

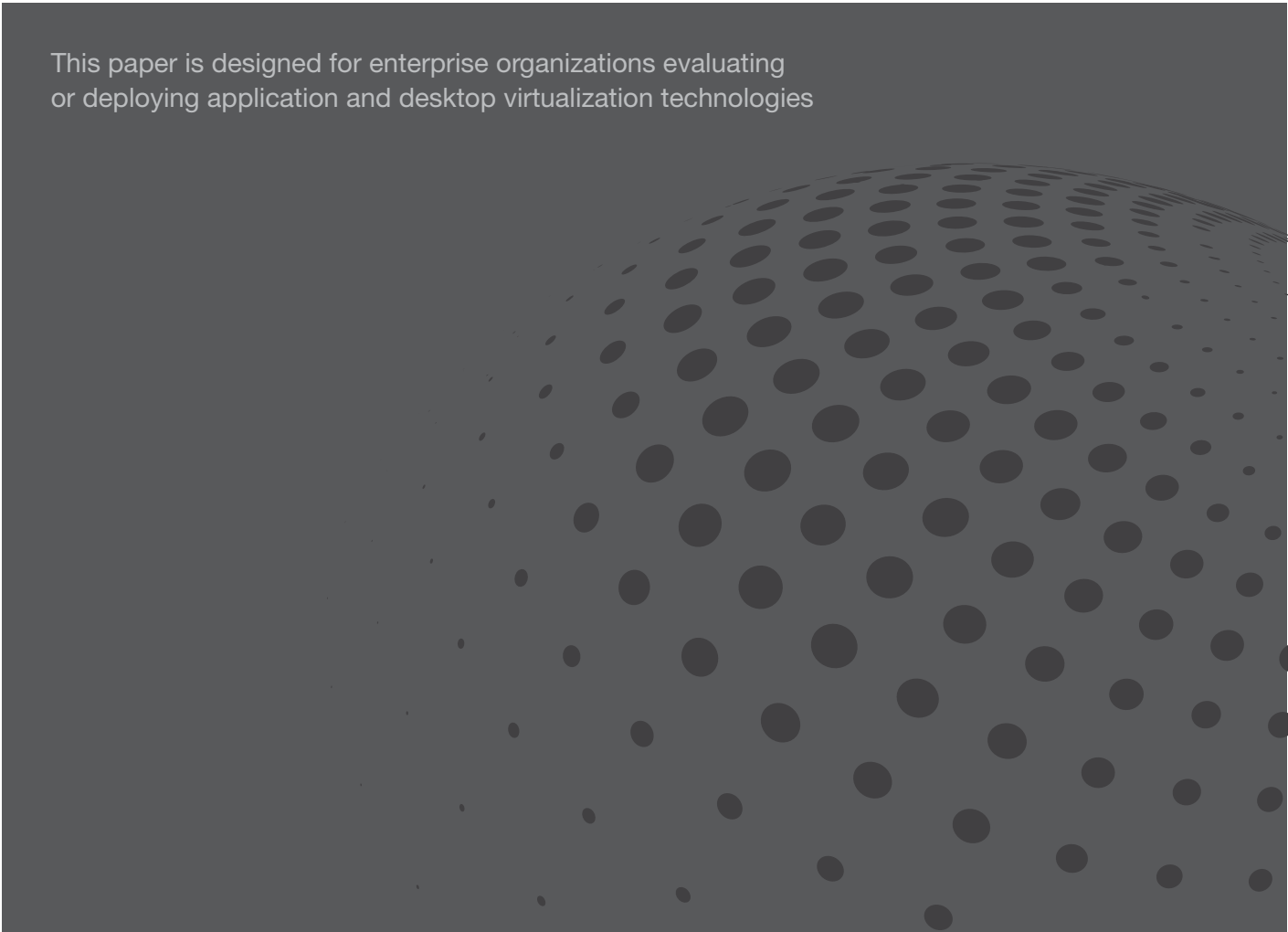


# Centrix Software

Unified end-user computing

## Optimizing environments for desktop virtualization

This paper is designed for enterprise organizations evaluating  
or deploying application and desktop virtualization technologies



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# Executive Summary

Desktop virtualization is gaining momentum, with most large-scale IT vendors now offering a virtual platform and an increasing number of new virtual desktop and VDI technologies coming to market. If you are reviewing your desktop environment, evaluating whether to virtualize or are looking to expand existing virtual investments, this paper will give some guidance on the steps you can take to build the business case for investment and ensure new projects run smoothly and to plan.

## The virtual challenge

While there may be many benefits to deploying a virtual infrastructure, there are also challenges to overcome. Most enterprise virtualization projects to date have been implemented on a piece-meal basis and many are proving just as complex to manage, if not more so, than their physical counterparts.

In this paper we look at the use of end-user computing analytics and unified service delivery platforms, and how they can help organizations overcome some of the challenges and frustrations involved in the move to a virtual infrastructure.

We examine how organizations can:

- Deploy virtualization platforms without disrupting users
- Identify where it makes sense to virtualize
- Blend the most appropriate technologies for the user environment
- Make new virtual investments fit seamlessly with legacy infrastructure
- Monitor virtual desktop delivery once new platforms are in place

# Desktop Virtualization: One size does not fit all

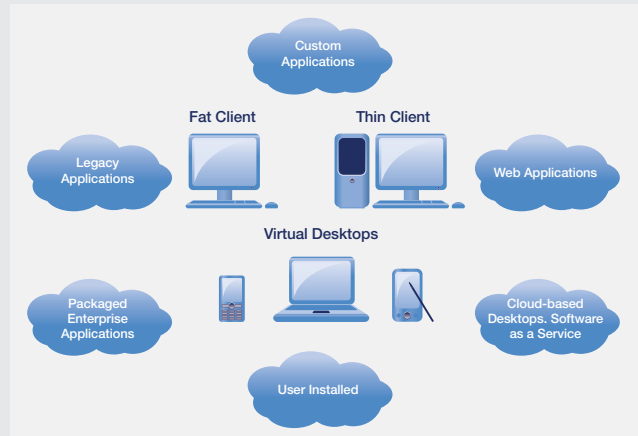
Most Fortune 500 and FTSE 250 organizations have been using a flavor of what is now called desktop virtualization for some time, with the deployment of server-based computing, remotely hosted desktops or application presentation technologies such as Citrix XenApp™ and Microsoft's Terminal Services™.

## Choice, choice and more choice

Today, there are many options open to organizations looking to virtualize their desktop environments, with Citrix and Microsoft broadening their technology offerings and companies such as VMware and a host of other vendors offering different flavors of virtual desktop provisioning.

Technology choice can be great for corporate IT departments but it can also present decision-making headaches. What technology is right for you? Is it best to standardize virtual environments on one platform? How can mobile users be supported, or those that need to work offline?

We see that as user requirements differ, certain technologies or approaches are better suited to some more than others. While some users can be supported with streamed or server-based applications, others may require local access to systems or require graphically rich environments in order to work. Many companies will also have a mix of business-



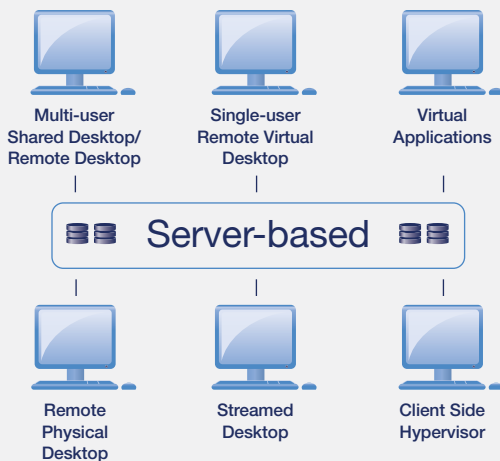
Enterprise application landscape

If this is not in place, organizations face the prospect of making the IT environment even more fragmented and complex.

So, what can we learn from deployments of desktop virtualization? How can we ensure that new or expanded roll-outs of virtual assets can be deployed successfully?

In this paper we talk about three key factors that will help drive successful decision-making and project execution:

- Intelligence on your current IT environment and how services are consumed
- The ability to support a blended approach to application and desktop delivery and protect the user experience
- A focus on efficiency



Some of the many flavors of desktop virtualization

critical legacy and web systems to consider and often these can't be deployed easily within a virtual desktop.

While we advocate the use of the right technology for the right purpose, the reality of running a mixed application environment is only viable if you have a standardized framework that allows you to blend a mix of application models seamlessly and in a manageable fashion.

# 1: First gain a true picture of your environment

There are three things that ultimately drive up most of the cost in IT – user demand, applications and servers. Before taking steps to virtualize your environment a thorough audit of these three areas is the starting point for any application or desktop rethink.

Knowing what applications are installed in your end-user environment, how, when and where they are used, and by whom, is critical to decision-making throughout the analysis and planning process.

Assessing application usage and user demands on the infrastructure goes beyond traditional Software Asset Management and Application Portfolio Management, where compliance and control are usually the main aims. It involves building a picture of the whole IT environment, from individual consumption patterns through to server utilization.

Until now it's been difficult to capture this information easily on a large-scale and at the granularity that is needed. However, end-user computing analytics solutions are now available that provide this level of analysis. With greater intelligence on users, applications and devices organizations can identify the best application candidates and user environments for desktop virtualization based on usage patterns and user behavior, rather than trying to apply a standard approach to everyone. IT intelligence solutions also show where desktop virtualization would not be the best approach, and where either traditional server-based computing models or other application delivery mechanisms would be most suitable, and cost-effective.

Data from end-user computing analytics solutions can also show where applications and servers are under-utilized. This can be used to support the rationalization of application licenses as well as the consolidation of server environments, including those that have been virtualized. Typically, this results in immediate cost reductions within the application environment being achieved even before new desktop and application deployments are rolled out.

Only once this type of intelligence is available can an organization really assess whether it makes economic sense, management sense or user sense to virtualize.

Intelligence on application consumption is also increasingly important as the choice of application platforms and virtualization technologies continues to expand – as it's likely that a blend of technologies and application models will be used by a large organization.

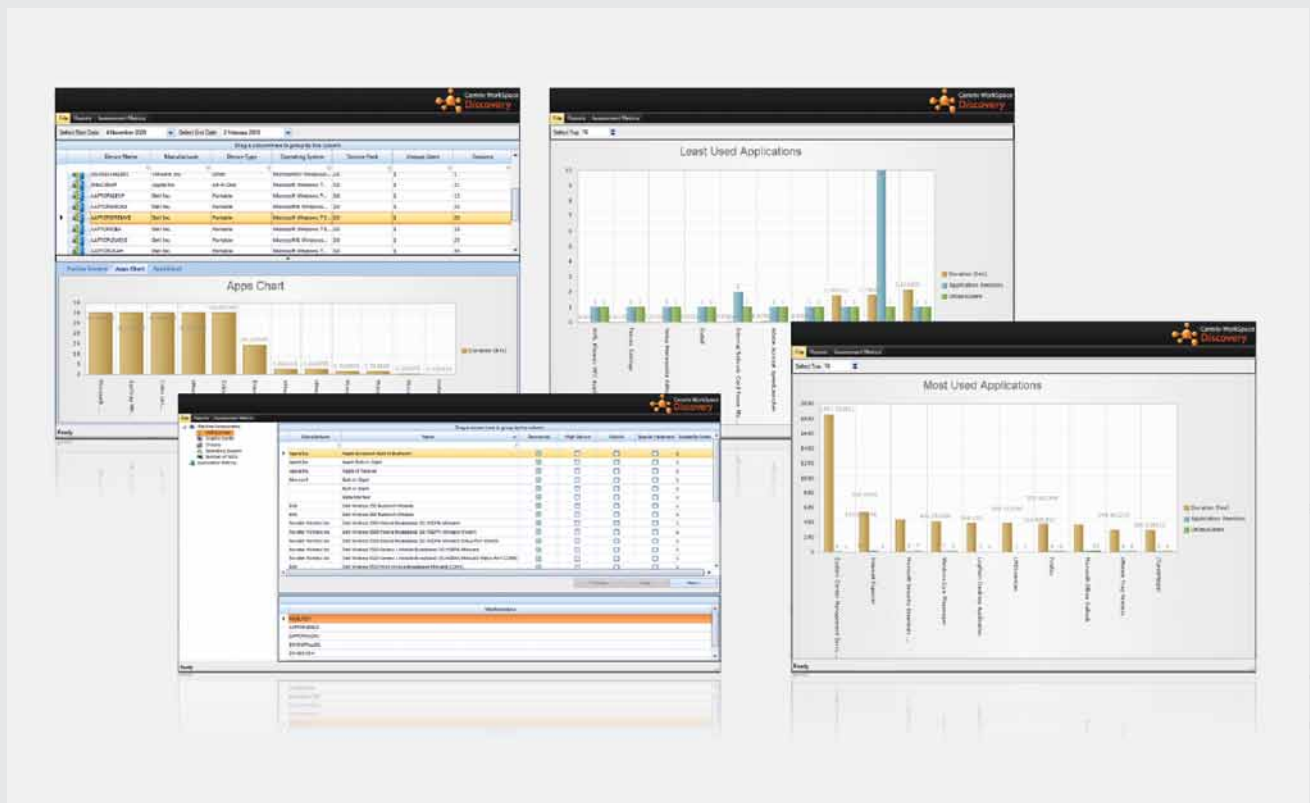
## How can you get the intelligence you need?

End-user computing analytics solutions such as Centrix Software's WorkSpace Discovery™ and WorkSpace iQ™, have been developed to enable organizations to extract detailed analysis of application delivery and consumption.

### Intelligence for evaluation

Centrix WorkSpace Discovery is a free-of-charge solution that provides analysis of company desktop environments. It helps identify applications that are suitable for virtualization and also unusual installations of hardware and software. WorkSpace Discovery provides answers to fundamental application usage questions such as:

- What applications are installed on the desktops? Are there applications users rely on that were not provided by IT?
- How often do users use the applications they have access to and what can be removed to clean the environment?
- What do users have that they shouldn't have? Are users using USB drives that contravene IT policies or do they have a business requirement to be using those devices? Can they therefore be easily virtualized with a requirement to move data to removable storage?



Centrix WorkSpace Discovery provides a picture of what is happening within your application and desktop environments

Workspace iQ extends this asset discovery and usage across the entire end-user computing environment, gathering and analyzing information to provide centralized monitoring, reporting and trending on the usage of deployed software across all technology silos. It tracks physical and virtual assets in place, so if an organization has already virtualized some application delivery – either with VMware, Citrix or other virtualization platforms – they can start to see what the usage of those systems actually looks like, and if it makes sense to expand the deployment. Corporate IT teams can see if users are actually accessing the new platforms or whether they prefer to use locally installed methods that are still available to them.

This is particularly useful for identifying server environments running virtualized applications that may not have active users or have very few regularly connecting. Workspace iQ gives a view of where to further optimize the virtualized server estate based upon actual end user application usage. Teams involved in the design of a virtual desktop project can begin to identify groups of users who are rarely connected to the network, who at first may appear to be strong candidates for virtualization but irregular network access may mean they are not a good fit.

Based on this data, over-installed or under-utilized applications can be identified. Often significant savings can be made on licensing requirements, which can contribute to the case for new project investments.

### **Intelligence during roll-out**

Before moving fat client estates to a virtual platform, having a clear picture of the applications being used by business groups and users can help with the generation tailored VDI templates and enable environments to be cleaned as you migrate. This allows for a more streamlined implementation when you get to the virtualized desktop - greatly increasing the chances that the user will get the applications they actually use and that the virtualization initiative will be adopted.

### **Intelligence once you've gone live**

Application usage changes over time; employees join, leave or move around; the mix of applications needed within business units changes and applications/products are phased out and new ones introduced. The key to maintaining an efficient virtual platform is to recognize that change occurs and any application delivery platforms must be able to evolve along with user demand.

Workspace iQ enables the continuous optimization of your application environment based upon actual application usage. For example, an application may be universally used when the platform is first created but months or years later is no longer critical, or may only be used by specific users or groups. Workspace iQ tracks this and allows the environment to be optimized accordingly.

## 2: Blending virtual assets

When it comes to desktop strategy, TCO and ease of management are important factors. However, user experience and standardization are just as critical. It is important to consider all in the development of virtual environments.

What we have learned from the deployment of thin client technologies and early generations of desktop virtualization is that users will not accept a poorer desktop experience to that provided by a standalone PC. We also know that central control and management is vital for IT, in order to curtail costs and drive efficiency. This is where a unified end-user computing platform comes into play.

Trying to enforce standardized processes across large-scale IT environments has long been a challenge for corporate IT teams managing a diverse mix of applications. Introducing a virtual desktop environment adds another silo that must be successfully integrated into the infrastructure.

Rather than trying to force all users into the same solution, a unified end-user computing platform allows organizations to create a central platform that consolidates virtual, physical and web provisioned services into a common delivery framework. It is non-intrusive to the existing infrastructure, adheres to the governance and security processes already in place and creates a layer across the back-end application platforms.

With a unified end-user computing platform, corporate IT can create application inventories and publish applications in a centralized browser-based “workspace” to each user, depending on their resource and service requirements. While the user sees a single environment for all their applications and data, the enterprise is free to use the back-end systems and application sourcing models most appropriate to deliver those applications.

As the user experience is now separated from the infrastructure that provisions the service, the corporate IT team can be more flexible in how they run and support the business.

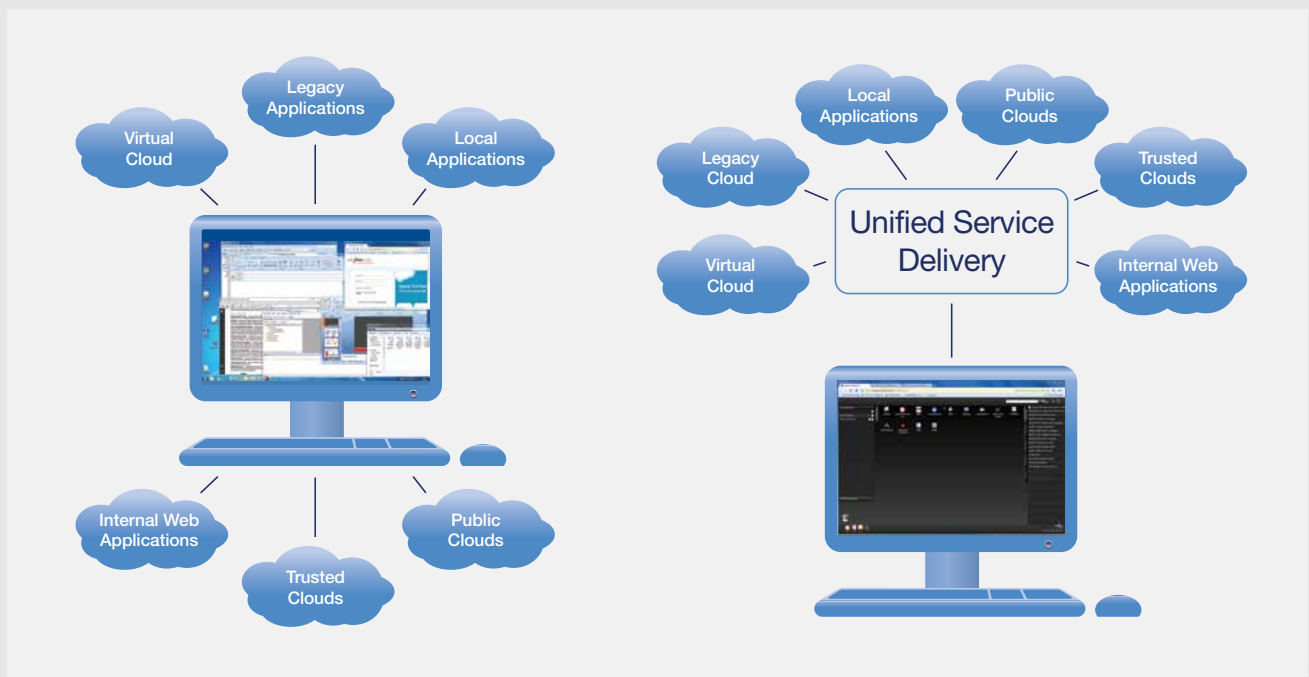
IT can choose the most cost effective application delivery techniques for specific services, and is free to change the underlying infrastructure without affecting the way the users see and launch those applications. This makes the delivery of services to users much more flexible. Without this abstraction layer, any changes made to the method of delivery of applications are painfully obvious to end-users, leading to an increase in support calls and dissatisfaction with IT.



This “right-sourcing” approach allows organizations to make the best technology choices for the future, based on the cost-effectiveness of using different platforms, the end-user experience required and the level of latency that is allowed. It also enables corporate IT departments to provide single point access to virtual, local and Web applications seamlessly, eliminating the frustrations of the ‘walled garden’ effect created by launching siloed virtual sessions.

WorkSpace Universal offers a simple web-based user interface for users to access authorized application estates, as well as providing a convenient way of organizing software services. Applications can be assigned to users or user groups and made available instantly through the browser-based user workspace.

This aggregated approach to application delivery allows greater control over the deployment of services to individuals or groups of users, ensuring that they are using the right



Siloed application delivery

Unified application delivery

Centrix WorkSpace Universal™ provides organizations with the ability to unify service delivery. WorkSpace Universal can transform rigid, siloed application infrastructures into dynamic user-centric, service-oriented delivery environments, aggregating resources originating from multiple vendor systems, including published applications and virtual desktops from Citrix, VMware or Microsoft, web and cloud-based applications and local Windows applications.

back-end infrastructure for their needs. At the same time, the overall user experience remains the same whatever applications are accessed, making life easier for them. This approach allows desktops to be standardized for the end-user, while the organization is free to choose the right application delivery mechanisms to suit its requirements.

### 3: Drive efficiency and refresh your approach to service delivery

In an ideal world, IT teams should be able to source the most efficient application delivery method for individuals or groups of users and attach costs to these services.

In this scenario, instead of under or over-provisioning, the enterprise has the right level of resource in place to cope with peaks in demand, while not over-spending on application licenses or server hardware.

This is the idea behind user-centric, service-oriented infrastructures, which enable the IT organization to measure the real business value of service delivery.

By considering where desktop virtualization fits alongside other application models and creating an enterprise-wide sourcing strategy, this approach gives organizations a way of creating measurable and differentiated value for the business. Right-sourcing of IT fits in with the ability to rationalize applications that are not used, and extend the value that server virtualization deployments are already offering.

This is an ongoing concern, as user needs change over time and business priorities shift. The right application delivery strategy today might not be the right approach a year later. By metering application usage patterns over time, and comparing this with the overall company strategy, the IT team can keep in sync with business requirements and incorporate those changes back into service development.

The ability to meter service consumption and support the delivery of applications from any type of application platform or source, are key components of service-oriented IT infrastructures.

**Centrix WorkSpace iQ and WorkSpace Universal come together to help drive greater efficiency in both the enterprise's back-end infrastructure, and at the desktop level.**

**WorkSpace iQ allows organizations to monitor and meter how applications are consumed across IT silos, providing data for both application trend analysis as well as supporting in-depth charge-back and billing programs.**

**WorkSpace Universal keeps the end-user experience the same even as changes in the back-end systems are carried out, by decoupling the application deployment infrastructure from the front-end delivery mechanism. Taking this approach future proofs existing investments while also making it easier to be more flexible in how applications are sourced.**

**Because the user experience is independent of the infrastructure, services can be delivered from private or public cloud environments, hosted services or retained at the local desktop level - whichever provides the cost model that is most cost-effective for the business while retaining the required user experience.**

## Conclusion

# The impact of virtualization on application delivery

In our haste to virtualize, we must not underestimate the impact virtualization will have on our application delivery processes and the user experience.

- Desktop virtualization requires a different mindset to traditional service delivery and even server virtualization. Ignore this element and we risk creating a new set of management and delivery challenges more complex than ever experienced with legacy environments.
- Desktop virtualization adds another technology silo that needs to be managed and integrated (or as we prefer, unified).
- While desktop virtualization promises reduced desktop management costs, cost alone should not be the only deciding reason for investment. In fact, desktop virtualization may require an increase in infrastructure costs to support the new model.
- Desktop virtualization is not a one size fits all solution. Users have different requirements and a virtual environment may not be the best way to deploy services to some. We can learn a lot from the early deployment of thin client and application presentation technologies. To be successful with desktop virtualization, we must know as much as we can about the dynamics of the real-world end-user computing environment as we design, plan and deploy new platforms.

- Remember the user is the business. Their experience can make or break a project. Get it wrong and users will not take to the new system. If this occurs, then at very best you'll experience a bumpy path to gaining support, at worst the project runs the risk of failure to adopt. The user must be at the heart of every transformation decision.

Implemented successfully, desktop virtualization has the ability to transform how services are delivered and how the value and cost of IT is measured. Corporate IT can begin to look at their sourcing strategy as a competitive advantage. Using a unified end-user computing platform, IT can take the concept of right-sourcing their environments to new levels.

For the business, desktop virtualization's true value can only be realized by understanding the value that users experience from their applications, and building a complete picture of how the enterprise IT infrastructure serves those requirements. By aggregating and metering application delivery and splitting the delivery platform from the underlying IT systems, businesses can ultimately make the right strategic choices for their technology investments and make their desktop virtualization projects succeed.

# About Centrix Software

Centrix Software helps organizations extract more value from their IT choices, enabling them to reap new benefits from developments in web and virtualization technologies.

Its solutions for Unified End-User Computing optimize the way IT infrastructures deliver applications and content provisioned from physical, virtual, web and Cloud platforms, by providing a user-centric approach to service delivery. Headquartered in Newbury, UK, Centrix Software works with leading organizations in banking and securities, insurance, telecommunications, retail, manufacturing, pharmaceutical, energy and utilities, and within the public sector.

Centrix Software's solutions are available through a network of value-add partners. For more information please visit [www.centrixsoftware.com](http://www.centrixsoftware.com)

To find out more about Centrix WorkSpace or to arrange a proof of concept please contact [\*\*sales@centrixsoftware.com\*\*](mailto:sales@centrixsoftware.com)

For a free copy of Centrix WorkSpace *Discovery*, an endpoint analysis solution, please go to [\*\*www.centrixsoftware.com/discovery\*\*](http://www.centrixsoftware.com/discovery)

