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Executive Summary

Physical desktop computer infrastructures no longer make sense for the corporate world. Not only are they expensive, insecure and maintenance-heavy, they also cannot effectively support the changing business IT landscape. The ground-swell of Windows 7 migration plans, expanding virtual workforce, growing popularity of mobile devices and demand for BYOD (Bring Your Own Device) support, and tighter IT budgets all point to the need to reevaluate desktop strategies. By moving virtual desktops and applications to the cloud, companies can realize all the promised benefits of virtualization—centralized management, improved data security and simplified deployment—without the exorbitant cost, limitations or hassles of having to manage it themselves.

This white paper will explore the reasons for changing traditional desktop computing strategies, why cloud-hosted virtual desktops and applications are a compelling solution for many businesses, and how to leverage cloud-hosted desktops and applications for Windows 7 migrations, mobile and departmental workers, and disaster recovery scenarios.

Desktops: Ripe for Change

Desktop computing has become a millstone for IT departments. While it is essential for delivering must-have applications and services to end users, IT managers are burdened by the tremendous amount of time, complexity and cost inherent in managing and securing physical PCs. And, a progressively tech-savvy user base is becoming increasingly frustrated because their computers don’t have the flexibility and capabilities that they have come to expect.

Businesses have been aware of these issues for years, but it is only now that the tipping point for change has arrived. The trifecta of Windows 7, increased use of mobile access devices, and tighter IT budgets has created the perfect storm for desktop computing change.

- Migration to Windows 7: With MS dropping support for Windows XP, most companies are looking at a Windows 7 refresh. According to IDC, nearly 90 percent of businesses plan to move forward with Windows 7.* However, many older PCs are not equipped to run Windows 7—which means that businesses need to purchase new computers in order to migrate workers. In fact, Gartner estimates that many businesses will end up replacing about 25 percent of their PCs before the end of their lifecycle to accommodate Windows 7 migrations.* Organizations that decide to upgrade existing computers instead of replacing them won’t save much money because of the new parts and labor needed for memory, hard disks and/or video adapters.
- Expanding Mobile Access: IDC estimates that 1 billion workers will be mobile at least part of the time or remote from their firm’s main location.* These workers will be accessing business applications and services from a variety of devices, including increasingly popular iPads, Android-compatible tablets, and smartphones. Companies need a way to enable anywhere, anytime access.
- Tighter IT budgets: PCs can consume 7-10 percent of IT budgets, yet provide no competitive advantage. With continued economic volatility, businesses are keeping a closer rein on IT expenditures. Wholesale PC refreshments and Windows 7 upgrades are no longer feasible, and the cost of supporting an increasingly dispersed user base needs to be reduced.
Is VDI the Only Answer?

The need to reevaluate desktop strategies is driving many companies to consider virtual desktop infrastructure (VDI)—and with good reason. VDI has promised to solve many traditional challenges of physical desktops. Because virtual desktops are centralized onto virtual machines that run on corporate data center servers, VDI makes day-to-day tasks such as deploying new desktops and applications, and supporting distributed workers, much easier and less labor-intensive. Users access their virtual desktops via PC remoting technology, making it possible for IT to finely control the movement of data into and out of the data center. Because data is not stored on the local device, companies are at much less risk if PCs or mobile devices are stolen or lost.

Even with all of these benefits however, there are some important considerations to take into account before moving forward. These include:

• **Costs:** In a recent TechTarget survey, more than 32 percent of IT professionals said that implementing VDI in-house is too expensive.* Although VDI is less expensive than fleets of physical computers, it’s important to consider the upfront CAPEX required to start a VDI deployment. When looking at the upfront costs of a VDI deployment, you must take into account the compute, networking, storage requirements for the design, along with the power, cooling and floor space needed for a successful deployment.

• **Complexity:** The same survey has 21 percent of IT professionals blaming complexity for stalled VDI projects. The technologies needed for VDI (i.e., servers, storage, networking, thin clients and virtualization software) are provided by many different vendors, causing considerable confusion among IT staff about which technologies to adopt. Additionally, VDI technologies are often managed by different internal IT groups, which can make coordinating virtual desktop initiatives challenging. With VDI, organizations also need to ensure they have the right IT skills and experts to manage their virtualization infrastructure.

• **Ramp up:** Although it is much easier to deploy virtual desktops than physical desktops, IT must have capacity to deploy them. In the TechTarget survey, 23 percent of IT workers said their existing servers can’t support deploying desktops as virtual machines. This makes it particularly difficult when companies need to scale up quickly to support employees or consultants on time-sensitive or temporary projects. And, because of latency issues, performance is best when users are located near the data centers. However, most companies don’t have the geographically dispersed data center footprint needed to ensure optimal, or even adequate, performance.

• **Strategic or not:** With VDI, companies still need to build and manage infrastructure to support desktops, and most IT departments do not want to be in the business of desktop management.
Why Cloud-Hosted Desktops and Applications Make Sense

Cloud computing has been gaining a tremendous amount of attention because of the flexibility and cost savings it can deliver. Just as virtualization started on the server side and then, once proven, began moving to the desktop, the cloud is now ripe for desktop infrastructure.

By moving desktops and applications to the cloud, rather than an internally deployed and managed data center, businesses can realize all the promised benefits of virtualization desktops—centralized management, improved data security and simplified deployment—while avoiding exorbitant costs, limitations and hassles.

The advantages of cloud-hosted as a service include:

• **Reduced desktop costs** – Because the physical infrastructure powering virtual desktops is outsourced, IT organizations are immediately able to achieve a positive ROI. Not only do cloud-hosted desktops eliminate VDI’s upfront CAPEX outlay and three-to-four year depreciation schedule, but businesses also convert desktop computing CapEx into OpEx. Virtual desktops and apps can be subscribed to at a set monthly rate, and businesses only pay for the virtual desktops that are needed. All of this translates into reduced desktop total cost of ownership (TCO), achieved at the beginning of a cloud-hosted desktop deployment—as opposed to a goal that is 18 – 24 months out. Companies can now budget for a set monthly fee without any hidden costs or surprises.

• **Ease of manageability, one-touch support** – The complexities associated with designing, implementing and supporting virtual desktops are gone. Cloud-hosted virtual desktops are easy to buy and implement. The physical infrastructure is already available from the provider, and companies outsource all deployment and operations. This also saves a lot of money that was traditionally spent on physical desktop maintenance, while minimizing the technical expertise businesses need to leverage virtual desktops. Additionally, because desktops are delivered by a provider over a secure network and supported by a Service Level Agreement (SLA), end users can expect better availability of their desktops than can be delivered with physical PCs, which often require a desk-side visit when things go wrong.

• **Device and location independence** – Businesses can embrace next gen workers by providing device and location independence.
  - **Device independence**: End users can work and access corporate applications and data from any device.
  - **Location independence**: Because providers have multiple locations, proximity to the data center challenges are eliminated. Users can work from anywhere – home, office or coffee shop.

• **Flexibility** –
  - **No vendor lock-in**: IT no longer has to worry about which virtual desktop-related technologies to select, implementing technologies that may become obsolete, or being restricted to particular vendor roadmaps.
  - **Fast ramp up and down**: Businesses can quickly scale up or down by adding or removing virtual desktops and apps to the monthly subscription in minutes. This enables IT to deliver on many challenging types of projects (both short- and long-term), such as scaling up desktop environments for seasonal work or quickly deploying desktops for offices in new geographic markets.
  - **Geographic agility**: Corporate data center footprints won’t constrain virtual desktop deployments. Cloud-hosted desktops can be deployed with global scale. This allows users to gain access to their virtual desktop from just about anywhere, and businesses to expand the regions where they source talent, since they are no longer limited to corporate offices and internal infrastructure reach.
  - **Easy to try and buy**: Because there is no infrastructure or software to deploy, businesses can quickly and easily try cloud-hosted virtual desktops before buying.
Optimal Use Cases for Cloud-hosted Desktops

Businesses can realize a substantial impact on their operations by leveraging cloud-hosted desktops and applications for key scenarios. Following are ideal use cases for desktops and apps in the cloud:

- **Cloud savvy organizations:** Companies that are looking to leverage the benefits of the cloud.
- **Small and medium businesses:** Businesses that don’t have the endless IT resources required to deploy and manage physical or virtual desktops.
- **Remote workers:** Whether they are telecommuting, offshore, or contracting, virtual workers are becoming a larger percentage of the corporate end user population every year. With cloud-hosted desktops, businesses can support geographically dispersed workers in a very cost-effective and secure manner. Contractors can easily access the corporate environment from their personal devices, and employees can access their desktops and apps when they’re at home or on the road—even when they don’t have their own computer. Overseas workers can be granted access to the corporate network without concern that sensitive data will be at risk from loss or theft since it is not stored locally.
- **Elastic and flexible demands for desktops:** Many companies need desktops for unique tasks or one-off projects. For example, developers need environments for building and testing applications. The flexibility of cloud-hosted desktops and apps enables rapid scaling of desktops and apps to accommodate evolving needs.
- **Windows 7 Migrations:** Instead of having to replace or upgrade desktops in order to run Windows 7, businesses can use their existing hardware. Not only will they save money that would have been spent on near-term PC refreshes, with cloud-hosted desktops they can extend the life of their existing fleet beyond what would have been possible and, when they do decide to replace their rich desktops, they can do so with less-costly and more power-efficient thin client devices.
- **Desktop disaster recovery:** Many companies have DR strategies for their server infrastructure but not for their desktops or applications. However, if a disaster occurs, the impact on end users—and the business—can be disastrous. Cloud-hosted virtual desktops provide a cost-effective desktop disaster recovery solution that can be implemented easily and rapidly.

VMware Horizon Air Desktops and Apps

VMware Horizon® Air™ Desktops and Apps (formerly VMware Horizon® DaaS®), are purpose built for delivering virtual desktops in the cloud. Horizon Air Desktops and Apps deliver a simple to deploy and affordable cloud-hosted virtual desktop.

Horizon Air Desktops and Apps enable delivery of a virtual desktop (customers provide their Windows 7 license key) that is accessible from any device, anywhere. It has standard packaging sizes that can be configure to meet end users’ performance requirements, with variables including OS, RAM, CPU and disk space. With just three steps required to set up a DaaS implementation, virtual desktops can be up and running in days.

- **Affordable:** With no infrastructure investment to get started, businesses only pay for what they need and pricing is consistent to enable predictable IT budgeting.
- **Simple deployment and management:** Managing virtual desktops is simplified through a single, web-based, intuitive interface. VMware cloud hosted desktops and apps look and act as part of the corporate IT environment, even though they are running at a secure remote data center. This is because the desktops and apps are connected to the corporate IT environment through a private network connection, and access is based upon the existing Active Directory. Businesses can quickly add, remove or modify desktops as needed, from any location with a browser.
- **Simple to try and buy:** Because no infrastructure is required you can pilot a virtual desktop immediately with a free trial.
- **Instant ‘on’ experience:** Users can stop working in one location or on one device and pick up where they left off seamlessly.
- **Any device:** Users can access their desktops and apps from an iPad, iPhone, iPod Touch and Android-based tablets, smartphones or Chromebooks. They can also use thin clients or extend the life of their existing PCs for cloud access.
- **Desktop flexibility:** Desktops can be set up for different use cases or groups of users quickly and easily. Options include performance, OS, features and remoting protocol.
Conclusion

The desktop market is ripe for change. Windows 7 migrations, new flexible business models, the need to reduce desktop TCO, and demand for mobile device support, and increasing adoption of cloud technologies are driving organizations to reevaluate their desktop strategy.

Cloud-hosted virtual desktops eradicate barriers to adoption, delivering a complete desktop from the cloud, providing all the benefits of VDI without any of the upfront investment. Businesses can eliminate the cost and complexity of deploying and managing desktops and applications, while enabling the flexibility that users require. And, by transforming desktops from the CapEx outlay inherent in onsite VDI and physical PC refreshes, businesses benefit from a predictable, easy to budget OpEx-based desktop environment. VMware makes it easy to take advantage of cloud-hosted desktops and apps. With VMware Horizon Air Desktops and Apps, you can accelerate and reduce the costs of Windows 7 migrations, simplify support for mobile and departmental workers, and improve desktop disaster recovery. To learn more: www.vmware.com/go/daas

*Gartner:
  - Prepare for the Windows 7 Migration Crunch, June 24, 2010
  - Gartner’s calculations assume the average enterprise with 10,000 PCs will need to replace roughly 25% of its machines early.
  - as quoted in http://www.zdnet.com/blog/bott/how-much-will-a-windows-7-migration-really-cost/2377

*IDC:
  - “IDC estimates that 1 billion workers will be mobile at least part of the time or remote from their firm’s main location by the end of 2011”

*IDC:
  - Nearly 90 percent of businesses plan to move forward with Windows 7 by mid-2012.
  - “Deployment Opportunities for Windows 7” June 2010
  - https://partner.microsoft.com/download/global/40148162

*TechTarget’s “Virtualization Decisions 2010 Purchasing Intentions Survey”: