



The new workplace: are you ready?

Implications for
IT managers



The new workplace:
are you ready?





1. Introduction

Today's workplace is no longer a static physical place we travel to in the morning. Instead it has become any place where employees can get work done, be it the home office, a local café, the train or on the road – from a variety of devices from laptop to tablet to smartphone. The expectation now is that work comes to us instead of us going to work.

This white paper examines the changing nature of the workplace and the demands it places on IT managers for faster delivery of high-quality, flexible services while providing a quick return on IT investment. This change in the workplace is driving a relentless pursuit of improvements in employee productivity, faster methods for application delivery and the general rapid response from the IT department. The change is not about faster chips, CPUs or networks; it is about the need to deliver business value faster from all IT investments. In today's workplace IT managers are expected to do more with less, and do it faster with no reduction in quality. The personal computer and client server model has served organizations well, but IT managers now need a new way to stay ahead of ever-expanding and accelerating business, web and mobility requirements. A more intelligent yet rapid approach is needed to help design and build the flexible and agile infrastructure that can best serve employees in this new workplace.

Definition of the new workplace

Today's workplace is a virtual and/or physical environment, characterized by connections, collaboration and user choice, that enables the worker to be more agile and perform activities anywhere, anytime – ultimately creating greater enterprise value.

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2. Key workplace challenges for IT managers

IT managers are currently facing a unique convergence of workplace challenges:

- The need to show positive business results to the enterprise sooner from every dollar spent.
- Windows 7 migration. Windows XP support ends in April 2014, and time is running out to execute a well-planned, cost-effective migration to Windows 7. This means IT managers must implement migration within the desktop refresh cycle to avoid additional costly desktop touches.
- Implementation of an architecture that allows the IT department to develop, test, and deploy new business solutions faster, to keep pace with the marketplace business demands as well as future growth and new technologies.
- Support new technologies that are entering the workplace ever more rapidly, such as new mobile devices, tablets and social networking capabilities. Mobile devices are changing the way employees expect to work; they are necessary to achieve productivity improvements; and they are raising the bar on competitive speed.
- Deployment of new support tools to control and manage the new workplace, and quickly train support teams and employees. These tools need to be deployed in hours and days, not months, and be intuitive, requiring minimal training for users to become efficient and proficient.





Alongside these challenges the IT manager must keep data secure, adhere to regulations and compliance and, of course, maintain the same level of performance and service quality or better. IT managers must achieve this while dealing with:

Growing complexity

More devices mean more operating systems to manage, more applications to support, more connections to be maintained.

More robust security and compliance

Organizations must assure security of data and intellectual property – and compliance with corporate, regulatory and governmental rules – over a greatly expanded range of network connections. With the increasing trend of employees owning their devices there are the added requirements to separate personal data from enterprise data on smart devices and provide secure collaboration that takes place in online public forums.

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Cost management

As complexity and device choice grows, organizations need to find ways to supply and support the needed flexible infrastructure in cost-efficient ways.

Loss of control

Organizations need new ways to control data, applications and devices while maintaining service levels.

Support

IT organizations are under pressure to provide support with new options such as self-service, communities and automated support.

Windows 7 migration.
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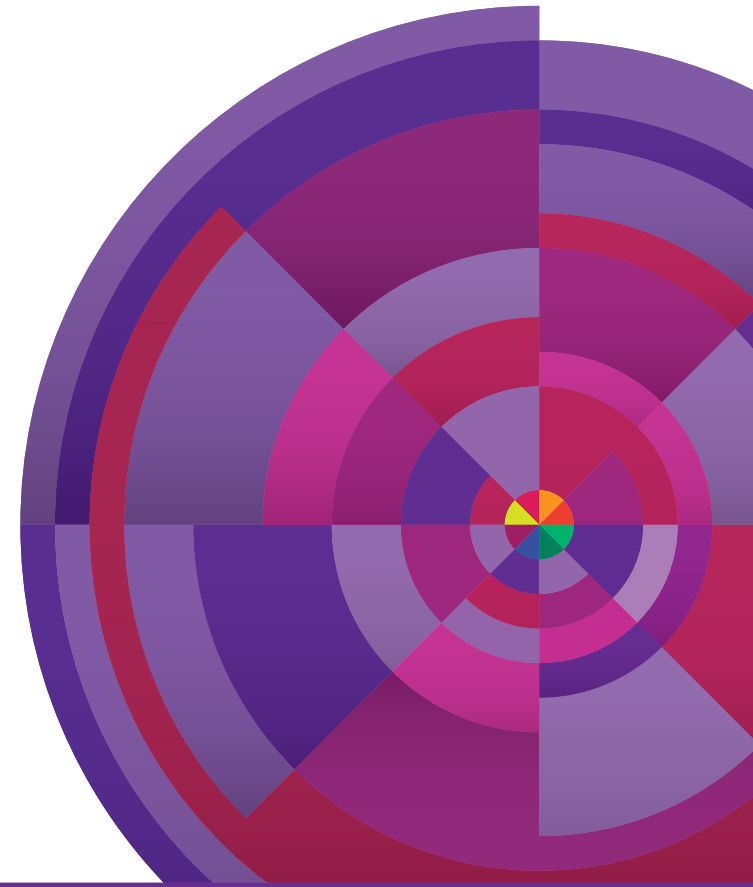


3. Key technologies and approaches

IT managers need a faster and more intelligent way to combine critical thinking and planning. Smart planning with intelligent analytical tools, applied with supporting expertise for interpretation and applied design, can achieve both a Windows 7 migration plan and a client virtualization plan simultaneously. In this way, the IT department can achieve the new workplace infrastructure faster, streamline budget requirements and secure a more intelligent and flexible architecture to support future requirements including the fast pace of mobility needs.

Client virtualization is a key enabling technology that provides the flexibility and agility needed by the new workplace:

- Virtualization and the stateless desktop can reduce the complexity of compatibility issues between the operating system, applications and hardware devices – making it easier and faster to plan, develop, test and deploy new applications and patches.
- Desktops or clients can be provisioned faster and with less effort, resulting in increased end-user and IT department staff productivity.
- When an application update or virus patch is needed it can be applied once at the central server. Upon login the end user receives the most current version of their desktop, saving time and reducing the margin of error.



- New tools can be introduced instantly into a developer's workbench, reducing wait time in the development phase and helping to provision multiple environments efficiently for testing.
- The reduction of applications and operating systems being managed at the end point can eliminate complexity at the end user level, reducing the need for traditional desk-side support and leaving employees to focus on more productive work.
- Boot times can become quick logins as opposed to a slow, full operating system load. Productivity drains due to users waiting for their desktops to become active can be eliminated.
- Virtualization of applications and full desktops can accelerate the schedule for Windows 7 migration while reducing budget. With careful planning, sets of applications need not be migrated and can effectively run in a virtualized environment, cutting down on the migration effort and accelerating the transition to the newly enabled workplace.

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In a recent study completed by Tech Target for Quest Software, IT executives, managers and staff were asked the following question: Which of the following factors were/will be significant in your organization's decision to adopt desktop virtualization? As can be seen in Figure 1, the responses indicate a definite movement toward virtualization for support and cost efficiencies.¹

Which of the following factors were/will be significant in your organization's decision to adopt desktop virtualization?

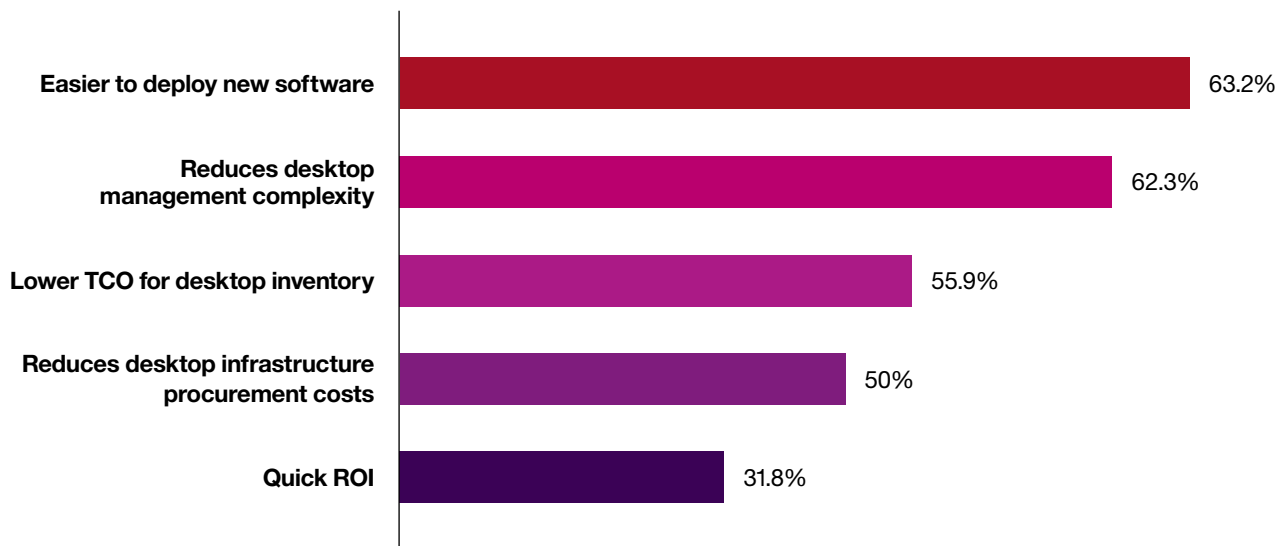


Figure 1: Among companies with 10,000 employees or higher, a recent survey indicates a definite movement toward virtualization for support and cost efficiencies.

Source: Tech Target survey for Quest Software, Windows 7 and VDI survey summary report, February 2011.

The same survey revealed a critical and intrinsic link between Microsoft 7 and a virtualization migration. When responding to the statement “Desktop virtualization can help our organization avoid the cost and effort of upgrading our desktop infrastructure in order to run Windows 7,” 55 percent either agreed or strongly agreed, indicating the strong value proposition of combining these two migration efforts to save time and budget. On the other hand, this also indicates that 45 percent are either unsure, don’t know or disagree with this statement, revealing an opportunity to better understand this way to plan for the new workplace.

Another study recently completed by CIO Custom Solutions Group for Citrix and IBM shows that client virtualization is now seen as strategic and transformational by 59 percent of the 107 CIOs polled from a cross-segment of companies in different industries and ranging from one thousand to one hundred thousand employees.²

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Of those who have deployed client virtualization, 66 percent achieved lower operating costs and 24 percent actually obtained unanticipated savings. Enhancing the computing environment for employees is becoming more transformational, and more and more companies are looking for an evolutionary approach to meet the new workplace demands. One that can provide a more gradual roadmap to change while avoiding the costly and complex desktop refresh cycles of the past.

Such approaches exist today leveraging proven methods, analytics and automation to reveal important information about how end users are using their current desktop environment in order to plan the optimal design for the future state. Combining data collection, analysis and reporting for both a Windows 7 migration and a virtualization plan brings efficiencies of scale and migration effort. Finally, a steady state monitoring solution based on these same analytics helps keep the new workplace in high-performance working order on an ongoing basis.

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4. How IT managers can get started

The key to success with this new approach is planning. It is essential to begin the journey with an in-depth inventory of facts about the current environment as a baseline. This baseline serves as the standard upon which solution design decisions will be based – to measure future performance improvements against and validate with factual data the before and after performance metrics that will promote or defend end-user perceptions. This baseline can also act as an important reference point down the road as a crosscheck for solution design decisions made and end performance results. This can aid decision makers when mapping out future changes and innovation.

A detailed understanding of both the performance of the application stack in use by end-user communities and how end users are utilizing IT resources is also important. What are the patterns of resource usage, peaks and valleys and why? How are the network, operating system and RAM utilized? Are thresholds being approached? Are there rare instances of single applications driving peak loads? Are these applications critical to the business and for whom? Who authorized them? It is this level of understanding of the baseline conditions, anomalies and trends that are crucial ingredients for planning the more flexible and agile future environment. Without a thorough understanding of the current state, why end users require specific environments and which applications can be rationalized and consolidated, it may not be possible to design the optimal future state and meet performance needs.





Another imperative is learning how and when users are accessing applications – via home offices, smartphones, tablets and/or desktop PCs and laptops. How end-user needs are likely to change in the near- and long-term, based on the adoption of new devices, working habits and the organization’s overall business culture and plan, need to be worked into the future environment. It may help to remember that not all users have the same needs. Mobile field workers rely on rugged or specialized devices and a different set of applications to perform their work in the field. They have different access patterns than knowledge workers who access office productivity applications from their home office. Once the baseline is well understood, appropriate virtualization strategies can be recommended. This planning helps ensure a match of the virtualization choices to the end-user workloads, avoiding needlessly complex solutions or underperforming application execution over the network. This is especially crucial for users with a need to leverage rich media applications.

Application portfolio compatibility with Windows 7 is another essential input. The IT manager needs to understand which applications and versions fall into the high-, medium-, and low-compatibility categories. This data combined with virtualization options mapped by end-user workloads allows a more comprehensive decision-making process. Through smart assessment and planning, the IT manager can design and deliver both a Windows 7 migration and a virtualized environment simultaneously. This accelerates the pace of change, speeding up time to business value and resulting in more satisfied and higher performing end users.

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With the fundamental facts in hand, the various application delivery options noted below can be more effectively considered as the next step toward the new workplace:

- Applications developed specifically for the web can more easily fit in the new browser-based design.
- The one-size-fits-all public cloud application delivery model can better meet the demands of the mass end user. Examples are standard productivity applications such as mail and office suites when an enterprise requires no customization.
- Private cloud can provide new levels of flexibility and scalability for unique business applications and provide location of data that is crucial for compliance, network or latency issues demanding a local delivery model.
- Virtualized published applications for one-size-fits-many legacy applications that do not easily migrate to a web-based model. This mature option may be well-suited for older applications on new operating systems.
- Virtualized application streaming for applications that are best rendered at the end point for maximum performance.
- Full Virtual Desktop Infrastructure, or VDI, meeting the needs of knowledge and mobility workers who require the most flexibility, including offline mode or local application processing for optimal performance.
- Future device types and presentation formats which must also be considered part of the design.

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One of the most important steps to successful end-user acceptance of the new workplace is the careful planning of user profiles. Capturing the settings and personalized nature of how end users work on their desktops, storing and managing that information centrally in the data center as part of the new virtualized and migrated environment helps ensure a positive end-user experience. When the user wants to move to a new device, a new operating system, or use a new set of applications, that end-user personality follows them upon login. The end user no longer needs to waste valuable time recreating their former productive state.

Imagine moving from a physical desktop to a new tablet or thin client machine and not having to worry about losing all your favorites, signature files, font styles, desktop shortcuts, etc. Imagine that as you move around a building the local printer is automatically mapped to your device, helping ensure compliance by forcing applications to gracefully exit when the device leaves the security of the building or network, without having to waste time logging in and out each time you leave. Consider the potential productivity savings from faster logins by only loading the applications, files and settings required for the work you are about to launch, rather than the entire settings for a complete desktop for all programs when unnecessary.

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Other benefits of a well-planned approach to Windows 7 migration and virtualization can include:

- Faster remediation of user profile corruptions at the application level, rather than the whole profile.
- Reduced administrative rights issues, as limited rights can be given to end-users so they can access and install mission-critical programs without having to give up full administrative rights to the device.
- Fewer golden images – through effective management of the images to map different functionality as needed to different groups of users.

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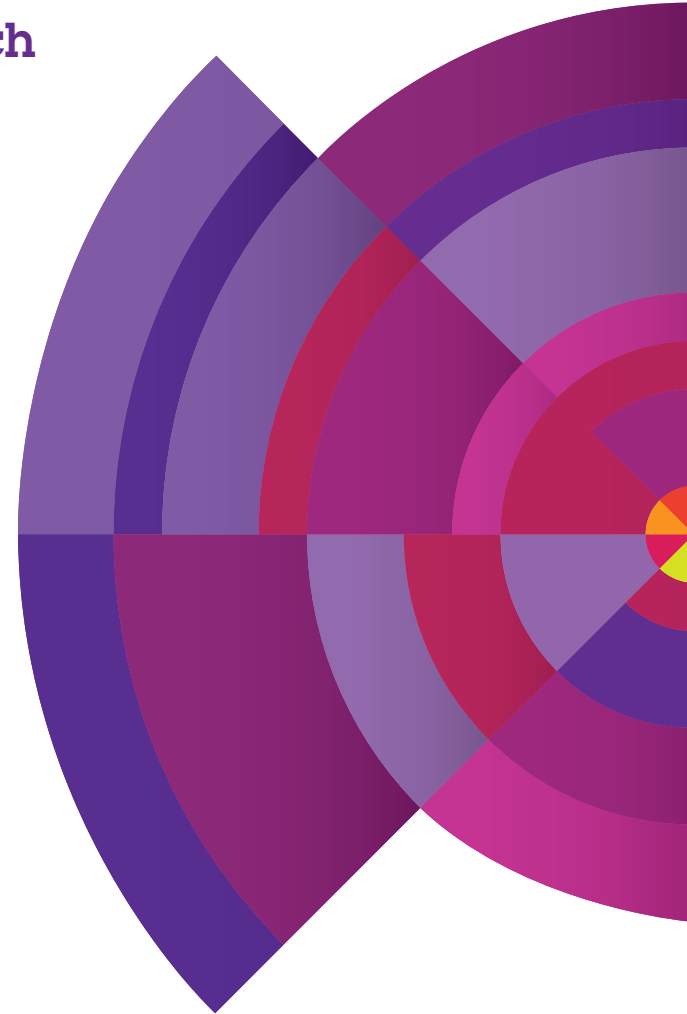




5. A smarter migration and application delivery approach

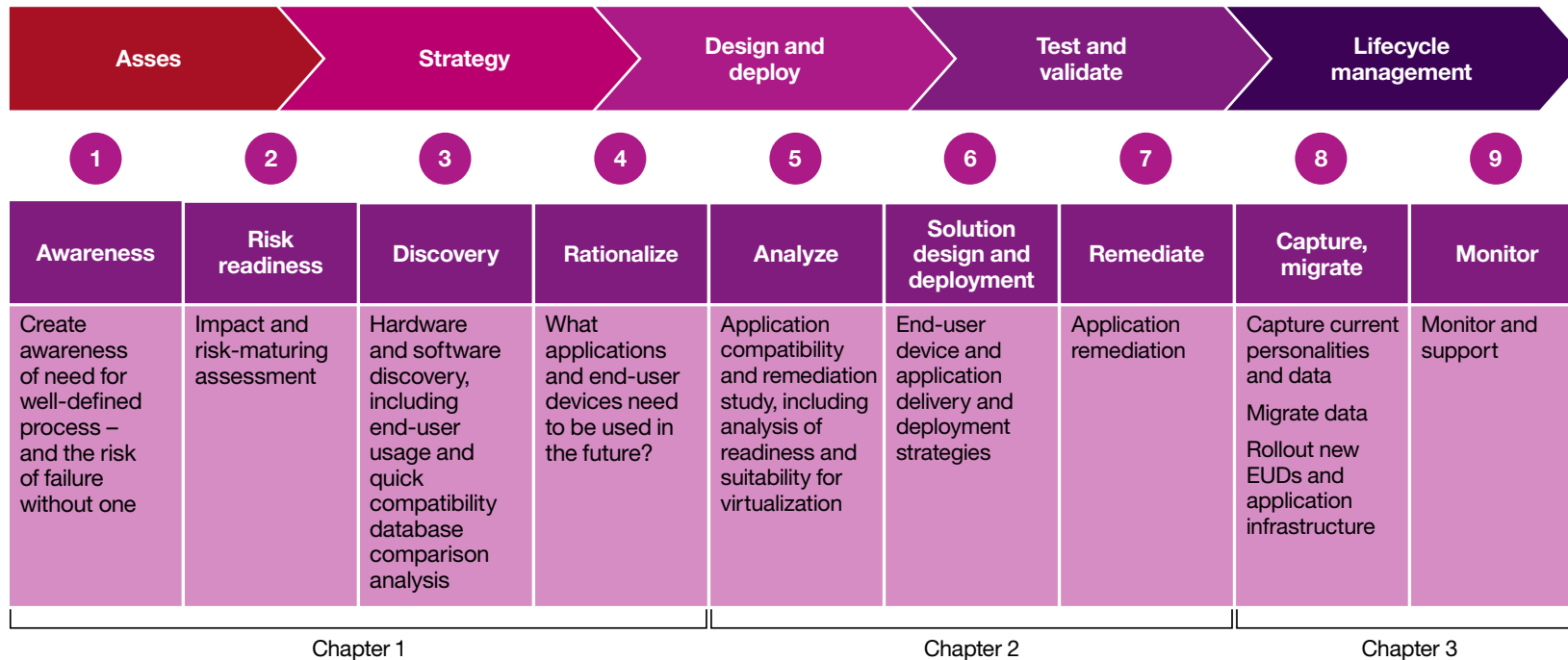
IBM's approach integrates Windows 7 and virtualization migration planning while optimizing application delivery by leveraging proven methods, analytics and automation. An enterprise can achieve all three steps in one intelligent roadmap, offering the potential for significant return on investment:

- Significant potential savings by migrating only those applications that are needed for the new Windows 7 environment. Virtualized applications are able to run in their old familiar environment while delivering the potential for more consistent and improved service.
- Minimizes Internet Explorer compatibility challenges through virtualization.
- Rationalizes end-user applications for a less costly and more controlled image management approach – and complements this with a business-oriented governance model to help stay on track with costs and service.
- Manages user profiles, back up and recovery, patch and application updates in a more centralized and efficient user-friendly manner while reducing support costs.
- Benefits from a more elastic and flexible migration schedule and manage work requests through a self-service portal.
- Schedules transition plans as aggressively or as slowly as an organization can best absorb changes to maximize business value and minimize disruption. With all the facts in hand IT managers can stage the work and the budget to match the benefits while measuring the positive results to encourage adoption. The factual performance data as reported by the process is the key to unlocking the most flexible yet workable approach.



This approach, as outlined in Figure 2, is yet another important step in leveraging the IBM right-to-left strategy. This strategy helps move end-user support from costly, labor intensive efforts to less expensive automated resolution and self-support to gain higher end-user satisfaction while lowering overall end-user services total cost of ownership.³

Figure 2: The IBM smarter migration and application delivery methodology takes a holistic approach to Windows 7 migration and application virtualization, creating the potential for cost-savings and more effective and efficient implementation.





The migration and application delivery assessment, predicated on factual analysis of your end-user environment, recommends the best strategy to standardize and streamline workplace resources which, in turn, as the listed benefits show, helps meet the goals of the right-to-left strategy.

Real-life examples can best describe how the smarter migration and application delivery approach addresses real business challenges.

The IBM approach to smarter migration and application delivery is based on years of experience in virtualization and migrations. It also incorporates key innovations and intellectual capital. The pressures of expanding device types with accompanying new operating systems entering the workplace – in addition to Windows 7 pressures – add up to increased complexity and concern. IBM's fact-based approach for the new workplace application delivery model can help IT managers meet their organizations' need for a faster and more responsive IT-supported environment while achieving a return on investment that makes business sense.

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**Workplace snapshot 1:
Assessing the path to virtualization**

A large, U.S.-based insurance and investment company previously deployed a VDI solution. The results were not as expected. In particular, the virtualization effort resulted in significant performance issues, with users waiting up to 20 minutes to complete their logins during periods of peak demand – a problem known as a boot storm or avalanche. As a result, the company saw a marked reduction in user productivity and satisfaction.

When the company turned to IBM for help, IBM recommended a smarter migration and application delivery assessment, beginning with a thorough workplace fact gathering and analysis exercise of the application environment. The login problem was pinpointed – a lack of image standardization was driving up costs and dragging down performance – which was corrected. The assessment also highlighted ways to gain management efficiencies while providing added security, flexibility and user satisfaction.

The company is now in the process of deploying its new higher-performing workplace to support 7,000 workers and improved productivity.

**Workplace snapshot 2:
Finding the right business case for the new workplace**

The IT department of a large global investment bank had struggled to achieve a positive return on investment for their new workplace design despite demands by the end-user community. A common VDI architecture was initially thought to be the right overarching solution but ultimately prevented the business from moving forward due to cost implications. A pending Windows 7 migration was also requiring attention, putting additional pressure on the IT department. An IBM smarter migration and application delivery assessment helped the bank gain a better understanding of the application workloads and root performance requirements of the various end-user communities. The assessment uncovered interesting results. Only 20 percent of the user community actually required full virtualization. The remaining 80 percent were optimized with a published application solution that quickly balanced the business case and return on investment.

The bank is now deploying their new workplace infrastructure and will migrate to Windows 7 after the virtualization steps are completed – accelerating their overall schedule while reducing the budget.

Real-life examples can best describe how the smarter migration and application delivery approach addresses real business challenges.

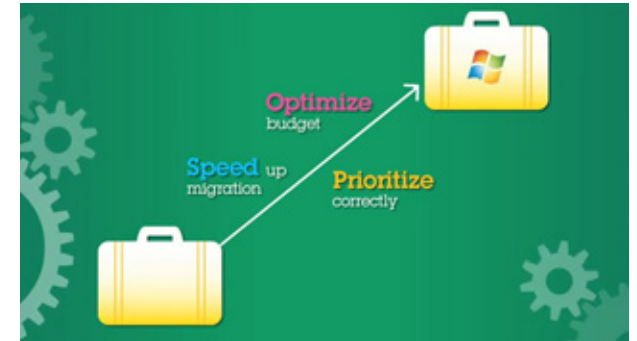


Videos

The New Workforce by IBM



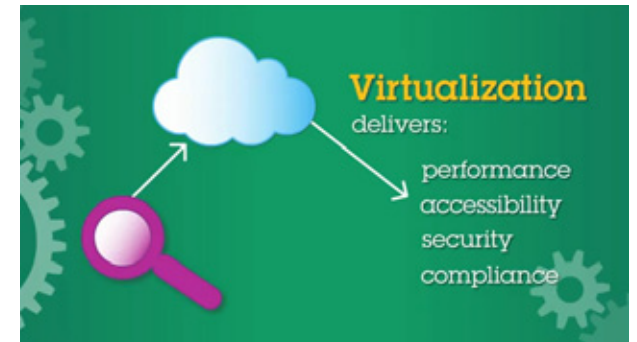
IBM Windows 7 Migration



IBM Workplace Mobility



IBM Workplace Virtualization





For more information

If you or your organization would like to learn more about IBM's solutions for a new workplace, please contact your IBM representative or visit the following websites:

ibm.com/services/us/en/it-services/end-user-services.html

ibm.com/services/us/en/it-services/user-workplace-migration-virtualization.html

For easy access from your smartphone:



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- 1 Tech Target survey for Quest Software, Windows 7 and VDI survey summary report, February 2011.
 - 2 CIO Custom Solutions Group, A CIO Market Pulse Report: *Desktop Virtualization*, conducted for Citrix/IBM, April 2011.
 - 3 IBM white paper, “*Taking end user services to the next level with IBM’s Right-to-Left strategy: Assessing your position on the Right-to-Left Maturity Matrix*,” Nov 2009, <http://www-935.ibm.com/services/ch/gts/pdf/wp-spl3-right-to-left-strategy-en-04-10.pdf>.
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For more information

