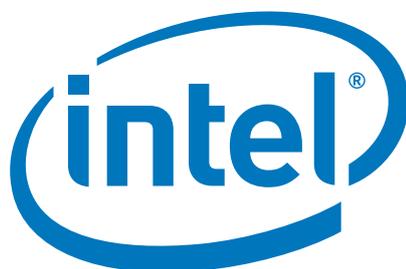


# Embrace no-compromise, next-generation enterprise client PCs

Meet end-user expectations and enterprise IT requirements using PCs equipped with next-generation Intel® Core™ vPro™ processors

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**Atos**

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# Introduction

Organizations today are undertaking tremendous digital transformations. They are adopting new technologies to identify new marketplace opportunities, enhance the customer experience, increase internal efficiencies and more.

Enterprise PCs play a key role in supporting and accelerating these digital transformations. As organizations look to refresh their existing fleets, they need to select PCs that help boost employee productivity and meet evolving employee expectations while addressing rigorous enterprise IT requirements.

Organizations worldwide are facing new challenges in improving employee productivity. They must support an increasingly mobile workforce, enabling employees to work anytime, anywhere. In selecting enterprise PCs, organizations need systems that can offer the robust performance for a wide range of demanding applications, the flexibility to accommodate a diverse array of working styles and the connectivity to support employees on the move.

Organizations must also meet new employee expectations. Employees want enterprise PCs to incorporate all the innovative capabilities they are used to experiencing in consumer systems. PCs should be thin, light, durable, easy to use, responsive, have great battery life and be available in a variety of form factors.

Enterprise PCs must also meet key enterprise IT requirements. For example, they must have capabilities that help secure corporate data and streamline management. And they must help keep costs in check.

Fortunately, several vendors now offer no-compromise, next-generation enterprise PCs equipped with 6th and 7th generation Intel® Core™ vPro™ processors and the Microsoft Windows\* 10 operating system that can help address key productivity challenges, meet user expectations and comply with IT requirements. Understanding the capabilities of these devices and learning deployment best practices can help your organization prepare for evolving needs.

“At Atos, we recognize that next-generation PCs running Microsoft Windows\* 10 are the catalysts for achieving the digital workplace experience—the place where content, context and the user experience come together securely to drive productivity in a cloud-connected world.”

**Jay Anderson,**

Vice President, Partners and Alliances,  
Atos, Inc.

“Companies that prioritize offering the best and most sleek productivity tools in a modern office environment will attract the best talent. Our 7th generation Intel® Core™ vPro™ processor signifies an inflection point of new innovation with a breadth of elegant devices specifically designed for business.”

**Tom Garrison,**

Vice President and General Manager, Business Client Platforms,  
Intel Corporation

**About the authors**

**John J. Minnick**

Senior Director, Global Strategic Technology  
Partner Team,  
Atos, Inc.

**Bruce Lippmann**

Marketing Manager, Business Client Platforms,  
Intel Client Computing Group,  
Intel Corporation

**Rhett Livengood**

Director, Digital Business Enabling  
Intel Client Computing Group,  
Intel Corporation

**Michael Velarde**

Chief Architect,  
Digital Workplace,  
Atos, Inc.

## Why refresh now?

Today's enterprise PCs equipped with 6th and 7th generation Intel Core vPro processors and Microsoft Windows 10 offer numerous reasons to refresh systems now.

**Performance and productivity:** Current enterprise PCs combine robust processing and graphics performance with the responsiveness, connectivity and long battery life employees need to be productive. Compared with five-year-old systems, today's PCs with 6th generation Intel Core vPro processors can deliver 2.5 times the productivity,<sup>1</sup> up to 30 times better 3-D graphics<sup>2</sup> and wake-up times of less than 0.5 seconds.<sup>3</sup>

Furthermore, today's enterprise PCs with 6th generation Intel Core vPro processors can also deliver up to three times longer battery life than five-year-old systems.<sup>4</sup> Many of those PCs now can provide up to 10 hours of battery life before recharging.<sup>5</sup> These capabilities not only improve the user experience, but also might help support enterprise green initiatives because systems spend less time plugged in.

**Flexibility:** Vendors offer enterprise PCs based on Intel Core vPro processors in a broader array of form factors than ever before. Refreshing with new form factors—including thin, lightweight PCs, 2 in 1 devices and Ultrabook™ systems—helps accommodate increasing employee mobility, support the variety of ways employees want to work and enable employees to carry fewer devices. Some of today's form factors are up to three times thinner<sup>6</sup> and lighter than previous-generation models.

**Security:** The number, variety and impact of cyberthreats are all on the rise. Refreshing enterprise PCs enables you to capitalize on modern security technologies that help authenticate users and protect data.<sup>7</sup> PCs equipped with 6th and 7th generation Intel Core vPro processors support the Intel® Authenticate Solution, a hardware-enhanced multifactor authentication solution that reduces vulnerabilities of software-only solutions.<sup>8</sup> Additional security technologies built into the latest Intel Core vPro processors and Windows 10 operating system include one-time-password capabilities, enhanced malware defense, secure boot, accelerated encryption, BIOS protection and more.

**Manageability:** Running Windows 10 on enterprise PCs with 6th and 7th generation Intel Core vPro processors helps enhance the efficiency of PC management, enabling administrators to conduct a variety of key tasks remotely. Intel® vPro™ technology, available with Intel Core vPro processors, offers out-of-band remote management capabilities that allow administrators to inventory assets, deploy patches and updates, diagnose problems and bolster security, even if the system is sleeping.

Windows 10 also makes it easy to reset or refresh the operating system with a few swipes of a finger. Deskside support organizations no longer need to pick up a problem computer and bring it to the "build room" or reimaging facility. The operating system can be refreshed with the same corporate image that was installed when the user first received the system.

**Reduced cost of ownership:** Refreshing to next-generation enterprise PCs can help reduce the cost of ownership. By taking advantage of remote management capabilities enabled by 6th and 7th generation Intel Core vPro processors, for example, organizations can streamline a range of formerly costly, time-consuming administrative tasks.<sup>9</sup>

**Cross-platform consistency:** Enterprise employees today expect a consistent experience no matter which device they are using for work. With Windows 10, many mobile devices, embedded solutions, servers,

handsets, PCs and other devices can run the same operating system kernel. This cross-platform support makes it easy for users to move from one device to the next; they do not have to learn multiple interfaces or distinct methods of connecting to enterprise applications and services.

**Connectivity:** Today's enterprise PCs deliver high-performance network connectivity to support anytime, anywhere work. At the same time, many feature wireless display, docking and collaboration technologies from Intel that enhance collaborative communication, accelerate transitions from one device to the next and help employees avoid cluttered workspaces.

**Responsiveness:** In addition to providing the performance for a responsive application experience, today's enterprise PCs are ready for work, right away. Microsoft Modern Standby\* enables fast wake (under 300 ms),<sup>10</sup> wake-on-voice, and synch with companion devices and proximity sensing. Connected Standby\* keeps e-mail up to date and receives VoIP calls when the screen is off.

The support for touch capabilities in Windows 10 adds to the responsive experience across platforms. Users can employ the same touch and swipe gestures on their smartphones, tablets, PCs and other devices. In most cases, Windows 10 can eliminate the need to carry two devices—for example, a notebook PC and a tablet.



Figure 1: Next-generation enterprise PCs can offer numerous benefits over previous-generation systems

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## Windows 10: An improved end-user experience

Microsoft designed Windows\* 10 to appeal to both Windows 7 and Windows 8 users by reintroducing some popular Windows features such as the Start Menu and jump lists. Microsoft also removed some hard-to-discover controls such as the Windows 8 charms. To further improve the end-user experience, Microsoft introduced Continuum\*, which allows Windows to automatically switch from desktop mode to tablet mode when using 2 in 1 and tablet devices. Continuum enables people to use smartphones as full-blown PCs, leveraging the capabilities of Universal Applications that can automatically scale the UI based on the device it runs on. Lastly, Microsoft has made most of its applications available on iOS and Android, providing a familiar experience even when in other ecosystems.

By bridging mobile and traditional PC operating systems, Windows 10 offers end users the ability to work anytime, from any place. Windows 10:

### Combines the best features of previous Windows versions

- **Start menu:** Quickly access apps, settings and files or shut down the system
- **Mouse and keyboard support:** Plug a mouse or keyboard into a tablet or any other device and switch to Desktop Mode
- **Elements from Windows 8:** UEFI (Unified Extensible Firmware Interface), which supports remote diagnostics and repair; Microsoft Hyper-V\* virtualization of guest operating systems; plus other elements

### Enables seamless transitions and a consistent experience across devices

- **Continuum:** Run a phone like a PC, connecting to a large display, without tying up the phone

- **Roaming user profiles:** Access preferred themes, application settings, passwords, preferences and more across devices
- **Universal Windows Platform:** Help deliver a seamless user experience across all devices by supporting the development of Universal Applications that run on both Windows 10 and Microsoft Windows Mobile\* for Windows 10

### Offers key productivity features

- **Virtual desktops:** Create new desktops with a few clicks, using virtual desktop technology built directly into Windows 10
- **Action Center:** Quickly view notifications and access frequently used settings
- **Snap Assist:** Maximize screen real estate by snapping a window to a portion of the screen, and then choose from thumbnails to fill the remaining screen



“From an IT standpoint, today’s no-compromise enterprise PCs meet the requirements of a corporate mobile platform refresh standard. These PCs are made to be used in mobile and office environments, designed for multiyear refresh cycles, and have manageability and security built into the platform.”

**John J. Minnick,**

Senior Director, Global Strategic Technology Partner Team,  
Atos, Inc.

## Establish an upgrade rhythm

When is it time to upgrade PCs to the latest operating systems or deploy updates?

- Consumers often install updates on their devices as soon as those updates are available to capitalize on new capabilities and features. When users (or organizations) select Microsoft Current Branch\* service for updates, they receive new operating system updates as soon as they are available to the public. Microsoft uses telemetry to assess the quality of those updates, so the large and diverse user base that selects Current Branch actually helps improve the quality of the operating system through this update process.

- Enterprises should update enterprise-owned devices with the latest operating system updates when those updates have been sufficiently validated through a Microsoft Insider Preview\* (offered to designated “insiders”) and Current Branch. Microsoft offers a Current Branch for Business service for deploying validated updates approximately four to

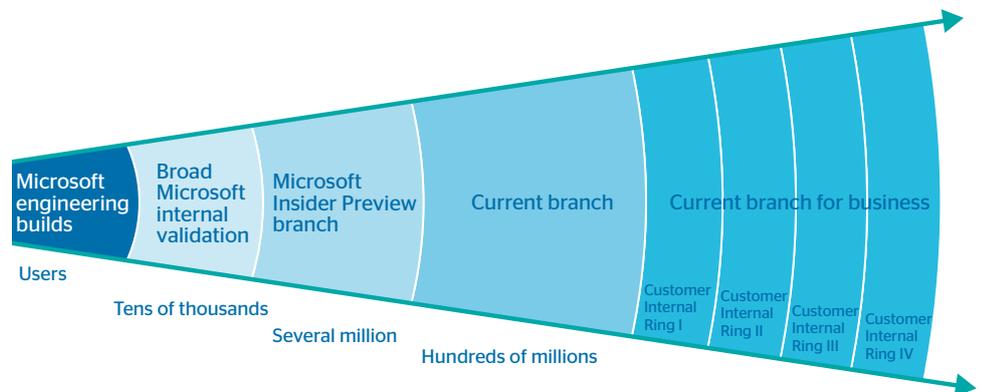


Figure 2: Enterprise organizations can use Current Branch\* for Business, which delays updates until they have been validated through Microsoft internal validation, Microsoft Insider Preview\* and Current Branch deployments<sup>11</sup>

six months after the consumer rollout. Enterprise administrators can use the new Windows\* update or their existing tooling. Of course, businesses can defer operating system updates, but they should not do so indefinitely. It can become costly to continually maintain old hardware, manage drivers, secure systems and address a negative user experience.

- Specialized systems—such as PCs powering medical equipment, air traffic control devices or factory equipment—do not need a continuous stream of new features. These PCs can remain in a traditional update cycle (five-year mainstream support and five-year extended support) and be controlled with the current software distribution system.

## Choose from a variety of form factors and devices

Ideas about work are changing. Organizations are transforming their offices to foster collaboration, enable mobility and improve space utilization. But at the same time, “work” today is no longer a place you go; it’s what you do. Employees work from their office, their home, the road and many other places. In fact, half of global employees currently work remotely at least a few times per week.<sup>12</sup>

To support greater mobility, employees are increasingly using smartphones, tablets and mobile PCs to access enterprise systems and data while they are on the go. And they are tapping into cloud services in part to eliminate the need to carry around heavy, bulky computers.

Consumerization is contributing to changing ideas about technology in the workplace. Employees often adopt new technologies at a much faster pace than enterprise IT. They want the latest, greatest technologies, and they push to use those technologies at work.

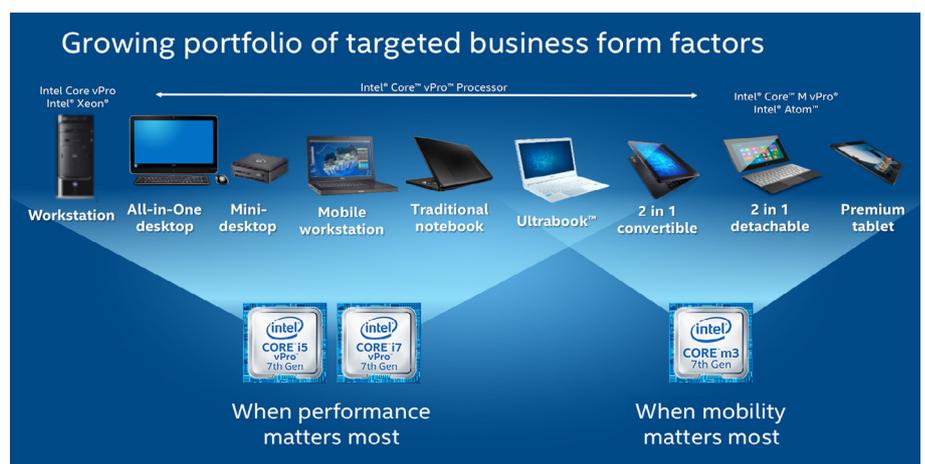


Figure 3: Hardware vendors today offer a portfolio of solutions with a full range of form factors

Next-generation enterprise PCs help address the need for greater mobility and the desire for innovative technologies. Many of today’s enterprise PCs based on 6th and 7th generation Intel Core vPro processors bridge the gap between traditional mobile devices and traditional PCs. By using thin,

light mobile PCs or 2 in 1 devices (which are among the most popular enterprise PC form factors), employees gain the convenience and ease of use of mobile devices with the performance and functionality of more traditional PCs. Meanwhile, enterprises can reduce acquisition and management costs.

While next-generation enterprise PCs help reduce the need for multiple devices, they do not force a one-size-fits-all approach on enterprises or their employees. PC vendors today offer powerful systems based on 6th and 7th generation Intel Core vPro processors in a wide array of form factors that can support a broad range of employee preferences. Those models offer compelling solutions for employees who are used to purchasing consumer technologies, who want to use those technologies for work as well as for personal functions, and who need technologies to be as flexible and mobile as they are.

Across form factors, there are several technologies and capabilities that define next-generation enterprise PCs.

#### Platform technologies

- 6th and 7th generation Intel Core vPro processors
- Intel® HD Graphics
- Intel® Solid-State Drive (Intel® SSD) Pro 6000p

#### Security

- Data encryption to protect enterprise data at rest
- Hardware-enhanced identity protection, support for smart card technologies and more
- Ability to remotely patch systems, update diagnostics, make repairs and more with Intel vPro technology

#### Productivity and connectivity

- Enterprise-class Wi-Fi
- High-speed docking with Intel® Wireless Gigabit Ethernet-based wireless docks or Intel® Thunderbolt™ 3-based one-wire docks
- Support for presentation creation and heavy spreadsheet use
- Sufficient screen space or support for up to three independent external HD monitors

#### User experience

- Ability to consume and create on a single device
- Up to 10 hours of battery life<sup>13</sup>
- Support for 3G/4G LTE/5G
- Thin, lightweight form factors
- Context-aware voice command and sensors

## What is a 2 in 1?

A 2 in 1 combines laptop and tablet capabilities in a single device with a 10-inch or larger screen that runs Microsoft Windows\* 10. A 2 in 1 can be either *detachable* or *convertible*.

- **Detachable:** A keyboard is engineered as part of the product design, not an aftermarket accessory. It attaches to the display mechanically or magnetically.
- **Convertible:** The keyboard is permanently and mechanically attached to the display. Hinge flexibility enables the user to change between laptop and tablet modes.

This versatility has made 2 in 1 devices some of the most popular device types for enterprises.



## What is an Ultrabook?

An Ultrabook™ is not just another PC form factor. In fact, Ultrabook devices can come in a variety of different designs, including clamshells, sliders, foldable, flip, swivel and detachable designs (sold with a mechanically attached keyboard).

The Ultrabook form factor requirements for 7th generation Intel® Core™ vPro™ processor-based PCs are shown in the following tables.

For convertible and clamshell form factors:

<b>Screen size</b>	≤11.6 inches	11.6 < x ≤ 13.3 inches	13.3 < x ≤ 14.1 inches	>14.1 inches
<b>Panel</b>	FHD resolution (1920 x 1080 or higher)			
<b>Z-height</b>	≤19 mm with touch ≤18 mm without touch		≤21 mm with touch ≤20 mm without touch	
<b>Weight</b>	≤1.3 kg	≤1.5 kg	≤1.9 kg	≤2.1 kg
<b>Battery life</b>	≥8.5 hours MobileMark* 2014: Office Productivity (Windows* 8.1/Windows 10) ≥7.5 hours MobileMark 2014 Office Productivity (Windows 7) <sup>14</sup>			

For detachable form factors:

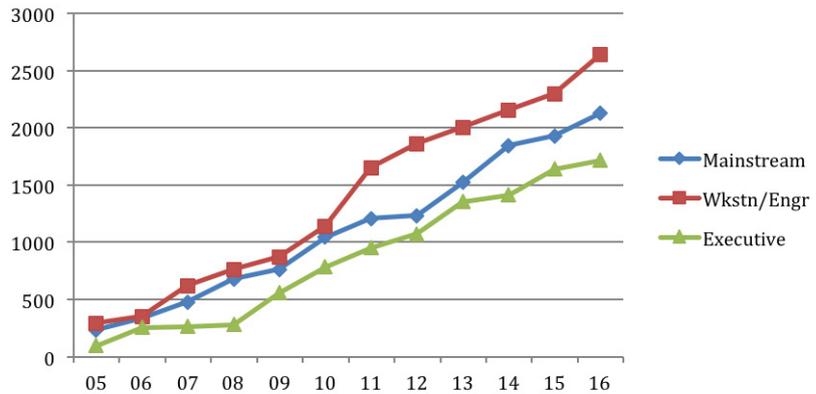
<b>Screen size</b>	10.1 inches	10.1 < x ≤ 12 inches	12 < x ≤ 13.3 inches
<b>Panel</b>	FHD resolution (1920 x 1080 or higher)		
<b>Z-height</b>	≤ 9.5 mm (lid only)		
<b>Weight (lid only)</b>	≤700 g	≤800 g	≤1,000 g
<b>Battery life (lid only)</b>	Lid (detached): ≥ 7.5 hours MobileMark* 2014: Office Productivity (Windows* 8.1/Windows 10)		

## Deliver robust performance

In addition to offering a variety of form factors, enhancing security and improving manageability, today's enterprise PCs deliver exceptional performance. Testing using PassMark\* software shows that these PCs offer significantly better operations than previous-generation enterprise PCs.

That improved performance spans all classes of enterprise PCs. Most enterprises classify their PCs into groups, such as mainstream, executive and engineering workstation PCs, based on compute speed, functionality and cost.

- Executive PCs are designed for mobility and applications that are communication-intensive. They tend to have small screens (12 inches or fewer), use Intel Core i5 processors, and include 4 to 8 GB of memory and SSDs. Minimizing size and weight while maintaining the longest battery life are priorities.
- Mainstream PCs support a broad group of users and a wide variety of office productivity applications. They often have 14- to 15-inch screens, Intel Core i5 processors, 8 GB of memory and conventional hard disk drives. Mainstream PCs are meant to deliver the best value while supporting the broadest functionality.
- Engineering and analyst workstation PCs are configured for maximum performance.



**Figure 4: PassMark\* testing shows today's enterprise PCs deliver significantly better performance than previous-generation systems**

They use 15- to 17-inch or larger screens, have Intel Core i7 processors or Intel® Xeon® processors, and include at least 16 GB of memory and fast drives. Maximizing speed and providing custom functionality for demanding engineering and analysis workloads are the main priorities.

With continuous improvements in technology, the performance of computers in all three categories has been increasing. As a result, organizations selecting enterprise PCs today are often able to improve performance compared with previous-generation PCs without having to increase acquisition costs.<sup>5</sup>

Tests conducted in 2016 included the following no-compromise enterprise PCs, all equipped with next-generation Intel Core processors: Dell Latitude\* E7270, Dell Latitude E7470, Dell XPS\* 13, Intel® NUC, Lenovo IdeaPad\* Miix 700, Lenovo ThinkPad\* T460s, Lenovo ThinkPad X1 Yoga, Lenovo ThinkPad Yoga 260, Microsoft Surface\* Book, Microsoft Surface Pro 4, HP Elite\* X2 1012 and HP ZBook\* 15 G3.

Even the fastest-performing workstations of a few short years ago are no match for these and other enterprise PCs. As the tests show, today's enterprise PCs can deliver strong performance and are well suited for all but the most demanding computing requirements across the enterprise.

## About the PassMark Rating

PassMark\* software tests key system components and then calculates overall performance by weighting these component tests based on how critical each component is in delivering total system performance. The final PassMark Rating provides an overall assessment of a computer's performance in general use—the bigger the number, the faster the computer.

Test suite	Weighting
I/O	29%
Memory	18%
3-D Graphics	12%
2-D Graphics	14%
CPU	27%
Total	100%

The PassMark Rating is calculated by using weighted averages from individual system component tests.

“Even the fastest-performing workstations of a few short years ago are no match for these and other enterprise PCs. As the tests show, today's enterprise PCs can deliver strong performance and are well suited for all but the most demanding computing requirements across the enterprise.”

**John J. Minnick,**  
Senior Director,  
Global Strategic Technology Partner Team,  
Atos, Inc.

## Enhance productivity

Today's enterprise PCs help facilitate anywhere, anytime productivity by supporting a range of innovative connectivity technologies and solutions, and incorporating capabilities that deliver a responsive experience.

“Today’s no-compromise enterprise PCs provide a compelling compute platform for enterprise IT management, as well as great features for users to be more productive. It’s like having the best of both worlds.”

**John J. Minnick,**  
Senior Director,  
Global Strategic Technology Partner Team,  
Atos, Inc.

## Connectivity

Technology	Benefits
Intel® Wireless Docking with Intel® Wireless Gigabit Ethernet technology	<ul style="list-style-type: none"> <li>Enables rapid wireless connections to monitors, large-screen conference-room TVs and other USB peripherals—all at gigabit speeds</li> <li>Provides the performance and responsiveness of a traditional dock without cord clutter</li> </ul>
Intel® Unite™	<ul style="list-style-type: none"> <li>Facilitates communication and collaboration by enabling wireless connectivity to room displays</li> <li>Eliminates time-consuming setup and accelerates time to productivity</li> <li>Provides multiple security layers to safeguard data</li> <li>Enables integration with a broad range of technologies</li> </ul>
Intel® Thunderbolt™ 3	<ul style="list-style-type: none"> <li>Offers simple one-cable connection to connect to dock, display and many peripheral devices</li> <li>Delivers eight times the bandwidth of USB connectivity with Thunderbolt 3<sup>5</sup></li> </ul>
Intel® Wireless-AC 2x2	<ul style="list-style-type: none"> <li>Provides reliable, high-performance dual-band (2.4/5 GHz) and multi-stream (2x2 802.11ac) Wi-Fi connectivity</li> <li>Delivers nearly six times the bandwidth of the prior 1x1 802.11b/g/n generation<sup>5</sup></li> <li>Includes Bluetooth* Low Energy (BLE) capability to enable Intel® Authenticate Solution Bluetooth proximity usage models, such as using a smartphone as an authentication factor to log on to a PC</li> </ul>

## Responsiveness

Technology	Benefits
6th and 7th generation Intel® Core™ vPro™ processors	<ul style="list-style-type: none"> <li>Deliver the processing performance required for a responsive user experience</li> </ul>
Intel® Speed Shift Technology	<ul style="list-style-type: none"> <li>Improves responsiveness of apps and web browsing for a smooth experience controlling hardware frequency and voltage</li> <li>Provides up to 20 percent better web performance, based on WebXPRT<sup>16</sup></li> </ul>
Microsoft Modern Standby*	<ul style="list-style-type: none"> <li>Enables fast wake, wake-on-voice, sync with companion devices and proximity sensing</li> <li>Delivers snappy responsiveness to wake up in less than 300 ms<sup>17</sup></li> <li>Keeps e-mail up to date and receives VoIP calls when the screen is off</li> </ul>
Intel® Pro SSD	<ul style="list-style-type: none"> <li>Delivers superior performance compared with traditional hard drives</li> <li>Offers data security, remote manageability and data sanitation capabilities with the Intel® Remote Secure Erase Solution</li> </ul>
Intel® HD Graphics	<ul style="list-style-type: none"> <li>Supports the latest business graphic design/performance needs</li> <li>Can lower power consumption and subsequently reduce power costs</li> </ul>

## Tighten security and improve manageability

Today's enterprise PCs equipped with 6th and 7th generation Intel Core vPro processors and Windows 10 support numerous solutions and capabilities, and provide multiple built-in technologies that help tighten security and streamline management.

“Microsoft Windows\* 10 and Intel® technologies provide a seamless platform for mobile workforce computing. I can be more productive and still access all my corporate applications without switching between different devices.”

**Rhett Livengood,**  
Director, Digital Business Enabling  
Intel Client Computing Group,  
Intel Corporation

## Security

Technology	Benefits
6th and 7th generation Intel® Core™ vPro™ processors	<ul style="list-style-type: none"> <li>• Provide strong encryption with true random number generator instruction using Intel® Secure Key encryption</li> <li>• Deliver robust malware protection with execution protection from Intel® OS Guard (Microsoft Windows* 10)</li> </ul>
Intel® Authenticate Solution	<ul style="list-style-type: none"> <li>• Strengthens identity protection through hardware-enhanced multifactor authentication into Windows domains and VPNs</li> <li>• Enables administrators to create tailored combinations of hardened factors:               <ul style="list-style-type: none"> <li>– Something you know (such as a PIN)</li> <li>– Something you have (such as a smartphone)</li> <li>– Something you are (defined by a fingerprint)</li> </ul> </li> </ul>
Hardware-assisted encryption	<ul style="list-style-type: none"> <li>• Supports the newest encryption demands, including whole-disk encryption (WDE) and enterprise rights management (ERM)</li> <li>• Can reduce power impact and deliver strong performance</li> <li>• Supports Microsoft BitLocker* drive encryption</li> <li>• Uses Intel® AES New Instructions (Intel® AES-NI) to improve the speed of applications performing encryption and decryption</li> </ul>
McAfee ePO Deep Command*	<ul style="list-style-type: none"> <li>• Offers secure and remote security management access to powered-off or disabled PCs</li> <li>• Enables secure remote access regardless of the PC's power state</li> <li>• Communicates with endpoints at a level beyond the operating system</li> </ul>
Intel® Identity Protection Technology Public Key Infrastructure (Intel® IPT PKI)	<ul style="list-style-type: none"> <li>• Provides a hardware-based embedded PKI (Public Key Infrastructure) capability</li> <li>• Helps protect identity and assets online by adding a trusted link to systems, accounts and favorite online places</li> <li>• Uses secure keys to generate encryption keys and hide them from malware (available only on Intel Core vPro processor-based PCs)</li> </ul>
Intel® Software Guard Extensions	<ul style="list-style-type: none"> <li>• Enable applications to create private areas to protect sensitive information at runtime and at rest by using CPU instructions and platform enhancements</li> </ul>
Platform boot security	<ul style="list-style-type: none"> <li>• Protects the operating system, BIOS and boot process with multiple technologies:               <ul style="list-style-type: none"> <li>– Intel OS Guard helps protect the operating system from malware by helping to block application access to critical operating system vectors</li> <li>– Intel® BIOS Guard provides hardware-assisted authentication and protection against BIOS recovery attacks</li> <li>– Intel® Boot Guard offers a root of trust plus a measurement and verification standard to OEM software; supplies hardware-based boot integrity to the operating system secure boot process</li> </ul> </li> </ul>
Intel® Trusted Execution Technology (Intel® TXT)	<ul style="list-style-type: none"> <li>• Hardens platforms against software-based attacks by allowing greater control of the launch stack</li> </ul>
Intel® Memory Protection Extensions (Intel® MPX)	<ul style="list-style-type: none"> <li>• Helps protect against buffer overflow attacks by checking pointer references whose normal compile-time intentions are maliciously exploited at runtime due to buffer overflows</li> </ul>
Intel® Remote Secure Erase	<ul style="list-style-type: none"> <li>• Enables IT administrators to remotely erase Intel® Pro SSDs for repurposing or end of life</li> </ul>
Trusted Platform Module 2.0	<ul style="list-style-type: none"> <li>• Stores and helps protect information using a secure cryptoprocessor</li> </ul>

“A real transformation of the computing experience is upon us—from the devices themselves, to how users interact with them, to how they connect to and understand our world. Changes like these don’t happen overnight, but the pace at which end users will expect (or demand) these capabilities is going to be much faster than most IT shops are prepared for. Getting everyone to realize the opportunities ahead of them is the critical first step.”

**Rhett Livengood,**  
 Director, Digital Business Enabling  
 Intel Client Computing Group,  
 Intel Corporation

## Intel® Authenticate: Identity threats have met their match

Any time an employee’s user name and password are compromised, the enterprise is vulnerable. Eight-character passwords that change every 90 days worked well a decade ago, but increasingly commonplace attack methods such as password cracking, phishing and screen scraping accentuate the need for stronger identity protection. Sixty-three percent of data breaches are caused by stolen or misused credentials.<sup>18</sup> Costs associated with these breaches are growing, with the average cost of a data breach estimated at a staggering \$4 million.<sup>19</sup>

### Strengthen software security from the inside

To thwart these identity-based security attacks, multifactor authentication is becoming a new industry standard. But not all solutions are created equal. Intel is reducing the vulnerabilities of software-only solutions with Intel® Authenticate, a hardware-enhanced multifactor authentication solution. Intel Authenticate protects the PC by hardening security outside of the operating system to reduce the risk of data breaches. Authentication factors, IT security policies and authentication decisions are all encrypted in the hardware.

### Mitigate risk with customized multifactor protection

Intel Authenticate verifies a user’s identity for domain and network access login by using any combination of multiple hardened factors at the same time, in an IT-customizable manner. Each additional authentication factor can help improve security assurance.

On PCs with 6th and 7th generation Intel® Core™ vPro™ processors, supported hardware-enhanced factors include fingerprint sensors, Bluetooth/BLE proximity with a smartphone, a protected PIN on the PC display and Intel® Active Management Technology (Intel® AMT), which identifies the user’s network location. New PCs that use 7th generation Intel Core vPro processors are poised to support more features, such as facial recognition, and offer additional customization options based on innovation from original equipment manufacturers (OEMs), independent hardware vendors (IHVs) and independent software vendors (ISVs).

### Easily deploy an end-to-end identity protection solution

IT groups can deploy Intel Authenticate with the familiar tools and infrastructure they already have in place. It works with Windows\* 7, Windows 8.1 and Windows 10, and integrates with several common IT management consoles including:

- Microsoft System Center Configuration Manager\* (SCCM)
- Microsoft Active Directory\* Group Policy Objects (GPO)
- McAfee ePolicy Orchestrator\*

Administrators install the software package on client PCs and then set up any combination of factors with the Intel Authenticate flexible IT policy configuration and enforcement capabilities. End users then open the application and follow a simple process to enroll the required authentication factors onto their PCs, enabling them to start quickly without calling IT.

## What is multifactor authentication (MFA)?



## Manageability

Technology	Benefits
Intel® vPro™ technology	<ul style="list-style-type: none"><li>• Enables remote management</li><li>• Provides KVM (keyboard, video, mouse) remote control and remote encryption management capabilities that help quickly remediate systems—even with encrypted drives—anytime, anywhere</li></ul>
Microsoft System Center Configuration Manager* and Microsoft Intune*	<ul style="list-style-type: none"><li>• Enable IT to remotely administer, provide assistance for or view any client computer in the hierarchy</li></ul>
Windows* 10	<ul style="list-style-type: none"><li>• Provides a single core application that runs on every device, making cross-platform support and manageability easier from the start</li></ul>
Intel® Stable Image Platform Program	<ul style="list-style-type: none"><li>• Aligns and stabilizes key Intel platform components, providing a predictable transition from one technology generation to the next</li></ul>
Windows as a Service (option)	<ul style="list-style-type: none"><li>• Helps keep systems more secure and up to date</li></ul>

“The consumer market is driving the enterprise to transform traditional IT services to cloud-based management. Atos has partnered with Intel and Microsoft to enable a consumer-like experience and a more secure, flexible environment for our mobile millennial workforce.”

**Michael Velarde,**  
Chief Architect,  
Digital Workplace,  
Atos, Inc.



## Implement no-compromise, next-generation PCs and Windows 10 in the enterprise

Today's enterprise PCs include a number of key capabilities that help streamline deployment. Atos can provide additional assistance to simplify the move to these no-compromise, next-generation PCs.

Windows 10 is designed to eliminate potential deployment problems. The Windows 10 Assessment and Deployment Kit\* (ADK) includes tools to help businesses identify areas of risk prior to deployment. For example, the Microsoft Windows Application Compatibility Tool\* (ACT) helps identify potential application compatibility issues.

To provision the PCs, administrators can use Intel vPro technology available with Intel Core vPro processors. Intel® Virtualization Technology (Intel® VT) also enables organizations to deploy and manage the new operating system on virtual machines (VMs).

Atos can help ensure a smooth rollout of PCs with Windows 10 through the existing software distribution system. To begin, Atos consultants capture current PC data using either the system management tools or Intel® Setup and Configuration Software (Intel® SCS) for Intel vPro technology. Once this review is complete, the Atos team uses Microsoft ACT to find applications that will not function correctly with the new operating system. With many years of experience in migrations, the Atos team can either remediate the nonfunctioning applications or work with the software vendor and Microsoft to find a solution.

The Atos team can also help deploy a customized Windows image to PCs equipped with Intel vPro technology or through your existing Microsoft System Center Configuration Manager\* 2012 infrastructure:

- Remotely load the new operating system on bare metal
- Work with your OEM vendor to deliver the new system directly from the factory
- Wipe a PC and then reload the operating system
- Power on and power off the PC using Intel vPro technology
- Reimage PCs anytime, anywhere
- Manage and monitor PCs

Once the new operating system is deployed, the Atos team—or the organization's administrators—can use Intel vPro technology to deploy critical patches and other updates across the enterprise. Updates are not limited to application and Windows updates; administrators also can modify or update BIOS settings. By integrating System Center Configuration Manager with PCs using Intel vPro technology, organizations can manage those systems throughout their entire lifecycle while minimizing the need for desktide assistance and support.

## Look ahead to evolving enterprise PC experiences

Today's enterprise PCs with 6th and 7th generation Intel Core vPro processors continue a steady progression toward delivering a user-centric computing experience. Future capabilities are expected to further enhance that experience.

Today's enterprise PCs capitalize on Intel® technologies to help employees collaborate while eliminating the mess of cords, dongles, docks and cables they must store and often carry around. For example, the Intel® Unite™ solution makes it easy to communicate and collaborate by using wireless connections to room displays. Teams can start meetings quickly and accelerate time to productivity. Multiple layers of security help safeguard sensitive data and intellectual property. Built to be vendor-neutral, Intel Unite enables organizations to integrate this solution with a broad array of other technologies.

Existing PCs also help eliminate excess cables at the desk. Intel® Wireless Docking with Intel Wireless Gigabit Ethernet technology lets users wirelessly connect to monitors and peripherals automatically when they take devices out of their bags and set them down.

Future PCs might help reduce the need for power cables. Instead of carrying around a bulky power brick, which is often thicker than the computer itself, users might be able to power devices simply by setting them on an enabled charging surface or mat. Intel continues to work with partners to consolidate wireless charging standards, which should help vendors produce safe, efficient and interoperable charging solutions.

Future PCs might help address additional hurdles that impede collaboration and productivity. New capabilities might help provide simple ways of discovering nearby coworkers, directly and securely connecting to devices, and using touch and gesture interfaces to ease sharing. Users could more easily send a file to a person across the table and link all of the touch-enabled devices in a room with the shared smart whiteboard to create a virtual workspace.

In addition, these PCs should help bring geographically remote colleagues closer together by providing high-fidelity audio, noise cancellation and clear HD-quality video. Integrated depth-sensing and 3-D cameras could remove distracting backgrounds and allow users to focus on conversations.

## Conclusion

Employee demands and enterprise needs are changing. Today's no-compromise, next-generation enterprise PCs with Intel Core vPro processors and Windows 10 help improve productivity, address enterprise IT requirements and meet employee expectations. These PCs offer outstanding performance, security, manageability, connectivity and responsiveness in a variety of form factors. In many cases, refreshing existing client systems with today's enterprise PCs helps organizations reduce costs.

Atos has the expertise to help plan and deploy enterprise PCs to meet your immediate and long-term requirements. We look forward to talking with you about your particular requirements, and helping you streamline solution deployment and management.

Atos Workplace Services are dynamic, comprehensive solutions designed to support the most demanding business needs, increase agility, facilitate collaboration and enhance the end-user experience while reducing operational costs. Based on industry-leading Intel technologies, Workplace Services help your organization move forward during an era of rapid transformation.

**For more information about Workplace Services, please visit:** [na.atos.net](http://na.atos.net).

**For more information on the Atos and Intel relationship, please visit:** <http://na.atos.net/en-us/home/we-are/partners/intel.html>

## Learn more

### Atos: Digital journey

<http://na.atos.net/en-us/home/digital-journey.html>

### Atos partners

<http://na.atos.net/en-us/home/we-are/partners/intel.html>

### Case study: Towers Watson improves PC support and management with Atos and Intel® vPro™ technology

<https://atos.net/wp-content/uploads/2016/06/atos-intel-towers-watson-case-study.pdf>

### White paper: Atos & Intel better together: Technology innovation, solutions and services

<http://na.atos.net/content/dam/na/documents/we-are/intel-and-atos-better-together-white-paper.PDF>

### Solution brief: Atos and Intel vPro technology

<https://na.atos.net/content/dam/na/documents/we-are/atos-intel-vpro-enabling-remote-solution-brief.PDF>

### Blog post: Tick Tock - Fuelling the customer experience through processing power

<http://ascent.atos.net/tick-tock-fuelling-customer-experience-processing-power/>

### Intel® Authenticate Solution

[intel.com/content/www/us/en/architecture-and-technology/authenticate/intel-authenticate-is-hardware-enhanced-security.html](http://intel.com/content/www/us/en/architecture-and-technology/authenticate/intel-authenticate-is-hardware-enhanced-security.html)

### Intel Ultrabook™ 2 in 1 Convertible—The Device of Choice

[intel.com/content/www/us/en/sponsors-of-tomorrow/ultrabook.html](http://intel.com/content/www/us/en/sponsors-of-tomorrow/ultrabook.html)

### Evaluating Ultrabook Devices for the Enterprise

[intel.com/content/www/us/en/it-management/intel-it-best-practices/evaluating-ultrabook-device-for-the-enterprise.html](http://intel.com/content/www/us/en/it-management/intel-it-best-practices/evaluating-ultrabook-device-for-the-enterprise.html)

### Ultrabook 2 in 1 TCO and Benefit Analysis

[intel.com/content/www/us/en/enterprise-mobility/vpro-ultrabook-convertible-tco-paper.html](http://intel.com/content/www/us/en/enterprise-mobility/vpro-ultrabook-convertible-tco-paper.html)

### Intel® Unite™

<https://www-ssl.intel.com/content/www/us/en/architecture-and-technology/unite/intel-unite-overview.html>

### Choosing the Right Intel® Processor-based Client System

[intel.com/content/www/us/en/processor-comparison/how-to-choose-the-right-processor.html](http://intel.com/content/www/us/en/processor-comparison/how-to-choose-the-right-processor.html)

### Microsoft Windows\* 10

[microsoft.com/en-us/windows/](http://microsoft.com/en-us/windows/)

### Windows 10 Keyboard Shortcuts

<https://support.microsoft.com/en-us/help/12445/windows-keyboard-shortcuts>

### Microsoft Continuum\*

<http://microsoft.com/en-us/windows/continuum>

### Microsoft servicing options

<https://technet.microsoft.com/de-de/itpro/windows/manage/introduction-to-windows-10-servicing>

<sup>1</sup> The Intel reference platform is an example new system. Products available from systems manufacturers will not be identical in design, and performance will vary. The Intel reference platform was equipped with the Intel® Core™ i5-6200U processor (turbo up to 3.4 GHz/3.2 GHz), 2C4T, 2 x 4 GB memory and Intel® Solid State Drive (Intel® SSD) storage, running Microsoft Windows\* 10. The five-year-old PC used an Intel® Core™ i5-5200M processor (1.06 GHz up to 1.86 GHz), 2C4T, on Acer Aspire™ 1830T with 4 GB memory, and a 500 GB hard drive, running Windows 7. Measured by SYSmark™ 2014, a benchmark from BAPCo\* consortium, which measures the performance of commonly used productivity applications, such as Microsoft Excel™ and Adobe Acrobat\*. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>2</sup> Measured using 3DMark™ 12.0 Cloud Gate for DX 10 graphics subtest—a 3-D graphics benchmark that measures 3-D gaming performance. The Intel reference platform was equipped with Intel Core i5-6200U, PL1=15W TDP, 2C4T, Turbo up to 3.4GHz/3.2GHz; memory: 2x4GB DDR4-2133; storage: Intel SSD; display resolution: 1920x1080; battery: 46 WHr; graphics driver: 15.40.4225. The five-year-old PC used an Intel Core i5-5200M processor (1.06GHz up to 1.86GHz, 2C4T, 3MB) measured on Acer\* Aspire 1830T; memory: 4GB DDR3 1600MHz; storage: 500GB hard drive; display: 11" 1366x768 resolution; battery: 63WHr. OS: Windows\* 7. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>3</sup> The features and benefits of Intel® technologies depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>4</sup> Measured by HD Video Battery Life Rundown (in minutes): "Tears of Steel," 1080p, 23.976fps, H264, 3000kbps, rev1mp4 >=150nit, DPST=ON, no dimming, balanced, Wi-Fi connected. Current. The Intel reference platform was equipped with the Intel Core i5-6200U, PL1=15W TDP, 2C4T, Turbo up to 3.4GHz/3.2GHz; memory: 2x4GB DDR4-2133; storage: Intel SSD; display resolution: 1920x1080; battery: 46 WHr; graphics driver: 15.40.4225. The five-year-old PC used an Intel Core i5-5200M processor (1.06GHz up to 1.86GHz, 2C4T, 3MB) measured on Acer\* Aspire 1830T; memory: 4GB DDR3 1600MHz; storage: 500GB 5400RPM SATA HDD; display: 11" 1366x768 resolution; battery: 63WHr. OS: Windows\* 7. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>5</sup> Measured based on projection for local 1080p video playback with 38 WHr battery. The Intel reference platform was equipped with Intel CRB, Intel Core M7-6Y75, PL1=4.5W TDP 1 PL1=4.5W TDP, 2C/4T, Turbo up to 3.1GHz/2.9GHz; memory: 2 x 2 GB LPDDR3-1600; storage: Intel SSD; display resolution: 1920x1080. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>6</sup> Intel® Core™ M processor-based detachable 2 in 1 compared with five-year-old thin and light notebook.

<sup>7</sup> No computer system can be absolutely secure.

<sup>8</sup> No computer system can be absolutely secure.

<sup>9</sup> Read how a global consulting firm improved PC support and management while reducing costs by activating Intel® vPro™ technology in its fleet of workstations: <https://atos.net/wp-content/uploads/2016/06/atos-intel-towers-watson-case-study.pdf>. Learn more about enhancing IT efficiency and improving responsiveness with Atos and Intel vPro technology: <https://na.atos.net/content/dam/na/documents/we-are/atos-intel-vpro-enabling-remote-solution-brief.PDF>.

<sup>10</sup> See "Windows\* 8 Store App - Connected Standby Whitepaper," <https://software.intel.com/en-us/articles/windows-8-store-app-connected-standby-whitepaper>.

<sup>11</sup> See <https://technet.microsoft.com/de-de/itpro/windows/manage/introduction-to-windows-10-servicing>

<sup>12</sup> Dell and Intel, "Future Workforce Study, Global Report," 2016, <http://futurereadyworkforce.dell.com/the-new-workforce-9am-to/>

<sup>13</sup> Measured based on projection for local 1080p video playback with 38 WHr battery. The Intel reference platform was equipped with Intel® CRB, Intel® Core™ M7-6Y75, PL1=4.5W TDP 1 PL1=4.5W TDP, 2C/4T, Turbo up to 3.1 GHz/2.9 GHz; memory: 2 x 2 GB LPDDR3-1600; storage: Intel SSD\*; display Resolution: 1920x1080. For more complete information visit <http://www.intel.com/benchmarks>

<sup>14</sup> For more information about MobileMark\* 2014, visit <https://bapco.com/products/mobilemark-2014/>.

<sup>15</sup> As compared to other PC I/O connection technologies including eSATA, USB and IEEE 1394 Firewire\*. Performance will vary depending on the specific hardware and software used. Must use a Thunderbolt™-enabled device.

<sup>16</sup> Estimated benefit of Intel® Speed Shift Technology on Intel® Core™ i5-6200. For more complete information visit <http://www.intel.com/benchmarks>.

<sup>17</sup> See "Windows\* 8 Store App - Connected Standby Whitepaper," <https://software.intel.com/en-us/articles/windows-8-store-app-connected-standby-whitepaper>.

<sup>18</sup> Verizon, "2016 Data Breach Investigations Report," <http://www.verizonenterprise.com/verizon-insights-lab/dbir/2016/>

<sup>19</sup> Ponemon Institute, "2016 Cost of Data Breach Study: Global Analysis," sponsored by IBM, <https://public.dhe.ibm.com/common/ssi/ecm/se/en/SEL03094wwen/SEL03094WWEN.PDF>

# About Atos

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Atos is focused on business technology that powers progress and helps organizations to create their firm of the future. It is the Worldwide Information Technology Partner for the Olympic & Paralympic Games and is listed on the Euronext Paris market. Atos operates under the brands Atos, Atos Consulting, Atos Worldgrid, Bull, Canopy, Unify and Worldline.

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