IT Implications of BYOD in the Cloud Era

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Introduction

Taking a close look at the modern employee reveals tremendous changes that are transforming the working environment. Mega trends such as cloud computing, mobility, bring your own device (BYOD) and cyber security are accelerating the adoption of a variety of IT technologies to address the business needs and challenges arising in today's workplace.

Today, employees work from multiple locations; the corporate office, home-office and on-the-go. They use multiple devices, and store data on many different clouds. Above all, employees expect that while they work from their comfort zone, their user experience remains natural and smooth, regardless of the conditions, device or location.

Industry research firm Forrester refers to the modern corporate personal computing environment as 'digital workspace delivery systems,' a blend of technologies that provides optimal user experiences for Microsoft Windows-based desktops and applications across devices, locations, and work styles. Similarly, Gartner refers to this corporate environment as a 'Unified Workspace,' which enables a secure delivery of the right applications, desktop and data to the right user, on the right devices, at the right time, to the right location, and in the right format. IT organizations need to keep pace and balance accessibility, productivity and security, while maintaining centralized control.

In this white paper we will review the tools needed, and the agility required by IT organizations, in light of the developments in cloud computing and corporate workspace requirements. This document will also introduce Ericom's solutions for addressing the evolving challenges of BYOD and cloud computing.

Secure Mobility and BYOD

BYOD (Bring Your Own Device) represents a 'new normal,' not only in the IT industry but in the wider business world, revolutionizing the way organizations operate and how employees work. While BYOD presents some challenges, it is effectively ushering in a new era of flexibility and efficiency that far outweighs the short-term logistical issues.

BYOD's roots lie in the evolution and widespread adoption of smartphones and tablets, and the emergence of a mobile work culture. Today's employees regularly work at home, at the office and on-the-go, and expect to have access to corporate resources from anywhere and using any device. As stated by Forrester, the existing corporate environment has become a mix of legacy Windows, client/server, cloud-hosted, and native apps, and a wider array of devices and operating systems, which is no longer well-suited to the evolving mobile workforce.

Moreover, mobile adoption is still on the rise and projections forecast that this growth will continue unabated for some time to come. In fact, people are spending more and more time using smartphones and tablets for both personal and business-related tasks, and the boundaries between home and work are becoming blurred.

The Promise of BYOD

The growth in mobile usage means an increased variety and volume of end-user devices are being brought into the workplace. Indeed, Gartner specifies that 40% of organizations worldwide currently support some sort of a BYOD program. A comprehensive BYOD strategy carries the promise of reducing end-user computing costs in the long run. This is because BYOD helps organizations increase employee productivity by letting them catch up on work even when they're not at their desk, while also reducing or eliminating many of the costs associated with corporate-owned devices.

Yet many organizations have been somewhat reluctant to support this trend. And indeed, the research indicates that the total cost of ownership (TCO) in a BYOD environment is quite similar to that of corporate-owned programs. Instead, Gartner research has shown that one of the primary benefits of a BYOD program is its impact on employee satisfaction. By enabling users to work from their device of choice, employers are seeing improvements in employee engagement, productivity and retention. Thus, although the costs of BYOD may be on par with other existing end-user computing strategies, the opportunity for gains is far greater.

BYOD Challenges

The rising popularity of BYOD presents a number of challenges for IT departments that are already struggling to address evolving end-user requirements:

- **Security** – Personal devices that are connected to networks present vulnerabilities and are more difficult to secure than devices that operate exclusively within the firewall.

- **Compliance** -- For organizations that must meet federal or other regulations or standards, such as HIPAA for healthcare organizations, compliance can be a challenge in the face of a variety of devices operating inside and outside of the firewall.

- **Management** – IT departments are challenged to manage a variety of devices, instead of a standard-issued device that can come preloaded with the necessary software and other necessary native clients.

Devices must be provisioned with the relevant software – antivirus, connection broker software, etc. Every time, there is an organization-wide update, IT must roll out the updates across all endpoint devices.

- **Cloud Compatibility** – Although cloud-enabled applications open up new vistas for BYOD, there is still a need to ensure that multiple devices can securely authenticate to the cloud and use the relevant applications or desktops, regardless of device type, and operating system name and version.

- **Support** – BYOD creates a tremendous help desk support load; IT staff are forced to address a range of user problems across a variety of endpoint devices.

- **Staff Resources** – Managing all of these devices is time-consuming, stretching the already taxed resources of today's overworked IT departments.

- **Expenses** – Time is money. The time IT personnel spend provisioning, supporting, updating, ensuring compliance and securing all of these devices represents a significant cost to an organization today.

BYOD Benefits

Although it poses many challenges, it is equally clear that a well-executed BYOD policy can offer real benefits for both the organization, as well as for the end-user.

- **Productivity** – Users can be more efficient when they can do all their work from just one device as opposed to multiple devices. Additionally, users tend to be more proficient with devices with which they are familiar.

- **Cost savings** – At the speed technology evolves, equipping employees with corporate-owned devices can be an expensive proposition. Adopting a BYOD model reduces the up-front costs (CapEx) for your business.

- **Flexibility** – The ability to work from the office, home or on the road provides an unprecedented level of flexibility that maximizes employee output.

- **Employee Satisfaction** – Having the capability to perform tasks and conduct business from anywhere empowers employees.

BYOD and the Cloud

Cloud computing is another emergent reality for IT organizations – one that goes hand in hand with BYOD when it comes to managing today's mobile workforce. Many organizations are in the process of migrating their infrastructure to the cloud and, perhaps more importantly, they are also operating their business applications via the cloud. Applications that used to be managed on-premises can now be accessed via a private or public cloud. From the end-user perspective, the use of cloud storage and cloud-based tools translates into increased agility and easier access to corporate applications and desktops from anywhere, using any device. Moreover, cloud computing can help facilitate better collaboration among remote or mobile workers, and ensures business continuity should a worker's preferred device become lost, stolen, or inoperable. From an IT perspective, however, the cloud adds another layer of complexity that needs to be efficiently managed, in addition to the legacy infrastructure and applications that still run locally.

HTML5 as a BYOD (and Cloud) Enabler

In recent years, more and more companies are beginning to realize that a pure browser-based access solution is key to unlocking the full potential of the cloud. A number of leading technology companies have begun to pivot towards an HTML5-based strategy, either through accelerated development efforts or via acquisition of such technologies. This includes both companies in the virtualization space, as well as prominent cloud service providers.

At present, the majority of software developers and technology executives are confident that HTML5 is a mature, enterprise-ready technology. Indeed, Gartner identified HTML5 as one of the top 10 mobile technologies for 2015 and 2016, calling it, "an essential technology for organizations that deliver applications across multiple platforms."

HTML5 Benefits

With the growing demand for easy access to cloud-based resources, applications and desktops, pure HTML5 browser-based solutions have become the fast route to successful deployment of a BYOD strategy. In fact, HTML5 access addresses virtually all of the aforementioned BYOD challenges:

- **No Downloads Required** – As mentioned above, software must typically be installed on desktops, laptops and mobile devices in order to facilitate access to desktops and applications, but with HTML5, organizations can achieve pure browser-based access to these resources. All they need is an HTML5-compliant device.

- **Simplified Deployment** – An update through an HTML5 solution is virtually unnecessary, whereas a native software update would have to be applied directly to each endpoint device. It's also easy to embed browser-based software into corporate portals by adding a link or a frame.

- **Environment Agnostic** – Regardless of whether the specific application resides on-premises, on a private or public cloud, the user simply needs to authenticate to the corporate environment and they are connected. No additional configuration is required.

- **Simplified Networking** – SSL VPNs - secure virtual private networks based on the Secure Sockets Layer protocol - can be used with both native clients and Web-based software. Web access is easy and automatic, whereas opening up communication channels to many devices can be quite an undertaking, requiring a lot of support.

- **Device-Agnostic** – HTML5 is already supported by all modern browsers and devices, so companies that utilize an HTML5 solution don't have to bother with writing or purchasing new clients for every new device. As such, access from anywhere and on any device is made possible.

- **IT Department Relief** – HTML5 solutions reduce hardware and mobile costs by leveraging both employee-owned devices and IT technologies that are designed to lower IT support and overhead.

- **Help Desk Support Overhead** – One client fits all devices.

- **Security** – Since no information is stored on the browser, if a device is lost, no data will be compromised.

Desktop as a Service (DaaS) and BYOD

The increasing adoption rates of both BYOD and cloud computing are contributing to a concurrent rise in the popularity of Desktop as a Service (DaaS). Additionally, as more companies migrate IT operations to the cloud the costs are becoming more attractive and the computing power continues to improve. These dynamics are creating an environment for DaaS to emerge. Many cloud service providers now offer virtual desktop packages that cater to different user profiles and types. Similarly, the BYOD trend is driving renewed interest in DaaS as a secure and effective means of managing the range of devices required by an increasingly mobile workforce. It's a simple solution to provide end-users on any device with the proper environment to do their daily job, nothing more and nothing less.

The decision to invest in DaaS stems from a desire to simplify, save money and enhance performance. Hence, it is important to consider these same factors when determining how users will be able to access those desktops. According to Gartner, it is essential that any DaaS offering supports the diversity of endpoints intended to access the service, including both corporate-issued and personally-owned devices. Here, too, HTML5 access provides a secure, efficient and agile solution. HTML5, browser-based solutions simplify the manner in which end-users access their virtual resources using any device.

Ericom's Web-First Philosophy

Ericom developed its HTML5 access solution several years ago with the clear notion that browser-based access is the best strategy to manage the complexity and future needs of BYOD. While an installable client is always a viable option, Ericom invested heavily in its clientless solution, driven by an understanding that mobility has changed end-user computing forever, and that both IT and the end-users require a light-weight solution that allows for endpoint device diversity.

Ericom Connect® is an enterprise-class access solution that enables business growth and facilitates cloud migration, while satisfying users, lowering IT overhead and protecting IT investments. Connect offers Web-based end-user access and administrative management from any HTML5-compliant device, including smartphones and tablets running iOS or Android, locked-down work stations or any computer running Windows, Mac OS X, Linux or Chrome OS. Connect supports virtual desktops running on a variety of virtualization platforms (hypervisors) and clouds, and can also provide access to RDS (Terminal Server) sessions as well as physical machines.

The HTML5 Outlook

Mobility and cloud computing have changed, and continue to impact, the way organizations operate and, consequently, how employees work. New work styles, driven largely by consumer technologies and the employees who embrace them, have arisen. Organizations must adopt policies to support that evolution and come out of this effort stronger and more efficient.

BYOD policies are no longer the logistical, financial and security challenges that some claim they are. HTML5 is now supported by all major web browsers, which makes BYOD and its clear benefits, within reach to most organization, providing more flexibility, both from an end-user and an IT perspective, reducing administrative costs and empowering the mobile workplace of today and of the future.

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About Ericom

Ericom Software is a leading global provider of Access, Virtualization and RDP Acceleration Solutions. Since 1993, Ericom has been helping users access enterprise mission-critical applications running on a broad range of Microsoft Windows Terminal Servers, Virtual Desktops, legacy hosts and other systems. Ericom has offices in the United States, United Kingdom and EMEA. Ericom also has an extensive network of distributors and partners throughout North America, Europe, Asia and the Far East. Our expanding customer base is more than 30 thousand strong, with over 8 million users. For more information about Ericom and its products, please visit http://www.ericom.com.

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