The Importance of the PC in a Data-Centric World

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IDC OPINION

In an increasingly digitized world, the PC remains the primary device for much of the world's creation, storage, and management of data. PCs are the linchpin of productivity within the digital enterprise. Despite this, when faced with competing IT priorities, too many organizations have deprioritized the PC. This is a problem, as leaving old PCs in place can lead to a long list of unintended negative consequences across the organization. New, faster PCs do more than drive increased productivity – they're also more secure, which is key when it comes to protecting your business' data.

Protecting a business' data has become a more burdensome task to IT managers, as the amount of data being created increases exponentially and attempts to attack and control that data become more complex. Security is the top concern among IT decision makers today, as malware and other malicious attacks can cripple organizations for months. Today, PC vendors are building systems with hardware-integrated security solutions as the starting point of the larger security solution. This helps IT managers remain in control of their company's data and for employees to remain productive even when the next attack comes.

Next-generation PCs do more than just facilitate data creation and protection – they also play a role in bringing the right employees into the organization. In a tight labor market, the PCs a company deploys can directly impact the quality of the candidates they can hire. Increasingly, workers are making decisions about what jobs to take based upon the hardware employers have on offer. Access to the right tools is becoming essential to retaining talent. New form factors are allowing employees to engage with data in new ways. And expectations around when and where employees are engaging with a company's data are changing, with the share of flexible work environments and the gig economy increasing.

While workers prefer that their company make the final decision around the business, productivity, and security applications they use on the PC, they would like to have a say in the matter. This shift, driven by the next generation of workers coming into the workforce, has meant that the way IT needs to work has also changed.

Among IT decision makers, there is a tangible shift from a focus on cost of the PC to one that focuses on employee experience and satisfaction. According to IDC data, 72% of enterprise IT decision makers recognize that device choice is very important to their ability to recruit and retain talent. Employee satisfaction must be a critical consideration for IT, but it can't come at the expense of security and manageability. The data a company creates, stores, and manages on its PCs constitutes an organization's lifeblood and there can be no compromise when it comes to keeping that data

accessible and safe. In this white paper, we take a closer look at the importance of the PC in a data-centric world, the impact of new PC form factors, and the opportunities associated with upcoming connectivity standards such as 5G. Finally, we'll examine the important role that next-generation PC processors play in the entire ecosystem.

SITUATION OVERVIEW

Importance of New Form Factors, Capabilities

As the world becomes ever more data centric, workloads and even jobs are changing. Data workers are running real-time data-intensive workloads and need to be equipped with PCs that keep them productive.

New form factors are impacting the way that employees want to work. Ultraslim, convertible, and detachable notebooks and tablets appeal to a younger generation of workers. These new technologies allow adaptability to the way workers are accessing, working with, and managing data. According to IDC data, the projected five-year CAGR of these new form factors is 11% through 2023, while the traditional notebook and desktop form factors will continue to decline at a CAGR of 6% (see Figure 1).

FIGURE 1

### Growth of New Form Factors Versus Traditional Form Factors, 2018-2023
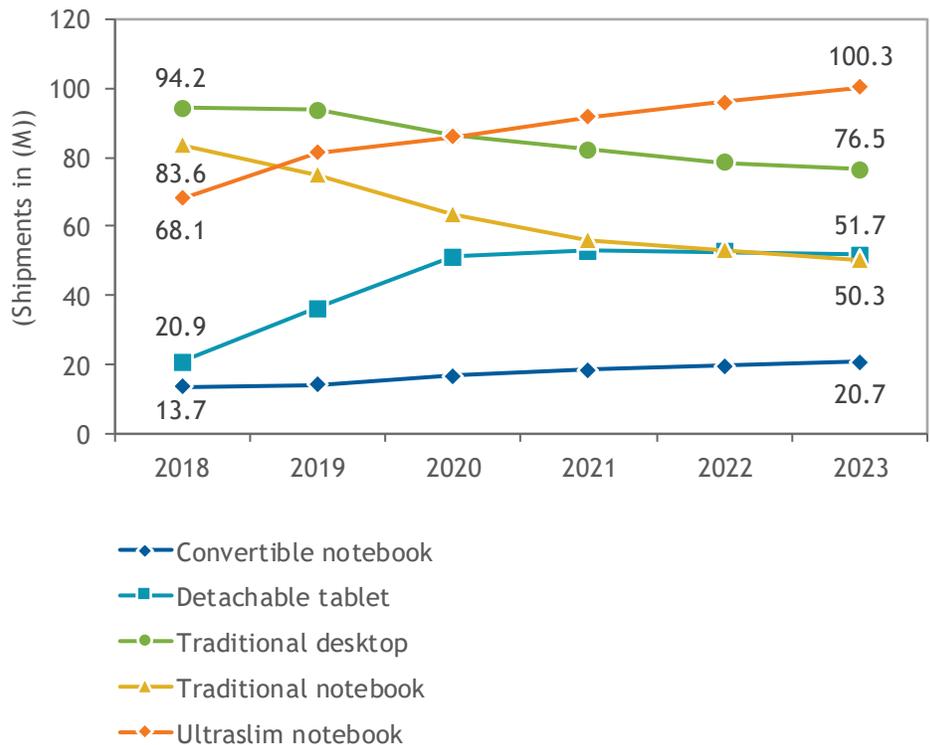
Source: IDC's PC Tracker, December 2019

It's not just form factors that are changing, but the nature of work being done on these new devices has also changed. Among the most powerful of devices, mobile, desktop, and datacenter workstations are seeing a healthy growth rate. Mobile workstation growth is expected to outpace desktop and datacenter workstation growth at a five-year CAGR of 10% versus 4.8%. Regardless of the workstation form factor, these devices are being utilized in new ways. In a recent IDC survey, 81% of IT decision makers that were planning to expand their deployment of workstations were doing so to handle new workloads, while an additional 11% said they wanted to move workers to a device with greater performance and reliability (see Figure 2). Greater performance and reliability is not limited to workstations, however, as new generations of PCs across form factors continue to push the limit of what the device can do on a year-by-year basis.

FIGURE 2

Reasons for Workstation Deployment Expansion

Q.   You indicated you will be expanding workstation deployments. What is primarily driving your expansion?
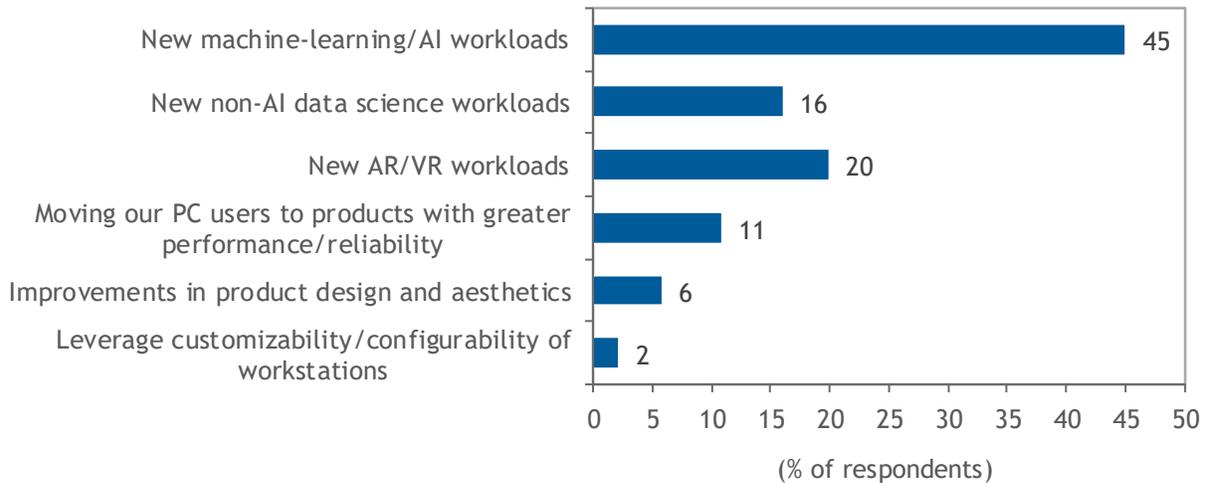
Source: IDC's *Personal Computing Device Commercial Survey, 2019*

On the horizon we can expect to see growth of new technologies including 5G and dual-screen notebooks as the evolution of the PC industry continues. 5G, the next evolution in cellular technology, will bring bigger pipes, lower latency, more security, and the ability to connect more devices to the network. As it becomes widely available in 2020, it will push the data-centric world to its limits as more data is pushed to the edge. These new technologies will also provide employees with an increased capacity to stay productive across form factors. The higher speeds and lower latency of 5G will allow employees to remain always connected to their data in a more safe and secure way. Versus open, unsecured Wi-Fi networks, which employees are prone to connect to while working on the go, 5G secure connections will ensure that data is not lost to an unsecured environment.

We can expect to see the first wave of 5G notebooks this year, and according to data from IDC's *Personal Computing Device Commercial Survey,* as many as 51% of U.S. organizations will have plans to test or deploy this new generation of notebooks when they become available.

Interest in new form factors and capabilities does not limit itself to 5G, however. In the same survey, 28% of U.S. organizations indicated that they will pick up dual-screen notebooks when they are available to test. Dual-screen and foldable notebooks will provide employees with new ways to engage with and manage data. The initial expectation is that these devices will appeal to a niche of creative professionals, who will no doubt look to these new form factors to do content creation.

With new form factors on the horizon, and employees working in new ways, tremendous amounts of data are being generated on a day-to-day basis. While most of this data is being used for content creation, engineering, and modeling, it is also capable of giving real-time feedback on how PCs are operating. This allows IT to operate in a more predictive and proactive manner identifying potential security, hardware, and software issues before they negatively impact the end-user experience. For IT managers this is paramount to keep their employees secure, productive, and happy, but it can also provide them important information as to if an employee is being deployed the proper PC.

Growth of Data

The data-centric world does not mean a cloud-only world. According to IDC's *Personal Computing Device Commercial Survey, 2019* despite the growth in cloud management and storage of data, a whopping 40% of data is still stored locally on the PC.

The Global DataSphere is expected to grow at a 25.8% CAGR for 2018-2023, resulting in 102.6ZB of new data in 2023 compared with 32.6ZB in 2018. Enterprise DataSpheres are growing at 28.8%, fueled by analytics and always-on Internet of Things (IoT) devices.

IDC estimates, even by 2023, that just over 50% of the data that requires some level of protection will actually be protected. PCs with integrated hardware security features can help ensure this data is protected, as these devices are capable of protecting under the level of the operating system all the way through regular malware attacks. Security is a necessary feature of the data-centric world and protecting data in today's world is no easy feat. The key to securing data going forward is easing the burden on IT and making sure that every PC is protected, with an integrated hardware security solution as the central starting point from which to build the rest of the security story.

IT Decision Makers

As the PC takes on a new role in the data-centric world, the priorities and concerns of IT decision makers change. Employees want a say in what technology is deployed to them, with a direct link to their likeliness to take up and remain in a role.

According to a recent IDC survey, 64% of workers said that the technology they're provisioned impacted their productivity and 62% said it impacted their satisfaction levels. Another 56% said the technology provided by their employer affected their willingness to stay at the company long term (see Figure 3).

FIGURE 3

Technology Impact on Employee Satisfaction

Q.   Please rate the impact that your company's choices in and policies around the technology you are provided has on the following:

Note: Scores are based on a scale of 1-5 scale; with 1 indicating "not impactful at all" and 5 indicating "very impactful." Figure reflects the percentage of respondents who responded a 4 or 5, or "very impactful" only.

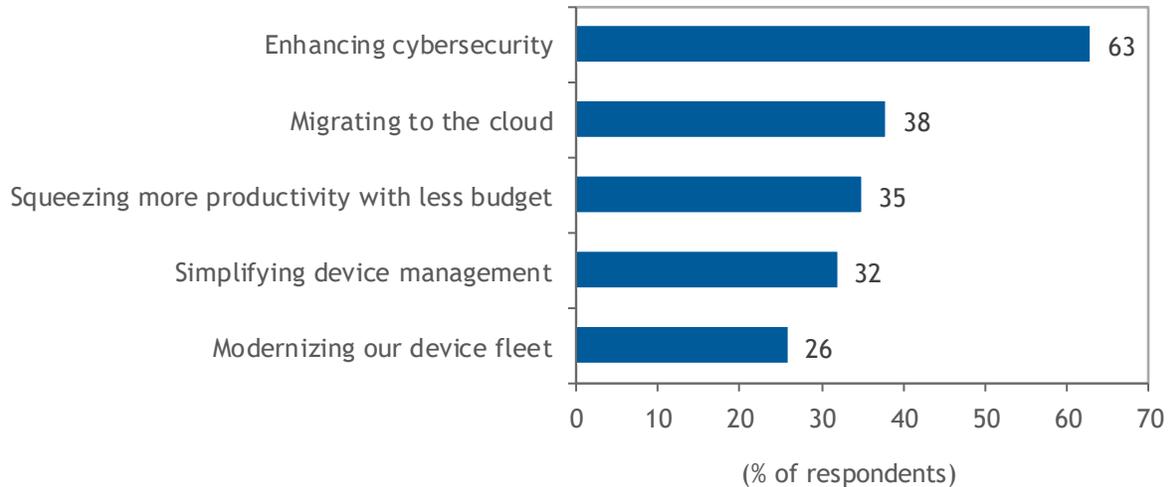Source: IDC's *Personal Computing Device Consumer Survey,* 2018

IT decision makers are tasked with not only properly deploying the right device to the right person but also protecting that device and the data that is being created and stored on it. Today, IT decision makers are burdened as organizations become more complex.

In a 2019 survey, among the top 5 IT topics that were of high priority were enhancing cybersecurity, migrating to the cloud, simplifying device management, and modernizing the device fleet. However, enhancing cybersecurity came in nearly twice as high as the next-highest priority and it is no wonder (see Figure 4). Attacks have become more complex, including famous ransomware attacks such as WannaCry, which crippled organizations for months, and IT managers are struggling to keep up with the shifting threats to their organizations' data. New efforts are being made to make devices more resistant to security breaches including hardware solutions that fundamentally protect the PC from the BIOS up. Select silicon vendors have developed hardware-based security features and worked with PC OEMs to integrate them into their PC solutions to keep employees and data safe, making the PC itself the first line of defense in the new world.

FIGURE 4

Top 5 Concerns among IT Decision Makers

Q. *Which of the following IT topics are of high priorities for your company today?*

Source: IDC's *Personal Computing Device Commercial Survey,* 2019

Although the role of the PC is ever changing, performance remains of top concern among IT decision makers. When we asked respondents in IDC's *Personal Computing Device Commercial Survey* for the top reasons for a PC's selection, hardware performance reigned supreme over price, brand, and support. Also high on the list was the ability to customize and configure, suggesting that despite an increasingly complex IT environment, employees' choices are making a lasting impact among IT.

Increasing employee productivity and choice can make more difficult the responsibilities of managing and securing the infrastructure. This pain point can be further exacerbated for modern organizations with remote workers, workplace hoteling, or flexible staffing models. Twenty years ago, work occurred at the office on devices that were standardized for cost, manageability, and security purposes. Twenty years from now, work will be a spectrum that occurs anytime and anywhere. This, in turn, could drive up cost and complexity.

CONSIDERING INTEL

Intel has been at the center of, and has enabled, some of the most transformative innovations in the PC space over the past decade. Its early work with OEMs on the Ultrabook spec spurred a revolution of thinner and thinner notebook designs that persist today. Its work with Microsoft on 2-in-1s advanced the convertible notebook and detachable categories significantly.

With Intel's Project Athena innovation program, tomorrow's PCs will increasingly be tuned to give your employees the optimal work experience. Many of today's most desirable PCs are powered by Intel, and forward-thinking IT managers would be prudent in considering the wide breadth of thin and light and convertible notebooks, detachable tablets, compact desktops, all-in-one PCs, and soon even dual-

screen and foldable notebooks that run or will run on Intel. In short, Intel powers the form factors employees want while increasing the productivity and security the companies need.

In addition, Intel's vPro platform has become synonymous with enterprise ready. The Intel vPro platform is built to support the needs of modern business, boost productivity, and offer peace of mind with business-class control. PCs with vPro start at a Core i5 and can extend up to Xeon-class processors. Organizations can serve the rank and file up to the powerhouse users all on Intel vPro platform-based devices.

The Intel vPro platform can help protect your organization with security features directly baked into the silicon. It also enables remote management capabilities that allow for more seamless deployment, integration, and management even when the system is hung or powered off, on premises or off premises. Increasing employee productivity and utility while helping IT managers keep up with the complexities is a reason the Intel vPro platform shows strongly with enterprises. In IDC's 2019 *Personal Computing Device Commercial Survey,* 37% of enterprises listed vPro a "must-have," with another 48% calling it a "nice to have" (see Figure 5).

FIGURE 5

Enterprise Engagement with Intel vPro Platform

Q.   *Which of the following statements best describes your organization's level of engagement with Intel's vPro technology and suite of services?*
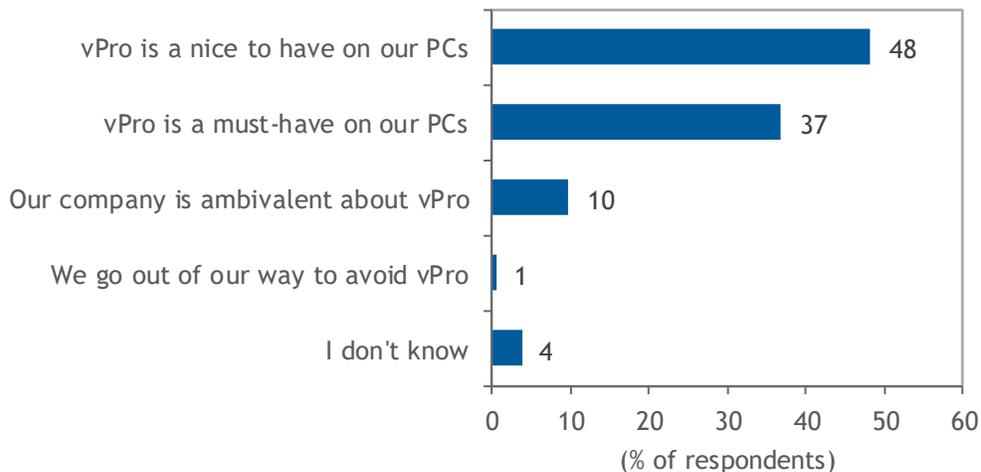
Source: IDC's *Personal Computing Device Commercial Survey,* 2019

CHALLENGES/OPPORTUNITIES

The challenge for any PC modernization initiative is that it requires change. For many, the old model of standardization has yet to break, so why fix it? However, the war for talent will only intensify, and research shows that device choices will increasingly play into the modern organization's ability to recruit and retain talent. Rethinking the PC strategy will require companies to prioritize the PC chain in ways most take for granted now.

Those that commit to a modern PC strategy will find a growing multitude of more exciting devices than ever before. This should subsequently lead to material gains in employee productivity and satisfaction over the long haul.

CONCLUSION

The PC remains the starting and ending point for creation, access, and management of data, yet most companies could use an upgrade on how they think about it. With an ever-younger workforce walking through the lobby, performance, design, and choice of PC will become essential in the talent war. This should cause IT departments to shift device choices more from cost to the employee experience.

IT not only must increasingly think about enhancing the employee experience but also must manage and secure an increasingly complex infrastructure. The Intel vPro platform gives IT managers the tools to keep their users happy while keeping their peace of mind.

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