Windows 10 – Worth The Upgrade Effort?

**Point of View**

**Abstract**
Windows 10 offers a single, highly secure platform across many devices and enables IT to leverage current investments, simplify application development and smooth traditional deployment peaks. This paper, written for CIOs, CTOs and other IT leaders, sets out why an upgrade to Windows 10 is worth undertaking.

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We welcome your feedback on this paper. Please send your comments to the Microsoft Services Enterprise Strategy team: stephmet@microsoft.com.
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1 Introduction

The technology available in our work lives used to influence us at home. Now it’s the other way round – people are bringing their expectations to work based on their personal devices and app experiences.

Traditionally, IT departments upgrade software when the currently installed version approaches, or has passed, its end of life. Few enterprise users get excited about this. The improvements to their experience, even on day one of that new upgrade, are often still behind what they are used to on their home devices. Employees are also consumers and run modern systems on modern devices, such as Windows 8.1, iOS or Android when away from their workplace. These users enjoy the most up to date features and security. As a result, many carry two phones and characterise their work-life separation by the device in front of them. For the first time, however, enterprise users can get excited about their user experience ‘at work’ and be confident that it is, and will remain, at the leading edge of technology and interface design. Similarly, users who blend their work and personal lives on the same Windows 10-based device can now keep business and pleasure securely separated. Many IT leaders receive negative feedback from their user base about the services they receive. Their desktop operating system is, to many users, the ‘face’ of IT and presenting this face in a modern and innovative way can help in starting to change their perceptions about the IT organisation that provides it.

This paper, written for CIOs, CTOs and other IT leaders, sets out why an upgrade to Windows 10 is worth undertaking. Windows 10 offers a single platform across many devices, minimising management and deployment complexity across form factors, as well as enabling IT to leverage current investments, speed up application development and smooth the traditional deployment peaks where activity and cost have risen significantly. It heralds the start of a new, more streamlined method of delivering updates and functionality: Windows as a Service, designed to take much of the pain of deployment and maintenance off the IT department.

Windows 10 is not just the operating system that follows Windows 8.1. It is a new User Experience: designed to be fresh yet familiar; cross-device; personal and natural. It was running on over 75 million devices within one month of its launch, with the vast majority very satisfied with it. Windows 10 lights up existing devices, making it a great option for customers who aren’t yet ready for a hardware refresh, but also runs successfully on devices that are ancient by today’s standards. Customers who are looking at buying new devices can take advantage of features like Device Guard that offers the latest benefits of hardware-based security, while Windows Hello saves money and improves security by enabling simple and integrated log-in via face recognition or fingerprint scanning instead of traditional passwords that are often forgotten and more easily compromised.

The blend of an always up-to-date client estate; end user familiarity; protection of current investments; non-disruptive deployment; application compatibility across devices and the latest security technology make Windows 10 a desirable, cost-effective way forward. In combination with Microsoft’s Enterprise Mobility Suite (EMS), Windows 10 offers a genuinely new client experience in security, usability and manageability. The remainder of this paper explores these areas in more detail.

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1 For example, Windows 7 was released in 2009.
2 Can I keep IT current and avoid disruption?

While software upgrades have usually offered enticing new functionality – and Windows 10 is no exception! – technology adoption has traditionally been slowed by compatibility, complexity and cost issues. Modern security threats require customers to rapidly deploy updates but too many tools and fragmented solutions have made this onerous.

It is easy to see Windows 10 as just another expensive IT deployment for no perceivable benefit other than to "stay current," but this misses the point: while the release of the operating system is indeed named “Windows 10,” this nomenclature will become increasingly irrelevant. The question “What version are you on?” will cease to make sense as increments to Windows will be delivered as controlled updates across an entire ecosystem of platforms and devices rather than the wholesale ‘rip and replace’ as used to be the case. In an age where applications, such as Microsoft Office, are increasingly being delivered via cloud services like Office 365 and require the client devices to be on a certain version, this approach relieves IT departments of one of their major headaches – keeping current.

Deployment has typically been a cumbersome, expensive task of re-imaging an OEM’s build with a ‘gold’ corporate standard. Similarly, users often reject change for fear of their productivity being disrupted. While traditional upgrade paths are still available, the new Windows 10 In-Place Upgrade process (which enterprises may deploy with SCCM) addresses this concern. A user device can be upgraded without any user data and settings being moved, which means the process is fast and the user productive more rapidly. In addition, Dynamic Provisioning allows an organisation to buy a generic, stock machine with a vanilla image and then apply ‘provisioning packages’ containing all the personalised apps and policies over the top of it.

Once a device is upgraded to Windows 10, Microsoft will continue to keep it current for the supported lifetime of the device, at no extra cost. New features will be delivered when ready, not waiting for the next major release. "Windows as a Service" – likely to be one of the largest Internet services in the world – will deliver updates when ready and tested, but at a pace wholly controlled by the organisation. A by-product of this approach is that users are able to learn and adapt to new functionality in manageable chunks instead of a major upheaval that may require dedicated training sessions.

Businesses require choice in how updates are delivered and at what pace, rather than relying on a one size fits all solution. They will be able to opt-in to the fast-moving consumer update pace; lock-down mission critical environments to receive only security and critical updates; and / or keep pace with the latest innovations while having the benefit to install updates after they have been tested in the broad market. We expect most corporations will require a mix of these options to accommodate their business scenarios. For example, an investment bank may choose to deliver only security updates to its mission-critical systems on the trading floor, whereas mobile devices for financial advisors are kept up to date with the latest feature innovations. However, customers do have the option to connect to Windows Update and be kept up-to-date with the latest security and productivity improvements as soon as they are available.

This approach can smooth or eliminate traditional investment peaks, thus helping capex planning. It can also enable organisations that rely on third parties to provide their end user computing to gain the benefits of innovations more rapidly.
3 How quickly will my users adjust?

Windows 10 is designed to enable users to achieve more, but a new client operating system has traditionally left leaders asking whether their users will adjust and adopt those new features.

Windows 10 is designed so users are experts from day one. It blends the best of Windows 7 & 8.1 in a fresh, yet familiar interface. Users of Windows 7 will find the Start menu in the same location. Users of Windows 8.1 will find the live tiles from their Start screen, accessible by the Start button. Users can quickly access that which is important and group work in the way that makes most sense to them personally with features such as the Virtual Desktop and Snap.

The focus of Windows 10 is on users and their computer-enabled experiences instead of devices or platforms. The recent appearance of Microsoft’s corporate vice-president for Office 365 at an Apple product launch is testament to this user experience focus. Regardless of the device type, form factor and device ownership, users have a consistent, optimised experience with Windows 10. For example, users with 2-in-1 devices can simply fold the keyboard away and switch from mouse and keyboard to touch / tablet mode (and back again). The millions of users in the Insider Programme ensured that Windows 10 was the best blend of Windows 7 and 8.1 and this familiar, intuitive, natural interface avoids the upheaval of training and adoption usually associated with previous upgrades.

In a world where information is increasing commoditised and human attention is increasingly precious, Windows 10 has a range of personalisation features that make the user experience more intuitive and natural. The Start Menu may be tailored to each user and this personalisation moves with the person, giving a consistent experience across devices. Field and task workers who share devices will find this a major productivity aid.

5 See Familiarity in Windows 10.
Similarly, organisations may gather apps from various stores, such as the Windows Store, Google Play and the Apple App Store into their own ‘business store’ thus providing employees with a one stop shop for apps that are most relevant to them.

The Universal App is another demonstration of this focus on user experience. Developers can easily adapt the user experience based on the laptop, tablet, phone and a myriad of upcoming other devices (see below). Users get an optimised experience on multiple platforms, such as iOS, Android and Windows, across different devices and form factors, such as 2-in-1, Surface, Lumia, HoloLens, Xbox and Surface Hub, as the result of this feature.

More information on Universal Apps and the new Edge browser may be found on page 7.
4 What about my current investments?

4.1 Applications

4.1.1 Compatibility

There is very good compatibility between Windows 7, 8.1 and Windows 10 and this will continue for future releases. Similarly, the tools in IE11 such as the Site Discovery Toolkit and Enterprise Mode assist greatly with browser-based app remediation. IE11’s Enterprise Mode can help identify web sites and applications that require remediation by ‘crowd-sourcing’ problem sites into a consolidated list that is managed by the IT department, thus easing application compatibility issues.

Microsoft can support you on your client and application migration journey to Windows 10 by providing offerings such as those on page 12 which allow you to evaluate compatibility issues and provide remediation techniques.

4.1.2 Universal Apps

Universal Applications give a consistent user experience across the full range of devices that use Windows 10. An application developed in-house for staff or customers can work on a tablet, PC, phone or Xbox One while adjusting its user interface to give an optimal experience on each form. In combination with Continuum (below), investment in a single, universal app will help employees work more easily as they move from desk work to mobile scenarios with line-of-business applications, while customers can interact with your organisation in their preferred way and on their favourite devices.

4.1.3 Continuum

Continuum is a new application presentation structure that allows not just individual applications but the entire user experience to dynamically adjust to exploit the capabilities of the devices available to the user at any time. A device with a foldaway or detachable keyboard can switch from tablet style interaction through touch and gestures to a more traditional laptop style as and when the keyboard and mouse become available. This even extends to Windows Phone 10: if, say, a keyboard, mouse and larger screen are attached, a mini-PC can be created.

In short, the era of carrying multiple device formats for specific purposes is coming to an end. For some users a phone may be all that is needed, whilst others may still want to carry a larger device. Both groups of users can make use of a new style of hot desk that provides just a keyboard, mouse and screen to support a wide range of device sizes and styles.
4.2 Internet Explorer 11 and Edge Browser

Many of the applications used to conduct business run in a browser, whether written internally or by external parties.

Microsoft Edge is the new, default web browser for Windows 10. Edge enables users to actively engage with the web through features like Web Note, Reading View and Cortana integration. In Reading mode, Edge enables maximum user focus by adjusting the background to be softer, the font to be larger and extraneous information to be hidden. Whilst browsing, users can create shareable annotations using a pen or even their fingers.

Internet Explorer 11 is the latest version of the browser that Microsoft has traditionally provided for earlier versions of Windows. If applications need certain legacy features, such as ActiveX, then it is recommended that IE11 is used which provides extensive backwards compatibility. Using IE11’s ‘Enterprise Mode,’ intranet sites that are known to require an older rendering mode can be set to automatically open using IE11, even if Edge is the default browser.

4.3 Systems Management

Support of mobile devices is around 17% of helpdesk costs, with estimated hardware costs of mobile devices at $333/device. Ultimately, all Windows 10 devices (not just those deemed “mobile”) will move to a single MDM platform, including the desktop. Investment will continue in traditional tools and methods such as SCCM and Group Policy etc., but the future will be simplified.

Intune, Microsoft’s cloud-based MDM solution, is offered as part of the Enterprise Mobility Suite (EMS) which includes Azure Active Directory and Rights Management Services.

4.4 Azure Active Directory

Additional functionality is enabled in Windows 10 when combined with Azure AD. For example, corporate-owned devices such as mobile phones can be configured out-of-the-box, without IT involvement, and automatically enrolled in your organisation’s mobile device management solution such as Microsoft Intune or a third party MDM.

Users will also benefit from a single sign-on (SSO) from the Windows desktop to apps and resources in the cloud, such as Office 365 and other business applications that rely on Azure AD for authentication. Similarly, Windows 10 PC’s and tablets that are joined to Azure AD can also enjoy SSO to on-premises resources. This “AD Join” will also work on devices that do not have the traditional “domain join” capabilities. It gives users improved roaming benefits such as the synchronisation of their OS settings, desktop wallpaper, tile configuration and websites too.

These capabilities can aid your organisation’s journey to the Cloud and facilitate new ways of interacting with citizens, clients and customers to enable better service and faster, richer insight.

As noted above, Azure AD is offered as part of the Enterprise Mobility Suite (EMS).

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6 Gartner: Use TCO to Assess Choices in Devices, Support Policies and Management Approaches, November 4, 2014
5 How can I ensure my company is secure?

5.1 Passwords

Nowadays, mischief-makers and credit card hackers are the least of any company’s security worries. Organised criminals and state-sponsored cyber-espionage are far more formidable threats. The average cost of cybercrime per company in the US was $12.7 million in 2014; and the New York Times reported that 1.2 billion usernames and passwords were recently stolen by a single cybercrime organisation – in theory, two thirds of all online users. The Ponemon Institute’s 2015 Cost of Data Breach Study, reports that the average total cost for a single data breach is $3.8 million. On a per record basis, the report found that the average cost for each stolen record rose by 6 percent in the last year from $145 to $154.

The cost of keeping end user devices up to date and secure is put at between $146 and $188 per device per year. Windows as a Service and specifically Windows Update for Business helps to reduce the management costs incurred, but new hardware-based, multi-factor solutions enable a far more secure defence. However, these have historically have been very costly to implement and cumbersome to use. Windows 10 is designed to make multi-factor authentication cheap and effortless with two new features: Microsoft Passport and Windows Hello.

Microsoft Passport is a new approach to certificate-based authentication that supports many multi-factor credential options and takes much of the complexity out of implementation and deployment. Windows Hello offers the biometric portion of multi-factor authentication so users with the pre-requisite hardware features can use their face, iris or fingerprint to unlock their device. Windows 10 also offers Secure Boot Device Guard which allows IT departments to govern what runs on a device using technology tested on the Xbox One. This means apps need to be explicitly signed by a trusted authority before they can be run on a Device Guard-enabled device.

5.2 Enterprise Data Protection

BitLocker has become an industry leading technology that protects data while it resides on a device; however, once the data leaves the device it is no longer protected. With the increase of employee-owned devices in the enterprise, accidental data disclosure through apps and services that are outside of the enterprise’s control like email, social media and the public cloud increases. Corporate data leakage incurred an average cost of $640,000 per company per year, a 23% increase in the last 12 months.

To protect data when it leaves the device, Azure Rights Management services and Information Rights Management (IRM) in Microsoft Office typically require the user to opt-in to activate the protection. This leaves companies with a gap if users aren’t as diligent as required.

Many existing solutions try to address this issue by requiring employees to switch between personal and work containers and apps, which often leads to a less than optimal user experience. Enterprise Data Protection (EDP) offers a better user experience, while helping to better separate and protect enterprise apps.

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8 See http://www.nytimes.com/2014/08/06/technology/russian-gang-said-to-amass-more-than-a-billion-stolen-internet-credentials.html?_r=1
9 http://www-03.ibm.com/security/data-breach/
10 Gartner: Use TCO to Assess Choices in Devices, Support Policies and Management Approaches Published: 4 November 2014.
11 See https://www.youtube.com/watch?v=XtWk9Ff7lh8 for a video demonstrating these new features.
and data across both company and personal devices without requiring changes in environments or applications. Additionally, EDP, when used with Rights Management Services (RMS), can help protect enterprise data locally, persisting that protection even when the data ‘roams’ or is shared, such as via email. Rights Management Service is offered as part of the Enterprise Mobility Suite (EMS) which includes Intune for mobile device management and Azure Active Directory.

Protection of corporate data in Windows 10 enables automatic encryption of corporate apps, data, email, website content and other sensitive information, as it arrives on the device from corporate network locations. When users create new content, this data protection solution helps them define which documents are corporate versus personal. If desired, companies can even designate all new content created on the device as corporate by policy. Additional policies can also prevent data from being copied to non-corporate documents or external locations on the web such as social networks.

5.3 Secure Remote Access

Windows 10 allows connectivity to critical data and apps by giving a spectrum of VPN control options. App-allow and app-denial lists enable IT professionals to define which apps are authorised to access the VPN and can be managed through MDM solutions for both desktop and universal apps. For administrators requiring more granular control, they can further restrict access by specific ports or IP addresses. These enhancements allow enterprise IT professionals to balance the need for access, with the need for security and control.
6 How can I manage vast numbers of users?

Azure Active Directory helps organisations that have a large number of users, especially where they are remote or change rapidly, to manage their own IT experience. Azure AD enhances a number of scenarios and provides services that can be used not only with Windows 10, but with any device or service that can employ Azure AD identity services.

Azure AD is offered as part of the Enterprise Mobility Suite (EMS) which includes Intune for mobile device management and Right Management Services for securing content and files.

6.1 ‘Choose your own device’

Even if users are provisioned in an on-premises directory, they can get a simplified joining experience for Windows 10 devices that they purchase themselves. Administrators can still take advantage of the automatic MDM enrolment and conditional access offered by Azure AD, while users get single sign-on to Azure AD-backed and on-premises resources too.

6.2 Apps and resources that are largely in the cloud

If you are moving your organisation to the cloud to some degree and using SaaS apps like Office365 for productivity, consider employing Azure AD Join. Employees can join their Windows 10 devices to Azure AD during the first-run experience or from System Settings. Signing into Windows 10 using Azure AD credentials enables single sign-on to Office365 and any other applications that use Azure AD for authentication.

6.3 Self-service password reset

Organisations of all sizes spend more than they would like to helping users recover forgotten passwords and is estimated to be up to 30% of a helpdesk’s overall costs, with an estimated $25 per incident.13 While organisations move to the new Windows 10 features of Windows Hello and Microsoft Passport (see page 9), users lose valuable working time while unable to access domain resources which can cascade into poor customer experiences if staff such as remote service engineers are affected. Self-service password reset works to restore access to a range of services including Office 365 tenants as well as to primary productivity devices such as a Windows 10 tablet. Password reset by the individual can use additional authentication mechanisms such as a registered mobile phone or alternate email address to verify identity.

13 Gartner: Use TCO to Assess Choices in Devices, Support Policies and Management Approaches Published: 4 November 2014
7 How can Microsoft help?

Microsoft has a broad range of enterprise capabilities that can help you deliver the experiences your clients, employees and partners expect.

7.1 Migration and Application Compatibility

In terms of application compatibility with Windows 10, the following offerings may be of interest.

7.1.1 Microsoft Browser Migration PoC

This two-day engagement is designed to help customers gain an understanding of the migration process to IE11 and thus ensure a smooth transition to Windows 10 for browser based applications. The PoC includes a set of workshops and labs targeted to IT Professionals and Developers. Within the workshops, IT subject matter experts will learn how to evaluate compatibility issues along with remediation techniques in hands-on labs.

7.1.2 Windows 10 Enterprise PoC

This five-day engagement includes a series of briefings on technical topics with hands-on lab activities to evaluate Windows 10 enterprise capabilities and includes a lab on browser application compatibility.

7.1.3 Windows 10 Enterprise Pilot

This offering is designed to help customers get to Windows 10 in a rapid 10-week production pilot which covers the design, deploy and migration phases for up to 500 devices.

7.2 Microsoft Services

Microsoft has a Services arm that delivers full lifecycle services, including Assessment, Architecture and Planning, Application Compatibility and Change Management Services. Microsoft Services can offer:

- Assistance to customers in developing IT skills to assist with configuration, optimisation and stabilisation, resulting in accelerated time to value at a competitive price;
- Its unique position to provide device policy recommendations, strategies, planning and implementation/stabilisation guidance, based on proven recommended practices throughout the entire lifecycle;
- Assistance in creating a central, integrated system for managing all PCs, devices and people across the business from a single, unified console;
- The delivery of “anywhere working” capabilities with solutions that span tablets, phones and computers. These solutions include iOS and Android device management; and
- Recommended proven best practices and customer knowledge transfer gained from having assisted in the design, development and implementation of mobility solutions for customers around the world.

Microsoft Services also has a variety of packaged offerings specific to device management and related services, including:

- Business Strategy and Planning
Envisioning Workshop
Dynamic Identity Framework Identity Assessment
Solution Architecture and Design
Modern Application Services
Value Realisation

For more information about Consulting and Support solutions from Microsoft, please contact your Microsoft representative or visit https://www.microsoft.com/en-us/microsoftservices/

In summary, Windows 10 offers compelling reasons for its deployment across a client estate. Secure assets on evergreen devices, managed and upgraded in a non-disruptive manner, accompanied by end user familiarity and high application compatibility, make it a desirable, cost-effective way forward. In combination with Microsoft’s Enterprise Mobility Suite (EMS), Windows 10 offers a genuinely new experience in security, productivity and manageability.

We hope you found this short white paper on Windows 10 informative and useful.