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4 Desktop Disruptions: The Computing Workspace as We Know it Will Never be the Same

Four Disruptions to Enterprise Desktop Strategies that IT Can't Afford to Overlook

The visionaries who invented end-user computing in the 1970s and '80s would have trouble recognizing the tools used today. They could scarcely have imagined the speed of change in the corporate computing environment.

The once-static desktop is now an evolving *workspace*, across multiple form factors, where workers leverage technology on multiple platforms. No longer confined to their individual PCs, today's employees have more applications than ever before, spanning physical, virtual and cloud hosted environments, and are "digital omnivores" accessing them on several different devices over the course of the day.

IT departments tasked with desktop strategy must consider much more than single delivery platforms and a device per person. In fact, the entire relationship between IT and the workforce has been turned on its head – increasingly, decisions about technology adoption are driven by the business, not the CIO.[1] Even devices themselves are escaping from the centralized control of IT, with enterprises increasingly embracing Bring Your Own Devices (BYOD) as a provisioning strategy.

> Against the backdrop of this ongoing evolution, CIOs also must reckon with a series of specific disruptors that IT will face in the coming months. This paper will cover four imminent upheavals in end user computing that IT needs to be prepared to address in 2015 and beyond:
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> **1** The launch of Microsoft's Windows 10
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> **2** Office 365 and the widening adoption of other cloud applications
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> **3** Security implications of browser diversification
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> **4** The advent of context-aware wearable devices

Budget pressures, scarcity of time, support for legacy technologies, and stringent regulatory and security requirements are all converging on CIOs – and it's happening just as these four potentially disruptive developments are taking place. IT leaders are being forced to rethink the entire notion of the enterprise desktop; CIOs must prepare their organizations to meet the demands of accelerating change through automated service delivery to personalized and secured workspaces, and by empowering employees through self-service support and provisioning.

Windows 10 – the Promised Last Migration

Organizations learned important, often painful lessons as they migrated from Windows XP to Windows 7. The journey was longer, more expensive and more disruptive than most had expected (or felt they had been led to expect by Microsoft's optimism). Many had resisted the OS migration for as long as they could, and the delay left IT Operations scrambling to deal with the complexities over what turned out to be inadequate time frames.

Windows 10 represents Microsoft's latest effort to create a **universal operating system:** A single ecosystem for all devices with Microsoft's software, including phones, computers, tablets, smart TVs, etc. Release is planned for the late summer of 2015; analysts are predicting adoption to begin in late 2016, and to become fairly robust through 2018. But Microsoft's strategy of giving the OS upgrade away free to consumers may drive faster adoption than expected. Clearly, the company hopes its individual users will pressure their employers to provide the new Windows 10 features they are using on their personal devices — particularly as they begin to bring those devices to work.

Organizations can give themselves a measure of protection by approaching this migration strategically, preparing their workforces well in advance and confronting the migration as soon as the new OS is found to be stable. Without necessarily committing the enterprise to early adoption, the new OS presents an important reason to invest in *workspace management*.

[1] Forbes: "Five Years From Now, CMOs Will Spend More on IT Than CIOs Do," Lisa Arthur – February 8, 2012.

Windows 10 will present fundamental changes in the way applications and the workforce are managed, and it marks a new approach to how major upgrades will be introduced to the enterprise. In fact, Microsoft promises that Windows 10 will be the last major OS migration for enterprises — from here on, the Microsoft OS will evolve gradually through more frequent but less obtrusive updates.

On the plus side, Windows 10 brings:

- User interface improvements, including the return of the Start Menu, which people had loudly mourned when it disappeared from Windows 8.

- "Universal applications" that promise better support for mobility, with apps designed to work across Windows PCs, tablets and phones – an advantage anticipated in many organizations' mobility strategies but poorly realized in Windows 8.

- Improved security including a new two-factor authentication feature and more granular security controls over applications (yet to be described in detail).

- The promise of fewer compatibility issues during the migration, including more responsive, device-aware functionality (e.g., in moving from touchscreen to non-touchscreen context).

- More consumer-like options for the enterprise, such as Cortana (Microsoft's answer to Apple's Siri), and alternative login options (facial recognition and fingerprinting).

These innovations must be balanced against the risk that enterprises will be ill-prepared for a major change in workspace look and feel, or to manage deployment of the continuously evolving OS. As this OS can separate personal and corporate data, another element that could be useful in BYOD environments, IT needs to understand the support and implications of such.

Virtualization of the elements that make the user's experience unique — personalization, settings, data, configuration, data needs and applications used — means these elements are separated from the underlying OS and delivery platforms. Thus, they can be managed remotely, and changes to underlying technologies such as an OS are much simpler and far less disruptive. Moreover, workers who roam across different operating systems to access different apps or services will have a consistent experience in a managed workspace. These are immediate benefits, and adopting workspace management also will make the upcoming migrations much easier and improve the experience workers have during hybrid transitions.

And self-service as a model, at least for more routine IT services (requests for new apps, password resets, data access, etc.), will simplify the update and deployment process, improve the overall experience for the workforce and limit potential disruption to business activities.

Office 365 and Cloud Office Systems for the Masses

Adoption of cloud office productivity systems (including Microsoft Office 365 and Google Apps for Work) continues to grow. The number of Office 365 commercial seats in use nearly doubled in the last quarter of 2014, CIO.com reported in January 2015. According to Gartner, adoption will increase about 28% a year to 695 million users by 2022, which will make up about 60% of the total office systems users.[2] Both Microsoft and Google are considered to have richly capable and comparably broad cloud office suites, but since Microsoft has owned the business desktop for decades, it defines the formatting of documents and many other elements of office functionality. The relative familiarity of the Office 365 look and feel and its generally richer feature set give Office 365 an edge in older enterprises strongly committed to the Microsoft enterprise stack.

The move to the Cloud, importantly, has been one of the first major technological transitions to be driven by the Business — not IT. Gartner projects that by 2017, CMOs will be spending more on enterprise information technology than CIOs.1 Non-technology executives and workers see the advantage in terms of business agility, better collaboration and better support for mobility, as opposed to the usual incentives of lower costs and simpler support.

Adoption is driven both by enterprise demands and by Microsoft, which is positioning Office 365 with more attractive and flexible licensing options compared to its on-premise offering. Microsoft has even added new functionality to its cloud-based Office products that it has not added to the on-premise versions. Office 365 is the only platform that includes Microsoft's Delve search and discovery engine.[3]

Many organizations will opt for a hybrid approach to Office 365, combining on-premise and cloud services for as long as the business still requires some of its people to use desktop Office tools (which would be true of most enterprises in the short run), creating new complexities for IT. In some cases, more specialized IT resources may be needed, and at minimum IT needs to be prepared to manage a variety of unexpected administrative issues and ongoing support requests, including new account provisioning and basic management of users.

Cloud applications can further complicate an already complex sequence of events when an employee leaves the enterprise. That individual no longer has access to apps and data that require the user profile to be resident in his or her work PC, but cloud apps and data

[2] Gartner Research Note: "How to Evaluate Google Apps for Work Versus Microsoft Office 365," Jeffrey Mann, Achint Aggarwal – January 28, 2015.
[3] Gartner Research Note: "Navigating the Promise, Pitfalls and Planning Challenges of Office 365," Bill Pray – March 17, 2015.

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continue to be available until that worker's access is revoked. There is nothing inherently difficult about revoking those rights, but in a hybrid environment it is one more task in the termination sequence — one with important security implications.

Adoption of workspace management can simplify many aspects of the migration. It can manage and centralize configuration, including new mailbox setup through auto-discovery; provision email signatures and email settings; and enable more dynamic segmentation of security (beyond the five standard "roles" offered by Microsoft out of the box). Gartner advises that identity and access management will be critical challenges for Office 365 adopters, in some instances setting up directory conflicts between Office 365 and on-premise versions, unless specific steps are taken.

Automated provisioning can handle many tasks with minimal impact on employees and zero employee interaction, including removal of the existing version of Office from a worker's individual machine and deployment of new mailboxes and applications. Self-service can give the business more control over initiating their migration in real time, and with a host of tasks that come up in each team member's employment life cycle:

- Account provisioning and de-commissioning of any Office 365 application or access rights to SharePoint groups.

- Password resets.

- Automatic configuration updates on mobile devices (e.g., through MDM integrations).

- Ongoing updates.

As new employees come on board, provisioning of cloud services can be automated and managed as a subscription so that licenses are automatically revoked when any worker leaves the organization.

Browser Diversification and Security Implications

Despite the fact that Internet Explorer is installed by default on Windows machines, IE is fading as the browser of choice in many enterprises. Google's Chrome continues to gain share in the enterprise, because employees prefer it and because it is more effective for accessing SaaS and other web applications and sites; Chrome has the added benefit of providing cross platform support (PC and Mac). Gartner projects that Chrome will surpass IE in the enterprise by 2017.[4]

While CIOs at many enterprises traditionally prefer to standardize on a single browser, many business-critical applications (especially those based on HTML 5) require the use of specific, noncurrent versions of IE, especially IE8. Gartner projects that, through 2017, such applications will be in use in 25% of enterprises, frustrating attempts at browser standardization. Gartner, in fact, advises

abandoning a strategy that relies on standardizing on a single browser altogether, in favor of a "two-pronged" approach allowing management of diverse browsers for most purposes.[5]

As enterprises rely more on cloud services, however, browser compatibility will become a larger hurdle. Many applications that depended on legacy versions of IE are reaching their end of life, as demand for mobile access to those applications increases, along with workforce demand for more sophisticated UX in their business applications generally.

Standardizing on legacy IE will be harder to defend after January 2016, when Microsoft ends support for IE 8, 9, and 10, and enterprises relying on these browsers for legacy applications face new browser security issues. They will need a strategy for restricting access to these less secure browsers and limit their use to legacy applications to mitigate risk. This may provide the ultimate incentive for enterprises to sunset applications customized for IE8.

The typical enterprise IT organization will support a variety of browser types. With each employee likely to use several different devices over the course of the day, and each device potentially using a different browser, automation and self-servicing of updates are no longer optional for many enterprises. They are essential to the company's ability to provide for the browser flexibility that workers expect, particularly as enterprises embrace BYOD.

Browser diversity will make website security more critical than ever, as IT works to ensure that users are not introducing security risks by visiting unsecured sites or using unsecured cloud services. Granular whitelisting and context aware policies across browsers will help IT improve security while still giving workers the flexibility to use different browser types.

Wearables – the Closer-than-you-Might-Think BYO

While OS upgrades, cloud service adoption and browser challenges will have near term impact on IT teams, they also represent relatively familiar territory for enterprise IT. Other nascent trends on the horizon, including wearables, have the potential to bring even more disruption to already strained IT departments. The significance of products like the Apple iWatch in the consumer market is unclear, but it is likely that the real market for wearable devices is for business and professional use. As IT prepares to tackle desktop and infrastructure changes, the potential disruption from enterprise adoption of wearables should not be brushed aside.

A Forrester Research online survey recently found 45% of US and 32% of European adults would be interested in owning wearables — on their wrists, their clothing, jewelry, eyewear, or shoes, in earbuds or even in contact lenses. In fact, 8% of Americans (4% of Europeans) surveyed would consider having wearable IT tattooed on their skin.[6]

[4] Gartner Report: "Predicts 2015: The Impact of Digital Business on Web and Portal Technologies," David Mitchell Smith et al – November 18, 2014.
[5] Gartner Report: "A Two-Pronged Approach to Browser Strategies Allows for Legacy and Modern Browser Strategy," David Mitchell Smith, Ray Valdes – March 7, 2014.
[6] Forrester Blog: "5 Urgent Truths about Wearables," JP Gownder – December 9, 2014. http://blogs.forrester.com/jp_gownder/14-12-09-the_data_digest_five_urgent_truths_about_wearables

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In 2015, 51% of IT technology decision makers surveyed by Forrester indicated that exploring wearable technology for their enterprise was at least a moderate priority; 27% reported it was a high priority or critical. Forrester predicts that the enterprise market for wearables will surpass the consumer market within five years.[7]

The more pragmatic enterprise market will be driven by very specific use cases in vertical markets like healthcare, utilities and the public sector. Wearables may be uniquely useful where workers must access data in a hands-free fashion, where the device can process ambient data from onboard sensors, or where the application calls for location-specific data. They serve as authentication sources, customer service tools, important triggers in business process workflows and more.

In the not so long term, IT departments will need to expand their view of a "workspace" to include wearable technology. Context awareness will become an increasingly important means of user experience personalization, and employees can be expected to want to absorb them into their work. To accommodate them, IT will need to enable them to request wearable-related services and manage critical workflows for them in a self-service fashion.

[7] Forrester Report: "The Enterprise Wearables Journey," JP Gownder – March 26, 2015.

Conclusion

The diversity of applications that the workforce needs to be productive continues to grow, both in scope and complexity. The rest of this decade will challenge IT teams, as changes driven by Microsoft, Google, Apple, Amazon and hundreds of smaller innovators combine to make the conventional idea of desktop support increasingly irrelevant.

Today, each employee and contractor requires a unique combination of internal resources, locally-installed apps, virtual apps and cloud services. To ensure a positive experience for the workforce and to keep workers productive, IT must reassert its control over who can access these services and in what personalized contexts. Effective IT departments must view themselves as "technology enablers," and not as "technology inhibitors." Forward thinking organizations must leverage better service delivery tools from vendors that provide innovative workspace solutions.

IT is under pressure from the rapid changes in the landscape of platform, operating system and browser competition, the diversity of devices, and the accelerating race to adapt in the markets where businesses compete. Enterprises must develop strategies to optimize and unify application and data access centered on the mobile, device-agnostic workforce. Such strategies must include:

- Automated provisioning and de-provisioning of all application types based on context awareness

- Self-service of all IT services across traditional, cloud and mobile platforms to fully unlock workforce productivity

- Shifts toward private and public cloud models to increase speed and scalability of enterprise technology

Workspace Modernization initiatives that help IT handle the technology hurdles of today will become critical stepping stones in IT's achieving a more strategic partnership with the business. RES Software can be an important partner in enterprises' ongoing digital workspace strategy. While today that may mean tackling important infrastructure upgrades that will make apps and services more accessible and secure to employees, tomorrow it could mean personalizing and securing members of the workforce across countless new devices and access points. IT departments that continue to approach enterprise computing from a device-centered view risk missing out on an opportunity to better engage employees, optimize costs and mitigate risks.

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7. Forrester Report: *The Enterprise Wearables Journey,* JP Gownder — March 26, 2015.

About RES Software

RES Software brings agility and enablement to the workforce through self-service, and by optimizing service and app delivery. With a people-centric approach to services, RES Software helps organizations achieve better business results with a better worker experience, along with streamlined operations and reduced risk. RES Software boasts numerous patented technologies, faster time to value and superior customer support for more than 3,000 companies around the world. For more information, follow updates on Twitter @ressoftware and visit www.ressoftware.com