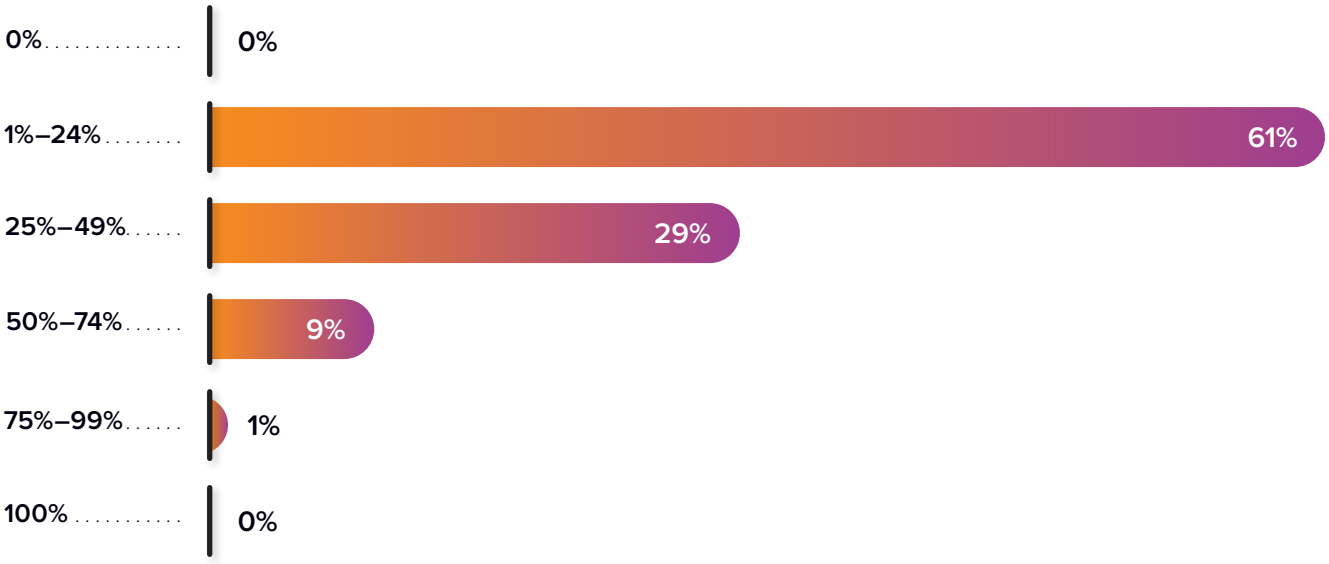
While next-generation AI PCs are new to the market, respondents in our study showed a willingness to move fast to adopt the new breed of devices. About one-third said the category's existence would cause them to accelerate their company's refresh plans immediately. Two-thirds of the respondents envisioned rolling out next-gen AI PCs to as much as one-quarter of their workforce in the first 12 months. The rest suggested an even more aggressive rollout than that, as reflected in **Figure 3**.

This comes as most companies are still very early in their planned transition from Windows 10 to Windows 11, with about 60% of the respondent pool's installed base still running the former. That's a huge percentage of PCs still running the aging OS, with the EOS date coming up fast in October 2025. The appearance of next-generation AI PCs may be the jolt many companies need to jump-start their transition plans.

FIGURE 3

Rapid Deployment of Next-Gen AI PCs

What percentage of your company's employees would you expect to deploy next-gen AI PCs (45 TOPS) in the first 12 months?
(% of respondents)



n = 207; Source: *IDC's Qualcomm AI PC Survey,* 2024

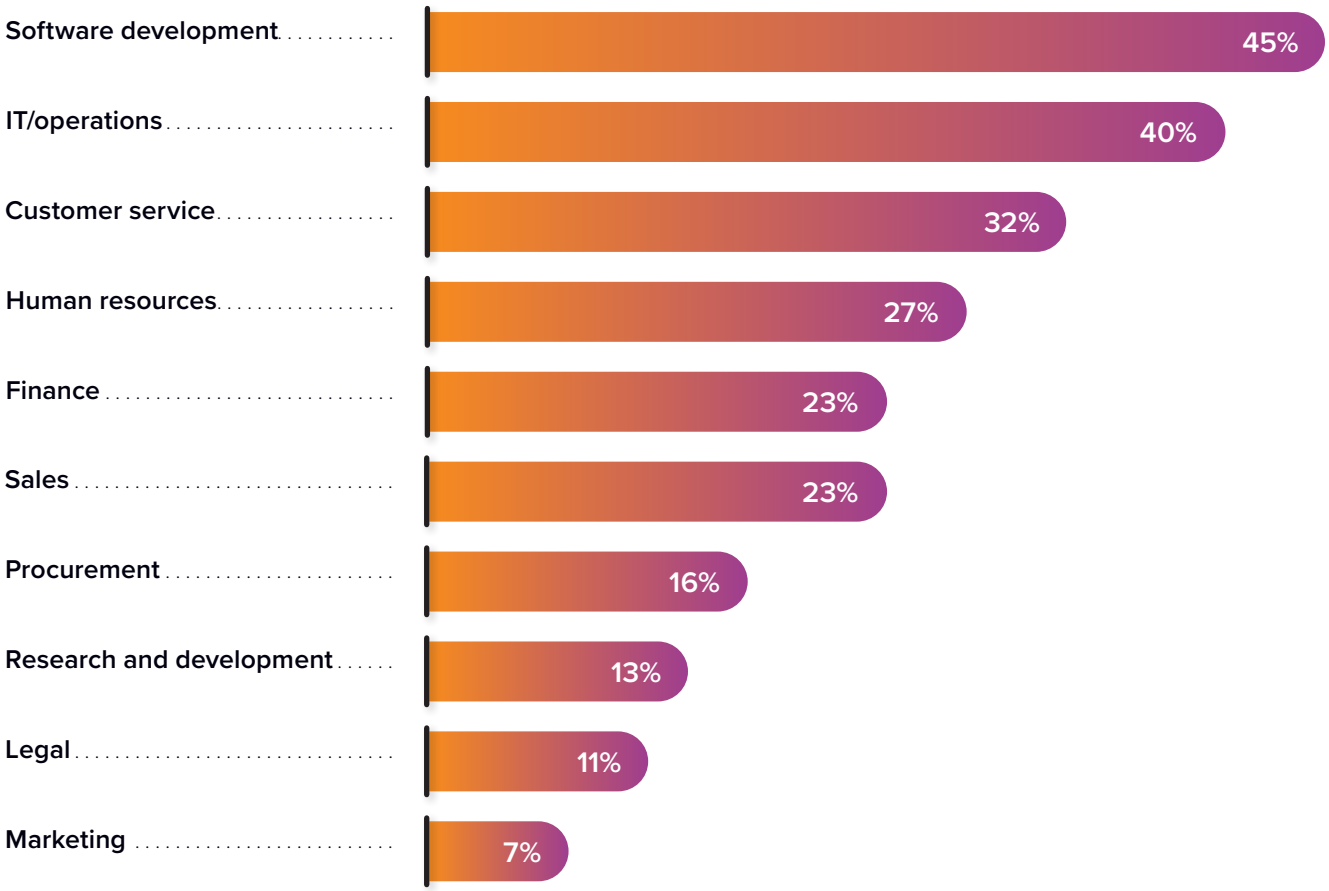
It is also telling where these PCs are likely to be deployed. Almost half of all respondents (45%) said they would initially deploy next-generation AI PCs for software development. Another 40% pointed to IT/operations, and nearly one-third (32%) said the systems would go to customer service. Among companies that have moved fast to leverage AI to date, these departments are often where deployments have happened first. Respondents see a need to move some or all these AI workloads from the cloud to the client to address the challenges outlined previously and reap the benefits we've described. For details on which departments will likely receive next-generation AI PCs first, see **Figure 4**.

FIGURE 4

Key Departments Likely to Receive Next-Gen AI PCs

Which departments within your company would you prioritize receiving a next-gen AI PC (45 TOPS) in the first 12 months?

(% of respondents)



n = 207; Source: *IDC's Qualcomm AI PC Survey*, 2024

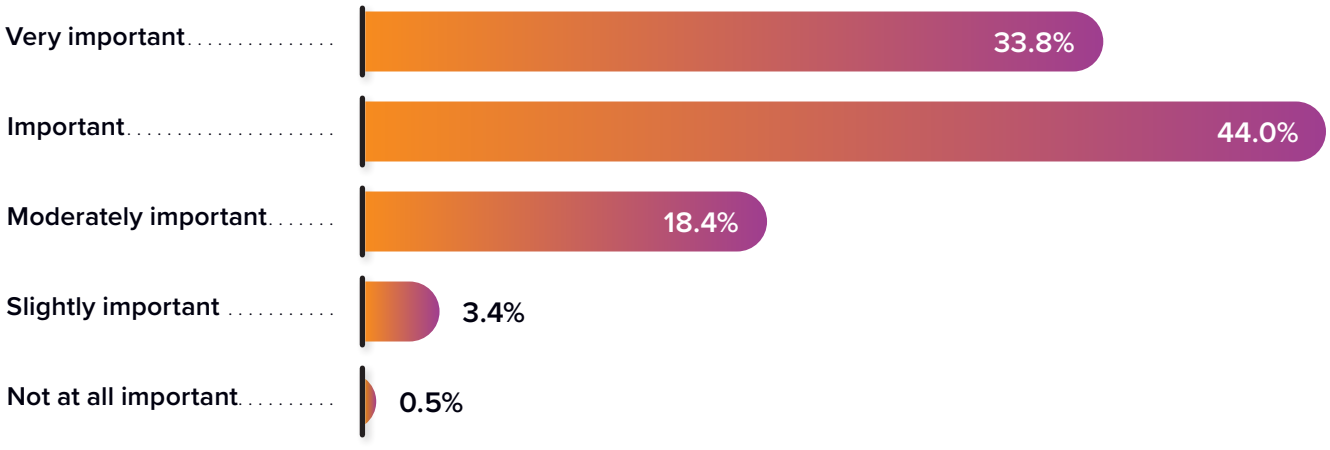
While it's very important to understand the AI benefits of a next-generation AI PC, it is also important to realize that any new system must perform existing tasks better than the device it replaces. In addition to more raw performance, one of the places where most new PCs outperform the old is in collaboration and web conferencing. Many of the PCs currently in the commercially installed base were designed and deployed before the COVID-19 pandemic — in other words, before a large and growing percentage of employees shifted to remote or hybrid work, spending huge chunks of every day on video calls or collaborating with colleagues in different offices and time zones. Next-generation AI PCs not only have better cameras, microphones, and speakers, but these new hardware features also leverage integrated AI features designed to help them put their best foot forward in such scenarios. These features include transcription and live translation. When we asked how important such features could be to help employees be more productive and satisfied, more than half (52%) said it was important/very important.

Another knock-on effect of more employees working outside the office is a renewed emphasis on providing employees with notebook PCs that offer better battery life. In fact, when we asked respondents if a PC that can run for multiple days on a single charge would be important to employee productivity and satisfaction, an impressive 75% said it would be important/very important (see **Figure 5**).

FIGURE 5

Importance of Multiday Battery Life

Would notebook PCs with multiday battery life be important to your employees' productivity and satisfaction? (% of respondents)



n = 207; Source: *IDC's Qualcomm AI PC Survey,* 2024

Considering Snapdragon

Qualcomm's newest PC processors, the Snapdragon X Elite and Snapdragon X Plus processors, are now shipping in PCs from all the major vendors, including Dell, HP Inc., and Lenovo. These new PCs, the first to qualify for Microsoft's Copilot+ designation, offer 45 TOPS of NPU performance focused on delivering new on-device AI features and capabilities.

In addition to their AI capabilities, which place these systems in IDC's next-generation AI PC category, reviewers have praised these laptops for their strong performance, advanced connectivity, and class-leading, multiday battery life. These systems also feature high-quality audio and video capabilities, including support for AI-based collaboration features.

Snapdragon provides developer tools such as the Qualcomm AI Hub and Qualcomm Device Cloud to support the development of AI-powered applications and services. The AI Hub offers access to models and APIs, helping developers create applications optimized for on-device AI processing. Qualcomm Device Cloud facilitates device management and monitoring, ensuring smooth operation and integration across connected devices.

The company has a long history of innovation, contributing to advancements in mobile technology, automotive solutions, and now PCs. Forward-thinking ITDMs should consider Snapdragon as they plan their next PC refresh.

Challenges/ Opportunities

Any time the industry moves into a new era, there are challenges and opportunities. When it comes to next-generation AI PCs, the challenges are straightforward: The first devices to feature 45 TOPS NPUs carry a premium, and they are based on Snapdragon silicon that runs the ARM instruction set instead of the legacy x86 instruction set upon which the PC industry was built.

Addressing the first is simple: While a next-generation AI PC may carry a premium over a non-AI PC or hardware-enabled AI PC (>40 TOPS), the potential savings of running AI workloads locally versus in the cloud should provide a robust return on investment over the life of the PC, especially when considering such a purchase is a one-time expense versus the ongoing cost of cloud-only services.

The ARM piece is a bit more complicated but is also addressed by the product itself. Past iterations of Windows on ARM relied on underpowered silicon that bogged down when forced to emulate the x86 instruction set. Today, many Windows apps have been optimized to open and run fast on ARM. Plus, when you combine Microsoft's new emulation software (called Prism) and today's more powerful silicon, performance doesn't suffer. If your company has a long tail of x86 apps, a pilot to determine if emulation is acceptable is key.

Conclusion

The challenges faced by ITDMs and LOB managers continue to evolve. As you plan your next refresh, perhaps with the specter of Microsoft's October 2025 end of service for Windows 10 looming, it's essential to approach this cycle with a new mindset.

Employee needs have significantly evolved, as have the corporate demands around support, device satisfaction, and sustainability. The impact of AI on the workforce, now and into the future, cannot be understated. Regardless of where your company is in its AI journey, it pays to carefully consider the benefits of investing in next-generation AI PCs for today and to future proof your investment for the future. Remember, what you buy today will live in the installed base for the next four years or more.

Much has changed since the last significant PC refresh, and forward-thinking organizations realize that choosing their next PC shouldn't be business as usual. A careful examination of what is on offer reveals important new hardware functionality, new OS capabilities, and an environment ripe for independent software vendors to bring new on-device AI features to the platform. When considering your next move, be sure to explore all your options.

About the IDC Analysts

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Tom Mainelli heads the Device and Consumer Research group, overseeing a wide array of hardware and technology categories that cater to both home and enterprise markets. His team's research spans PCs, tablets, smartphones, wearables, smart home devices, thin clients, displays, and virtual/augmented reality headsets. He also co-manages IDC's Supply-Side Research team, which monitors display and ODM production across various categories. IDC's Consumer Research, anchored by the Consumer Market Model, employs regular surveys and proprietary models to forecast numerous consumer-focused activities and spending across hardware, software, and services. As Group Vice President, Tom collaborates closely with company representatives, industry contacts, and other IDC analysts to provide comprehensive insights and analysis on a diverse range of commercial and consumer topics. A frequent speaker at public events, he travels extensively, enjoying every opportunity to engage with colleagues and clients worldwide.

More about Tom Mainelli

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