



## Executive Brief

# Enabling the Full Potential of Windows 10

Sponsored by: Intel

Andrew Buss  
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Maciej Gornicki

## IDC OPINION

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Business demands for greater productivity and innovation continue to be challenged by the IT service constraints of delivering mobile and flexible computing within a secure environment. This is typified by the deployment of modern form factors, such as tablets and 2-in-1 devices. Here, organizations have struggled to balance management, access, and security with changing user requirements, especially with the migration toward new mobile applications and web-based service environments.

Microsoft has sought to address these challenges through the development and deployment of its new operating system (OS), Windows 10. This focuses on a unified environment across PC, tablet, and mobile form factors, delivering seamless application experiences while maintaining secure access as one of its core features. By doing so, Microsoft is seeking to address the demands of the mobile-first and cloud-first strategies of the modern business, but a simple OS upgrade is only one element of this complex story.

With Windows 10 upgrades free to users of more recent Windows OS environments (7, 8.x), IDC survey data indicates that many businesses will upgrade part of their estate to this new OS within the next year. Without access to the modern hardware on which Windows 10 was built to run, however, many of the key features of the OS will fail to deliver their full benefits.

The new capabilities of Windows 10 – such as biometric authentication, universal application deployment, and a seamless app experience – demand the capabilities of a new generation of hardware to properly enable and support them. By its very nature, this needs to be across desktop PCs, notebook PCs, and tablets, as well as future support for smartphones as they become embedded in business processes. With the move to Windows 10, organizations have a chance to rethink and upgrade the client computing hardware base to support the benefits of moving to a new OS environment.

## IN THIS EXECUTIVE BRIEF

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This IDC Executive Brief uses recent research and IDC thinking to outline some of the challenges facing client computing, security, and compliance teams. In particular, it outlines how many of these challenges can be addressed through the deployment of Windows 10. It then looks at how well current hardware takes advantage of these core functions and features, concluding that for many organizations their current approach to hardware may well fall short of expectations.

## SITUATION OVERVIEW

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Organizations have struggled in recent years to find a balance between delivering efficiencies throughout the business with increases in productivity and output. They have also struggled to find a balance between opening up access to devices, applications, and services, while retaining secure environments that control both corporate data and users. It is these tensions that set the scene for many of the challenges facing IT decision makers today.

## Balancing the Challenge of Security

Security will always remain central to the wider deployment of IT services, but recent pressure in the form of consumerization, bring your own device (BYOD), and shadow IT strategies have challenged the balance of security and convenience. As a result, users have often circumvented hardware security policies, either migrating to their own choice of device, or installing their own applications or network options, in the form of unsecured WiFi, for example.

Some organizations have given in to the pressure from users to allow access to devices and web services, while others have doubled down on security and control. In both cases, IT departments are struggling to keep pace with mobilization, device evolution, and service innovation as individuals (and increasingly departments) continue to find ways to improve their productivity through the most appropriate device and application portfolios.

Finding a balance between the lock-down of devices and access to new technologies remains a challenge organizations need to address. In recent research by IDC in Europe, over half of respondents said that security issues and access risks were the greatest challenge to tablet adoption facing their firm. Indeed, when challenged on addressing this, 40% said they were currently looking for biometrics and encryption capabilities to address these security issues. The reality is that hardware enhanced security, where the device itself performs authentication and access control, is one of the most significant challenges organizations need to overcome.

## Requirement on Manageability

The security challenge is heightened by many organizations being forced to manage different devices and applications in isolation. These "siloed" approaches to device deployment and security not only increase the difficulty of the management tasks facing organizations, but also impact negatively on the productivity advantages they are looking to gain. Simply using different applications in desktop environments, compared with tablet and smartphone environments, not only creates user confusion but also creates integration, security, and management headaches across the business.

Perhaps more significant is the challenge of ensuring that all individual users and devices have up-to-date software and security running consistently across various devices, operating systems, and versions. In addition, all of this needs to be managed throughout the life cycle of the device, at the same time balancing continuous updates with stability. The demand for remote configuration, remote security monitoring, and the ability to manage devices even when they are powered down is forever present.

Many employees are seeking out new consumer smart devices and applications on their own, driven by the perception that enterprise provisioned devices are falling behind the curve. They are demanding app store capability and self-service to corporate apps, but to achieve this across such a complex and bewildering array of devices and operating systems is too much for some IT departments to comprehend.

## Device Deployment Does Not Directly Result in Productivity Improvements

While some organizations have restricted access to devices and applications, others have taken the opposite approach, with management believing that access to new devices and applications will have direct improvements on productivity alone. As a result, organizations have quickly deployed desktop and notebook PCs, tablets, and smartphone devices (often all at the same time) and expected improvements in performance to follow. In Europe, IDC research found that two-thirds of organizations are planning to deploy tablets and 2-in-1 devices in the coming 24 months, taking penetration from 6% in 2014 to 15% in 2018.

While a number of organizations have been quick to deploy tablets as additional devices, the reality is that integration of such devices needs to be appropriate to productivity requirements. Individuals (and indeed organizations) require devices and applications that fulfil specific roles, where tasks are better performed on devices with appropriate input methods, screen sizes, and sector-relevant peripherals.

As a result, organizations looking to the future need to provide a computing environment that is consistent across both the desktop or notebook application portfolio as well as those for mobile or tablets. Windows 10 and hardware designed to support this can help unify the two environments.

## 2-in-1 Tablet Deployment: Opportunity and Challenge

One solution to the challenge of directly addressing productivity is the deployment of 2-in-1 tablet devices. Such devices provide users with a keyboard operated devices, which when removed continues to operate as a touchscreen, but in slate tablet format. Such devices can be operated within a "desk-bound" environment, connecting to a keyboard and mouse for input and to standard PC peripherals such as large flat-screen monitors. This makes them a full PC able to run the complete portfolio of Windows desktop applications without compromise. When detached from the keyboard, the 2-in-1 device converts to a touch-centric interface allowing a new breed of applications to be used. With the release of essential productivity apps that support this mode, including Office mobile apps, this capability is becoming more useful and attractive.

IDC has forecast this worldwide market to reach 14.7 million units shipped in 2015, growing by some 86.5% this year. It is then forecast to grow to 40.3 million units in 2019, a significant market development driven by increasing user demand and the far more compelling business case that 2-in-1s offer organizations compared with traditional slate tablets. With some 40 vendors now shipping detachable devices, 41% of U.S. buyers and 43% in Europe were expecting to procure 2-in-1s in the coming year, with the majority of these respondents anticipating that 2-in-1s would replace both notebook and tablet devices within their user base in future as adoption ramps up. In Asia/Pacific, 31% of respondents indicated that they have already purchased, or intend to purchase within the next year, 2-in-1 laptops.

The rapid development of devices in this market is setting expectations for employees looking to perform similar tasks in a mobile environment as they can at a desk. More specifically, they are looking to perform these tasks in a way appropriate to the form factor (touch, voice, and stylus) in a consistent manner across devices. This challenge is heightened by the migration to cloud-first strategies as organizations migrate more of their systems and applications to web-based service environments. As a result, an increase in forms of access to corporate data places emphasis on maintaining consistency in user experience, all within a secure and compliant management wrap.

## Device Performance More Critical Than Ever

The demands of device performance and capability are also gaining in complexity. The balance between performance and battery life, for example, is driving thinking around which device is best to perform which task. Equally, organizations have experimented with biometrics as a way to secure both device access and applications, service, and network authentication. All too often, however, devices have failed to address the complexities of deployment and management of these various approaches.

What is painfully apparent is that whatever works now is also likely to be superseded in 12 to 24 months' time. IT decision makers need an eye to the future, while addressing the challenges of the everyday. The way to achieve this is to set a foundation of capability built on the way the organization would like to work, with the ability to continue to evolve and upgrade easily and at scale.

## Can Windows 10 Address These Challenges?

Windows 10 has the potential to address many of the challenges outlined above, delivering continuous updates to users, while enhancing management capability and performance for both IT departments

and employees. As users migrate toward this new OS environment and as Microsoft phases out sales and support for Windows 7 and 8.1 in the coming years, IDC predicts that Windows 10 will represent 42% of the total installed base by 2018. Recent research in Europe shows a significant intention for organizations to move quickly to Windows 10, with 40% planning to do so in the next 12 months within their PC estates.

While global PC shipments are forecast to fall 6.2% in 2015, IDC believes this is partly due to the channel reducing inventory in anticipation of the release of Windows 10, as well as the growing interest in 2-in-1 and hybrid-style devices.

## Full Advantage of Windows 10 Only Comes with Modern Hardware

While Windows 10 will run on existing hardware that already runs Windows 7 or 8.x, older PCs and notebooks lack the modern features needed to take full advantage of the capabilities of this new OS environment. The lack of adequate cameras, microphones, and touchscreen capability on previous generations of PCs will limit the functionality of notebook and desktop devices. From a management perspective, tablet deployments based on non-Windows devices will result in a separate device and app ecosystem, creating even greater complexity. Furthermore, the potential security features and enhanced capability that modern hardware and Windows 10 offer, enabling IT departments to manage and secure PCs, workstations, and entry-level servers, may be lost.

While many organizations will want to hold off migrating to Windows 10, having recently completed a move to Windows 7 from Windows XP, those wishing to pursue tablet, 2-in-1, and further mobilization strategies will be left with an increasingly disjointed and complex range of devices, OS environments, and application management. Such a challenge will also be driven by the increasing requirement to unify desk-based, tablet, and mobile application usage. In the U.S., for example, Office 365 adoption among SMBs is forecast to reach 30% this year, demonstrating a significant shift toward a cloud-first mindset within the midmarket.

In response, organizations need to consider the additional benefits that modern hardware designs engineered specifically for the new capabilities of Windows 10 can bring to addressing key challenges to the business and maximizing the real benefits of migrating to Windows 10.

## Devices Will Drive Productivity, but Only the Right Devices

Windows 8 provided users with an OS for PCs and tablets and another for phones, with a different code base and applications running in isolation to one another. Windows 10 takes the integration of these two environments to another level, offering a seamless environment in the delivery of applications across devices. This provides users with a similar device-appropriate experience, whether they are operating a PC, notebook, tablet, or smartphone.

Perhaps the biggest productivity enhancement is the in-use adaptability of this approach. Using Microsoft Continuum, 2-in-1 tablets are able to switch between keyboard and mouse oriented desktop mode when connected to a keyboard and a touch-centric tablet mode when undocked. Not only is this migration seamless, it also moves the device between input methods, switching to optimized apps if available while allowing full access to existing desktop applications. As a result, Continuum adjusts the user experience to the activity, device, or display, reconfiguring menu structures and taskbars, as well as adapting to different input methods for easy navigation.

The new generation of Windows 10 PCs, tablets, and smartphones will run Continuum by default, allowing them to connect to nearby screens through WiDi technology. This will deliver tablet or smartphone-based apps onto monitors and projectors, and easily extend PCs and notebooks into presentation screens and projectors. Not only does Continuum ensure the application is reportioned to the screen size and resolution, it enables all devices to run a larger-scale version of the app, acting as a touchscreen input device and mouse.

Equally, the additional functionality of wireless display technologies and wireless docking, through Intel Pro Wireless Display and Intel Wireless docking, transforms the capabilities of modern hardware while maximizing the potential of Windows 10 as a productivity enhancement tool. Notebooks, tablets, and smartphone devices become even more flexible outside the office and, more critically, within office environments. This level of integration empowers all Windows 10 devices across a range of scenarios and user situations, making them far more interconnected and relevant to the modern workforce.

Despite clear advantages, the critical observation here is that without up-to-date hardware much of the capability and productivity delivered by Windows 10 will be lost. This is never more so than in the deployment and use of 2-in-1 devices, which hold so much productivity potential for users.

## Application Management and Delivery More Critical Than Ever

The Windows 10 application environment also enables the creation of corporate application stores and approved app lists, again delivering productivity into the hands of the users demanding it. This can be tied together with Microsoft's Universal Application Platform, extending the reach of apps to all Windows devices regardless of form factor or underlying processor.

Managing this approach across a range of OS environments, devices, and form factors is often a step too far for many organizations. An integrated and increasingly well managed approach to application deployment, however, has significant advantages to enterprise security.

In the midmarket, Windows 10 is also a logical step to providing SMBs with more than just an OS environment for running apps. Over time it will allow SMB IT managers to provision and deploy office apps from a central storefront across multiple endpoints. It also has the potential to accelerate SMB IT transformation from an on-premises model driven by servers and PCs, to one that is more flexible and innovative and driven by hosted infrastructure, cross-platform compatible apps, and mobile devices. The true advantages of this, however, will again only be realized in an environment of appropriate hardware, such as Intel Active Management. Here, integrated platform technologies can be integrated with third-party management and security applications.

## Security Advantages Require a Rethink in Hardware Strategy

Windows 10 offers organizations a simple but compelling solution through the use of biometric sign-in under the banner of Windows Hello. This technology enables users to authenticate devices through facial recognition, iris scans, and fingerprint readers, taking full advantage of whole device and hardware-based encryption.

Once authenticated, Windows Hello links with Microsoft Passport to enable the device (PC, tablet, or smartphone) to further authenticate the user across applications, web services, and enterprise content. This ensures that passwords are never stored on the device or server and never transferred across networks. This delivers high levels of security, with the ease and usability of simple biometrics. As a result, users can also take advantage of Azure AD, Microsoft's multitenant cloud-based directory and identity management service. This allows biometric sign-on to further authenticate through single sign-on to thousands of cloud-based applications.

To take real advantage of Windows Hello requires the use of specialist hardware such as Intel Red Sense infrared cameras, 3D camera technology, or through illuminated infrared sensors and fingerprint scanners, for example. Again, such advances in access technology require organizations to rethink their hardware strategies or loosen their BYOD policies as part of the organization's wider IT services strategy.

Similarly, the device manageability aspects of Windows 10 are far more powerful when combined with modern hardware. Improvements to Intel vPro technology, for example, enable IT departments to better discover, repair, and protect a range of devices running across their networks. This not only enables the remote management, troubleshooting, and recovery of devices, but also remote

configuration and presence checking of devices wherever they reside. While these features are central to corporate-owned and managed devices, they are critical to devices brought into the organization from outside, or employee-liable devices used for corporate work. Ensuring that these are able to take full advantage of the security features of Windows 10 is paramount for successful BYOD strategies.

## Wider Advantages

To benefit from the wider advantages of the Windows 10 OS, organizations will need to rethink their hardware strategies, whether that be improvements to microphones and speakers (to take advantage of the embedded Cortana personal assistant) or the use of better keyboard and mouse peripherals that can extend the capabilities of tablets, 2-in-1s, and smartphones. Looking to the future, Microsoft's virtual reality hardware headset, HoloLens, and the collaborative screen technology Surface Hub are also key considerations in the migration to Windows 10. Both have the ability to bring collaboration into a new era and realize the potential of the workforce in ways never imagined before.

## CONCLUSION

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The development of Windows 10 has been centered on the challenges facing many organizations across the globe. Its focus on productivity enhancements, security, application management, screen connectivity, and innovation is evident, but many of the features and much of the functionality and potential have been designed to run on the latest hardware, also designed to enable the modern business.

Microsoft's strategy of offering Windows 10 to current OS users makes it tempting to maintain existing hardware as part of this upgrade. What is also evident, however, is that deploying such a powerful OS environment on existing devices will fall short of fully addressing the challenges outlined in this paper. In short, this approach is essentially risking the potential competitive advantage Windows 10 could bring to the organization.

As a result, it is up to IT service delivery teams to explore wider device strategies, whether detachable 2-in-1s, wider tablets and notebooks, or a smartphone refresh. By creating a universal hardware and software environment, organizations will be able to create minimal disconnect between devices while also supporting an integrated working environment, as well as a common user experience across the workforce. This will not only drive innovation within organizations, but will also drive low-cost innovation that scales.

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## Global Headquarters

5 Speen Street  
Framingham, MA 01701  
USA  
508.872.8200  
Twitter: @IDC  
[idc-insights-community.com](http://idc-insights-community.com)  
[www.idc.com](http://www.idc.com)

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