



Desktop Virtualization

Desktop Virtualization: Allied Digital Services, Ltd

“The Top 5 Reasons CIO’s are considering Desktop Virtualization”

Summary

Allied Digital Services is pleased to present a four part series that will examine the role of desktop virtualization, its present and future within the IT infrastructure. This series explores the concept of a virtualized desktop infrastructure, the benefits of an optimized infrastructure, and the strategic implications. This series will provide an understanding of how virtualization works and how best to leverage these concepts and technologies in your environment. In this briefing we start with from the perspective of the technology leaders in our industry, “The top 5 reasons CIO’s are considering a desktop virtualized infrastructure “.

At the end of fiscal year 2009, IT spending was estimated to closeout somewhere around \$2.3 trillion dollars, down from the previous fiscal year 2008 which closed around \$2.5 trillion. The forecast for IT spending in 2010 remains fairly flat with only a slight increase predicted as budgets across all markets remain guarded. Gartner’s VP of Research, Peter Sondergaard, was recently quoted in an IBM/CIO Insights article stating, “The IT market is exiting its worst year ever.” Over the next 12 months, IT spending is going to focus on balancing cost, risk and business growth. CIO’s continue to face the challenge of reducing costs, streamlining and improving services while maintaining and minimizing risks. These challenges are coupled with strategic growth initiatives, and IT leaders must look to innovation in order to influence business strategy without adding overhead to the delivery model. As a result of our research and study, many IT leaders are carefully reviewing how and when to introduce virtualization across the infrastructure to transform and optimize the environment.

How do we reduce our risk and provide an agile infrastructure which is prepared and positioned for growth?

Introduction to Desktop Virtualization

Desktop virtualization includes many technologies and solution options. At the core, any ‘virtualization’ technology deals with separating layers and reducing dependencies. As a typical service or process stack can be divided into layers, virtualization occurs by encapsulating any subset of those layers, which can then be replaced by a new process outside of the stack. The most common examples are:

- In a typical data center virtualization scenario we encapsulate the entire OS, abstracting the physical hardware from the Operating System software platform of the server. By doing so, we are able to run an OS on an ‘emulated machine’ that mimics the real hardware.
- On desktops or traditional Citrix servers, we encapsulate the screen output and keyboard/mouse inputs, and then redirect those to another location over a compressed/encrypted connection to be presented to a remote user.

Desktop virtualization can occur at many different layers of the desktop computing stack. As more and more options have become available / viable, our toolset for delivering and managing desktop end user environments has also expanded, and many of the traditional constraints have been removed. Where flexibility for users had typically been prohibited by cost, security, or other constraint, many IT organizations are discovering that by choosing the right approach these technologies can deliver greater flexibility and security and a reduced cost.

The Top 5 reasons CIO's are considering desktop virtualization initiatives

1. Cost Savings / Reduced Total Cost of Ownership (TCO)

With budgetary pressures taking center stage and the ensuing squeeze on IT resources, CIO's are looking for creative methods of gaining better control and reducing cost. As the end user environment represents a most significant source of cost, IT organizations can expect a higher impact and return on investment by seeking solutions that offer greater operational efficiency. The following list presents the opportunities for cost reduction:

- **Operating Costs:** Desktop virtualization solutions are typically architected upon a foundational infrastructure where consistency is pervasive, dependencies are reduced (or eliminated), and each virtualized layer can be managed more effectively. To the IT financier, that translates to less waste and reduced service & support costs.
- **Implementation/Refresh Costs:** With automated provisioning and centralized user content, the end user environment can become less burdensome. With an end user operating environment free from dependencies upon device hardware, hardware changes become much less difficult.
- **Life Cycle / Dynamic Operation:** As the end user environment evolves, users find new opportunities and elevated requirements for computing resources. The definition of mobility has evolved from dial-up / VPN connections to an expectation of integration for desktops, laptops, handhelds, GPS, and new services such as in-flight WiFi. Desktop virtualization provides a more dynamic toolset where plug 'n play can meet the scalability demands of emerging Consumerization.
- **Extending the life of the asset:** savings here can be significant, accounting for IT spend reductions of as much as 30 percent to 40 percent. Application virtualization eliminates many compatibility issues, extending the life of applications and platforms; while a VDI infrastructure offers opportunities to extend the life of certain end user hardware.
- **Easing the Support Burden:** virtualization offers new opportunities for managing each layer of the desktop stack, perhaps the greatest cost-savings opportunities come from the architecture itself, which serves to reduced complexity. This simplified environment will require fewer resources to perform the ongoing management of desktops and applications across a distributed enterprise. With a properly designed desktop virtualization solution the daily activities such as adding, changing or moving users will be radically redesigned. With an integrated device management solution, virtualization can further remove the burden of installing, managing, securing and patching applications and desktops.

2. Business Agility

One aspect of cost that isn't often considered in TCO is the overall effect of *change* – and the rapidly evolving demands upon the end user environment. The staunch reality of most businesses today is that in order to survive, organizations must become adept at changing with fluctuating markets, unpredictable customers, and rapidly evolving employees. Innovation is no longer a luxury, as the theme of change sharply gains a place in the overall business strategy.

- **Improve Business Process:** implementing a Virtual Desktop Infrastructure (VDI) affords IT organizations the ability to further automate and provide self service portals more effectively and efficiently.

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With standard configurations, IT developers can automate the provisioning of virtual machines with run-book scripts allowing end-users to request services on-demand through self service portals thereby eliminating helpdesk service requests, saving both employee time and money.

- **Dynamic provisioning:** the virtualized infrastructure simplifies installations, moves, additions and changes to the end-user computing environment, where streamlined processes are no longer tied to the asset. As resource needs change, desktop virtualization can streamline and automate the provisioning of applications, services, and other resources from any location within the enterprises infrastructure.
- **Minimized Application Latency:** The VDI infrastructure can eliminate the fat client latency issue with applications by optimizing the information or data transferred across the WAN. Using VDI tools, applications can be physically located within the data center, improving execution speed and removing delays from the end-user perspective.
- **Accessibility:** By removing certain dependencies, desktop virtualization technologies can extend access to applications for a wider range of devices and for both internal & external end-users with varying connection methods, including common internet connections.
- **Support for Business Intelligence and Analytics:** As many organizations move to implement an effective BI strategy, desktop virtualization expedite the implementation of tools and resources for collaboration. With reduced application deployment times, dynamic provisioning, and a platform for meeting client requirements for access and security; the virtualized desktop will serve as vehicle for change.
- **Redefining IT's role – as a business enabler:** Now more than ever CIO's are presented with an opportunity – no, an expectation – of transforming the way the business thinks about IT. "There are no IT projects, just business projects [which] IT departments bring technological advice to the table to help a business improve," said British Airways CIO Paul Coby at a meeting earlier this year while addressing the Elite Group, an Effective Leadership forum in the UK. In order to transform the way the business views the IT organization, IT must align its architecture to the business strategy. Introducing a virtualization strategy significantly drives the IT organization towards a more flexible model that can meet, and in many cases, anticipate the changes of the business.

3. Governance & Control

CIO's are measured by the Business based on governance & control. A sound governance model maximizes the value the Business receives from the services provided by the IT organization. Our research indicates that shrinking budgets coupled with pressure to maintain the same levels of governance and control presents a growing conflict and an exponentially more complex problem set for technology executives. Positioned with reduced staff to provide service, less funding to implement strategic initiatives, and an aging infrastructure, a need for reform is beginning to surface and be felt by organizations throughout. Before this trend becomes too significant CIO's are exploring virtualization technologies that can be implemented relatively quickly so that the balance of service and control can be restored before the decline becomes to overbearing and the IT organization becomes a hindrance rather than a strategic advantage.

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- **Pervasive support for desktop management:** With the end-user resources and applications now centralized in the data center, they can be more effectively controlled via policy-based management tools.
- **Disaster Recovery:** The VDI infrastructure enables the ease and capture of decentralized data on the desktops; the information is now centralized in the data center and can be backed up to a storage area network fairly easily and efficiently.
- **Security:** As desktop virtualization solutions provide a more consistent and centralized architecture, sensitive data can be retained within the boundaries of centralized control. When integrated with a configuration management solution, end-user and device access is more easily controlled within the virtualized environment.
- **A Chance to Revitalize:** When pursuing a virtualization solution, a new approach to governance is not only an opportunity, but also a requirement. As a virtualization solution is designed, CIO's and IT leaders have found that governance procedures must be reconsidered due to the uniqueness of the virtual space in order to avoid leaving potential blind spots. The opportunities for better visibility and control in areas like managing content, preventing data loss, and preventing internal sabotage are greatly enhanced with a virtualized solution.

4. IT Process and Resource Optimization

Process and resource optimization is important for enhancing and sustaining an effective IT service delivery model that provides substantial benefit and advantage to the organization. Virtualization of the infrastructure is an enabler to enhancing IT processes and resource optimization.

- **Improve and streamline IT processes:** Budgets and employee counts are continuing to decline but many CIO's and IT leaders are viewing this trend as an opportunity to review, re-architect, and improve their operations. Many of the IT leaders we spoke with are turning to their trusted partners to assist in this process. In fact, 30% of the 298 CIO's and IT leaders recently polled indicated that they are working with their partners to find outsourcing solutions along with virtualization solutions that will assist in effectively revamping and streamlining their processes, along with freeing up the critical resources to focus on more business strategic initiatives. A virtualization initiative can be especially promising in this area; be it an Application, desktop virtualization or a complete cloud computing initiative, each one providing some strategic advantage to process and resource optimization.
- **Improve Workforce effectiveness:** A virtualized infrastructure is a critical component to an improved, effective workforce. End-users can be provided applications on-demand with little to no compatibility issues because applications are segregated into their own virtualized environment. Applications and desktops can be accessed from virtually anywhere that has an internet connection.
- **Responding to Change:** As business demands and requirements change with market conditions, the virtualized infrastructure allows IT to become more nimble and adept to change. For instance, a new application can be deployed and customized very rapidly within the data center and made available across the enterprise with minimal regression testing.

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5. Positioning for internal or external Cloud-Based Solutions

As with any technology being considered, CIO's extend their viewpoint beyond the present horizon and position, and seek a more strategic long-term value for the organizations technology future. Desktop Virtualization is one of those unique technologies that provides immediate benefits to an organization but also positions the organization to garner significant benefits in the future.

As steps are taken to reduce cost, create agility, and improve processes; the optimized organization is poised to further grow and capture opportunities of the cloud computing model. Not every organization will realize benefits of a fully implemented cloud-based environment, but portions of a proper virtualization model will undoubtedly place the organization one step closer to developing a realistic cloud computing strategy.

- **Service Oriented Application Architecture:** By encapsulating and abstracting separating specific layers or services from the desktop system, many of the dependencies are removed. This frees the service or application to run from any source, internal or external. By its nature, a truly virtual application or service can be managed in isolation, with specific SLA's that ensure optimal service levels and managed cost. As more applications and services are virtualized, the opportunity for outsourced or cloud-based alternatives grows, where specialized partners will provide those applications or services with higher service levels for a lower cost.
- **Simplified Infrastructure:** Traditionally to provision a new tool for the business would take days to weeks and in some cases months to get up and running. Introducing virtualization into the data center takes the provisioning of resources down from weeks to hours. Standing up a new server in the data center in a virtualized environment can be up and running in a matter of minutes. Furthermore, by vitalizing applications deployment times can also go from weeks to hours. This type of infrastructure now positions the business to expand nearly on demand or scale down as needed. Providing the virtualized desktop only adds even more agility to the mix. New employees can be provisioned and up running with only a few hours notice from the HR department. Independent of the hardware, location and installation of specific tools. Now the IT organization can create pre-defined worker profile images which can be provisioned instantaneously and specific tools can be provisioned through self service portals that allow the end-user to leverage the necessary tools to effectively complete their job function with little to no interaction with the IT organization.



About Allied Digital Services

Allied Digital Services, Allied Digital Services, Ltd, delivers IT life-cycle support, managed services and infrastructure management services to medium and large enterprises, educational institutions and government agencies across North America. With over 15 years of industry experience, ADSL employs a globally optimized business model that combines the skills approximately 400 U.S. employees, and over 1,900 resources from our business partners and affiliates. The Allied Digital service delivery methodology features fully engaged local sales and service teams supported by international resources and a world class infrastructure

Allied Digital Services has an extensive infrastructure solutions group that can assist your organization developing a virtualization strategy including: environment preparedness assessments, design consultations and implementation services. Our organization is partnered with the three top virtualization software vendors in the industry, Microsoft, Citrix and VMware. We have consultants certified and available in all three vendor product lines.

Whether you are looking to bring serviceability to the desktop or develop an internal cloud computing model in your data center our consultants can help you design a solution that best fits your organizational needs. We invite you to call, write or click, and find out how we can best assist you.

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