# THE RISE OF THE POWER OFFICE:

## Why more users need a workstation

**Opinion White Paper**

The number of business applications we rely on to get work done is growing. According to a study by identity management software company Okta, the number of business apps deployed by large enterprises increased by 68% from 2014 to 2018. This growth in app usage has also been accompanied by a rising demand for better user experiences. Because users have more access than ever to fast, visually rich, and easy-to-use mobile apps in their personal lives, it's only natural they expect the same standard from the business apps they use day-to-day. In fact, many mainstream software providers are taking inspiration from gaming platforms to power their graphical user interface (GUI) experience to please the next generation of users – millennials and Gen Z.

The issue with delivering visually appealing user experiences is that it elevates the demand for graphics-specific compute in the device. A Graphics Processing Unit (GPU) will render the visual code that makes up the appearance of apps. For most PCs and notebooks, GPU capability is integrated into the CPU, offering limited performance for an increasingly demanding task. However, a gulf is emerging between what's possible in terms of GPU capability on-chip and the graphical overheads of the apps being used. In fact, since 2012 the amount of compute power apps need just to tackle their GUI has doubled. Firefox and Chrome browsers alone have seen a 7% and 13% uplift respectively from 2017 to 2018.

This issue is only exemplified by the fact that multiple GPU-intensive apps are more often being required to run simultaneously, with users switching between the likes of Microsoft Teams, PowerPoint, Outlook, Excel, and all kinds of SaaS and industry-relevant apps on a regular basis. This challenges conventional PCs and will continue to do so, due to the restricted capabilities of integrated GPUs. While this is unlikely to prohibit the user from using the apps, it will certainly negatively impact performance and their experience. In response, more businesses are exploring devices with a dedicated GPU. That's where workstations come in.

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# Meet the Power Office workflow

Workstations are designed to handle the strain of GPU-intensive apps without breaking a sweat. Unlike conventional PCs, they have a dedicated GPU to boost performance and enable business-critical apps to run simultaneously while improving productivity. This demanding way of working has been dubbed the Power Office workflow.

There is a misconception that Power Office workflows are the preserve of "special" users who require enhanced power and performance to complete complex and critical tasks, often associated with exclusive apps. However, with the changing app landscape what you don't know is that there are plenty of other "traditional" users participating in Power Office workflows and struggling to do so using a conventional PC.
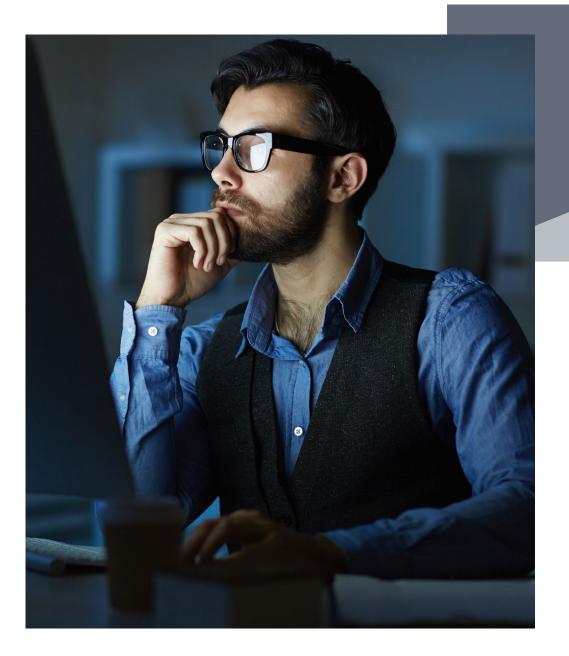
# WORKSTATIONS FOR EVERY WORKFLOW

Day-to-day business tasks don't always simply consist of responding to emails, browsing the web, or creating new documents. Many users' job roles rely on harnessing demanding enterprise apps or having to deal with large and complicated datasets, something the standard PC is not well-equipped for. However, there are still many users out there who are unaware that their workflows would be much more successful if they used a workstation.

## 8 TYPES OF POWER OFFICE WORKFLOW AT-A-GLANCE

1. Data visualisation
2. Digital content creation
3. Number crunching
4. Multi-screen interaction
5. Accuracy and timing
6. Medical imaging
7. Simulations
8. Everything AI

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We've identified **8 types of Power Office workflow** that need the power, performance, and productivity made possible by a workstation:

## 1. DATA VISUALISATION

Every business deals with a lot of data. Much of this can be captured to derive greater value, but this often requires having to visualise the data first. This is never truer than for analysts who are tasked with creating graphical representations of important information to extrapolate meaning. Coders, too, need a significant amount of system resource just to compile and run their code. Workstations are ready for any data you throw at them.

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## 2. DIGITAL CONTENT CREATION

Similarly reliant on graphics for visual creation purposes, digital content creators need sufficient power and performance to help them render, animate, design, and produce spectacular content. Typically working with large files and intricate innovations, they need to know they have machines on-hand that can keep pace and deliver their vision, and workstations are the perfect match.

## 3. NUMBER CRUNCHING

From accountants to researchers to engineers, many users will need to crunch numbers and create statistical reports from time to time. Conventional PCs just don't perform as well as a workstation under such pressure. Indeed, Excel in particular has been known to struggle with larger datasets on a PC. So when it comes to completing any complex calculations or conducting intensive financial analysis, a workstation is always the best choice.

**Conventional PCs just don't perform as well as workstations under pressure.**

# 4. MULTI-SCREEN INTERACTION

Whether for digital signage purposes within retail, or to assist time-sensitive business transactions such as share trading, users in a number of industries need to be able to digest and display a wide variety of vital information across multiple screens. The processing power needed to make this possible once again extends beyond the capabilities of a standard PC – only a workstation can support this successfully.

# 5. ACCURACY AND TIMING

For many job roles, accuracy and timing are everything. Critical deadlines need to be met or even the smallest mistake could mean the biggest repercussions. Many workstations are purpose-built to safeguard against these kinds of errors, harnessing Intel Xeon CPUs that support Error Correcting Code (ECC) memory. ECC finds and corrects bit errors as they occur so you always remain protected against such issues as data corruption.

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# 6. MEDICAL IMAGING

It's no secret that medical imaging like X-rays generate a substantial amount of graphical data that needs to be processed quickly and efficiently. Due to the urgent nature of medical cases, it is essential that this information is displayed almost instantly. Highly reliable and lightning fast, workstations make this happen.

# 7. SIMULATIONS

Many businesses rely on running simulations to test the success of designs, assess safety measures, and determine the outcome of "what if" scenarios. Virtual reality (VR) and augmented reality (AR) are also frequently called upon to host these simulations as well as provide an easier route for new starter training. In this workflow in particular, the temptation for some has been to seek solutions from gaming machines, which are not enterprise-ready. Workstations, on the other hand, are built for VR and can easily support the multi-threaded apps used to run these simulations.

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## 8. EVERYTHING AI

The automation artificial intelligence (AI) makes possible now plays a critical role for many organisations, so it's no wonder the spend on it for 2023 is predicted to hit $10.8bn (HFS Research). AI can create huge local compute demands, especially where AI training needs to occur, and is way beyond the capability of a traditional PC. GPUs are optimised for training artificial intelligence and deep learning models as they can process multiple computations simultaneously due to their large number of cores. Only workstations have the capacity to include a GPU and ensure you are entirely AI-ready.

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# $10.8 billion

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## WHY A WORKSTATION AND NOT A PC?

- Boosted performance
- Improved productivity
- Happier people
- Unequalled reliability
- Ready for the future
- Greater access to apps

# WHY YOU'LL WIN WITH A WORKSTATION

Of course, these are only a few examples of the types of Power Office workflow that are best suited to a workstation. There are plenty of other reasons to choose a workstation over a PC:

## Performance and productivity

Because the GPU capabilities of integrated graphics are limited, tackling intensive workflows on a PC can result in slow running apps, which easily account for up to 25 minutes of lost productivity per day. While this may not seem substantial at first glance, over the course of a year this becomes several days and could run into thousands of pounds. Using the scenario of a user earning £50k, this could cost their employer £2,500 per year. Even an entry-level workstation can cut this deficit, and in some cases give productivity back.

A workstation with the equivalent specs of a PC could help you realise up to a

## 23%

increase in productivity for your Power Office workflows.

## Productivity means happy people

This upsurge in productivity is not only good for your business, it can also improve staff satisfaction. By giving your people the right tools that enable them to be as productive as they can be, they'll work better and faster than ever, and as a result be happier with the work they're producing. This in turn leads to even more productivity, as studies have shown happier people are 13% more productive (University of Oxford).

## All-access to apps

Because workstations are designed to handle almost anything, you won't need to make concessions on the grounds of device performance, meaning you can harness whichever apps you want. This ensures your users get to enjoy a smooth, seamless experience when it comes to running all the apps they need at once, so are free to always work at their best.

## Unrivalled reliability

Workstations are generally more reliable than conventional PCs, with much lower repair rates and a lengthier shelf-life. This means you can sweat your assets for that much longer, getting a lot more out of your investment and reducing the frequency of refreshes. Greater reliability also means less downtime, which is great news for both your IT team and your users, who will no longer have to deal with the frustrations of slow and inferior tech. Importantly, with software only set to become more demanding, workstations help safeguard against these updates, ensuring your hardware is future-proofed thanks to its dedicated GPU.

## Happier people are

# 13%

## more productive.

# TIME TO OVERCOME YOUR WORKSTATION HANGUPS

As game-changing as workstations are for businesses, there are several misconceptions that deter people from properly evaluating them:

## 1. They are expensive

The reality is workstations are actually very affordable and often very competitively priced versus a PC. While there is a marginal cost gap that could see you purchasing an entry-level workstation for only $150 more than an equivalent performance PC, the gains would be well worth it. The productivity versus cost payoff could be returned in just a few weeks.

## 2. Big, bulky and unattractive

Not all workstations are behemoth towers. There is in fact a whole spectrum of device sizes available to suit every need, many of which are just as compact and light as conventional PCs. This ranges from sleek laptops to micro workstations that are so small they can be mounted to monitors to create an all-in-one device. Importantly, just because a workstation isn't called a PC doesn't mean it functions any differently, it's just smarter and more powerful.

## 3. Not right for remote work

Mistakenly seen as bulky and immobile, many businesses deem workstations unsuitable for remote working. However, now more than ever workstations could be the key to a better remote working experience, especially as some businesses rationalise real estate and keep more of their people at home. After all, Power Office workflows aren't restricted to your physical office – your users need the consistent, reliable experience offered by a workstation wherever they're working from.

# WHY LENOVO WORKSTATIONS

The world's leading commercial PC manufacturer, Lenovo has been inspiring users with innovative device solutions for over three decades. With four devices sold every second, Lenovo technology is renowned for its reliability, efficiency, and legendary quality. Boasting a broad portfolio of highly-advanced and powerful Think P Series workstations powered by Windows 10 Pro, Lenovo is primed for the Power Office.

## WHY LENOVO?

- MIL-SPEC and ISV certified
- Lenovo Performance Tuner
- Virtual workstation options
- Cooling-conscious
- Unhackable BIOS

## Industry-leading certifications

All Lenovo Think workstations are MIL-SPEC certified, meaning they have passed rigorous durability, ruggedness, and reliability tests. These tests assess each device's capabilities when faced with extreme variables such as excessive heat, sand and dust, humidity, shock, and altitude. That way, you know your workstations will work in just about any environment. These devices are also tested by independent software vendors (ISVs), seeing you receive optimal performance when running critical apps on your chosen hardware by ensuring compatibility, stability, and reliability.

## Lenovo Performance Tuner

A complementary tool that accompanies every workstation, Lenovo Performance Tuner enables users to easily adjust system resources to help optimise performance. Users are given control over which processor cores and threads on their CPU are assigned to which apps and tasks to avoid any conflict in performance. The tool also makes it possible to change graphics and BIOS settings at the click of a button, and can be managed both individually and centrally via Azure Active Directory.

## Virtual workstations

If your users don't need access to a physical workstation all year round but instead require its capabilities for sporadic tasks, Lenovo offers the option to install virtual workstations within your datacentre or even on a server. This means users can remotely access their virtual workstation from anywhere whenever they need to. Critically, multiple users can share the same virtual workstation, meaning up to four people can collaborate remotely.

## Incredibly cool

As CPUs and GPUs continue to become more powerful, they require sufficient cooling to ensure the host hardware doesn't overheat. Lenovo workstations have been designed with a tri-channel architecture which sees each component receives a suitable amount of cool air. This makes their devices up to 60% cooler than other manufacturer workstations.

## Unhackable BIOS

Strong security is paramount for every organisation, but perhaps most prominently for users that regularly manipulate data. Handling data comes with considerable risk, so it's imperative to ensure it's always kept safe. Managing the data flow between the operating system and any attached devices, the BIOS is one of the most vulnerable points of any machine. It's also very attractive to cyber criminals because attacks are often undetectable until it's too late. That's why Lenovo has ensured its BIOS is unhackable.

Lenovo workstations are up to

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# EMPOWER THE POWER OFFICE

Lenovo's Think P Series of workstations are ready to help your users unlock the full potential of their Power Office workflows. Offering industry-leading reliability, military-grade durability, and the promise of an exceptional user experience thanks to Windows 10 Pro, these devices deliver everything a conventional PC cannot.

## WHAT COMES NEXT?

If you're keen to explore more about how Lenovo's Think P family of workstations can help your users take advantage of the Power Office, book a trial of the Lenovo Performance Tuner today by contacting your Account Manager, emailing us at **hello@servium.com**, or calling us on **+44 (0)303 334 3000**.

## WHY LENOVO RECOMMENDS WINDOWS 10 PRO FOR BUSINESS

- Exceptional experience
- Sophisticated connectivity
- Enhanced encryption
- Built-in productivity tools
- Improved management

# SERVIUM AND LENOVO

Awarded Lenovo's Growth Partner of the Year in 2019, we're perfectly placed to help you unleash the potential of the Power Office using their workstations. Committed to providing the latest leading-edge technologies and proud to offer a phenomenal customer experience, we work closely with you to ensure the workstations you choose are the right fit for your workflows. Thanks to the expertise available within our Services Ecosystem, we're able to knit your Lenovo workstations together with complementary technologies and solutions from industry leaders.

# WE'RE READY WHEN YOU ARE

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