Desktop and Application Delivery Alternatives

A Focus Market Landscape Report

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Executive Summary

From the time desktop PCs began to appear within the corporate environment in significant numbers, IT departments have been struggling to get their arms around distributed desktop and application management. The work of managing and deploying software updates to the various desktop operating systems and associated application software has required a huge amount of IT time and budget. In the early 1980s, the first electronic software distribution (ESD) solutions were introduced to help ease this challenge. For the past 20 years, the industry has continued to struggle with the issue of how to better deploy, maintain, and manage distributed desktop resources. The desktop management story has continued to unfold with both successes and failures ever since.

One early alternative that IT organizations implemented to varying degrees and with varying success has been thin client computing. More recently, with the advent of server, desktop, and application virtualization technologies, new solutions have emerged as alternatives to traditional desktop and application deployment methods. In fact, these new solutions are alternatives to traditional desktops and applications themselves.

With these emerging technologies has come a great deal of confusion about the different technologies and approaches, how the various approaches work, the available vendor solutions for each, and how to select the right solutions for the mix of use cases within a specific organization. There is also confusion about what these solutions really include and what it takes to implement them, as well as confusion around variations in language used to describe the solutions and features.

For example, even the basic term *desktop virtualization* is used to mean a variety of different things. Is desktop virtualization done on the desktop or on the server? Does desktop virtualization include applications? Is server virtualization required for desktop virtualization? How does desktop virtualization relate to application virtualization? What's the difference between application virtualization and application streaming?

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> In fact, these new solutions are alternatives to traditional desktops and applications themselves. "

To reduce the confusion and bring clarity to the process of learning and evaluating these technologies, this Focus Landscape Research Series offers insights and perspective on the state of available desktop and application delivery approaches and alternatives, and how they each help address IT management challenges. The landscape here includes both width and breadth in the current and emerging solutions, and this report maps the differing approaches and solutions against the business and technology issues and usage requirements driving IT to these alternatives, both today and in the future.

Desktop and Application Delivery Alternatives

This Focus landscape report addresses the following key areas:

- The critical business and technical challenges faced by today's IT departments and user communities

- The various types of use cases for desktop and application delivery

- The technical architectures and solutions that are available and emerging to address deploying desktops and applications

- Key considerations when selecting and implementing solutions

- A high-level overview of the key vendor solutions, along with matrices on currently available products and key technical features

In-depth analysis on specific solutions is included in Focus solution profiles and case studies, available individually or in this landscape report's profile addendum.
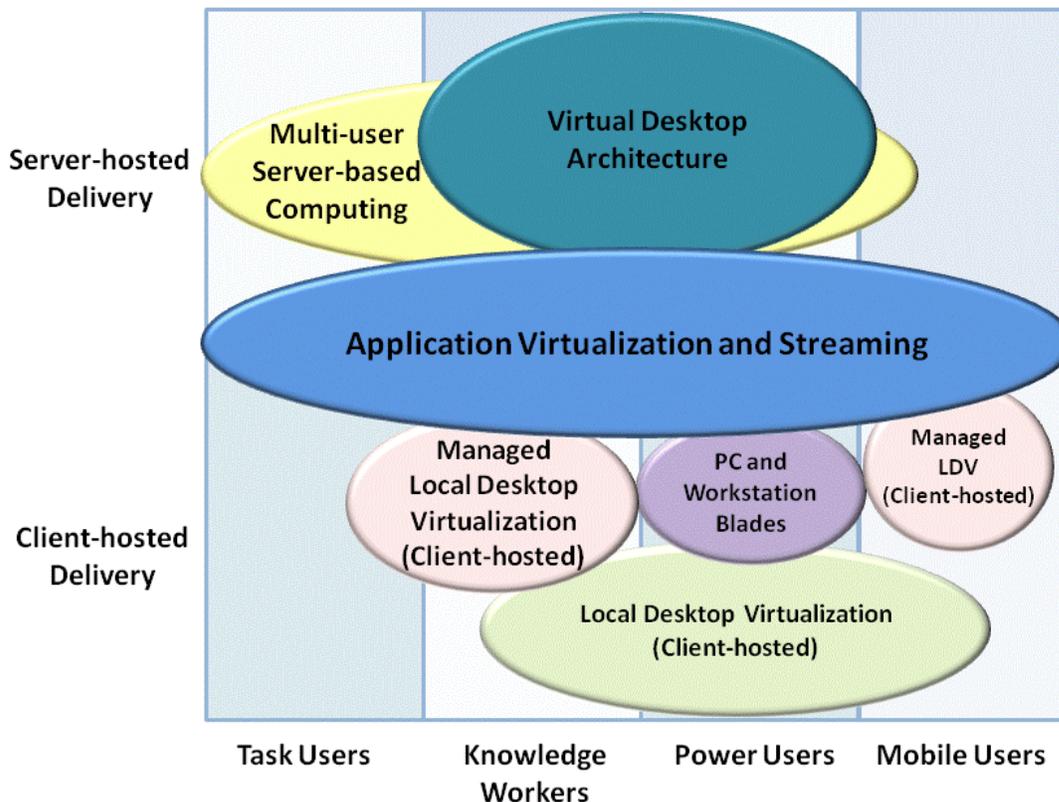

Figure 1: Desktop and application delivery alternatives – uses, technologies, and vendor solutions

Desktop and Application Delivery Alternatives

Figure 1 provides a high-level view of desktop and application delivery areas covered in this landscape report:

- The x-axis lays out the different types of desktop/application users (task users, knowledge workers, power users, and mobile users). These are discussed in depth in the report, including the vast difference in types of uses, for the same solutions, by different users (e.g., a call center agent who spends all day running one application vs. a knowledge worker who occasionally uses that same application but in a very different way).

- The y-axis lays out the solution-hosting architectures. The architectures are divided into server-hosted or client-hosted. This distinction separates many solutions as it determines whether the desktop and/or application software executes on a centralized server or locally on the desktop. This drives other decisions, such as local hardware needs and networking requirements.

- Using this basic framework, a deeper level of technical solution architecture is then mapped onto the diagram. The placement of the technology "bubble" represents its hosting architecture as well as the type of desktop/application uses for which it is a good fit.

- Within the landscape report, each technology area ("bubble") is discussed further, and the individual available solutions within each area are identified and discussed. A brief overview of each solution is included, along with product feature matrices for the various areas — virtual desktop architecture (VDA) solutions, local desktop virtualization solutions, application virtualization solutions, PC and workstation blades, and thin clients. These matrices include key technical features for each of the current vendor solutions in each area, which helps compare and contrast the available vendor solutions. Specific solutions and case studies on real-world implementations are also profiled separately, available individually or as a profile addendum.

The various technologies in Figure 1 can be used individually or together to provide solutions to many of the challenges of distributed desktops and applications. Their implementation will bring a change, not only in how desktops and applications are deployed, but in how they are viewed by employees.

With this level of change, significant thought, consideration, and education must go into transitioning to the new infrastructure. Planning and implementation considerations, both technical and organizational, must be included as a key part of the process.

Understanding vendor terminology and the various solutions provided by each vendor in this market is essential to the successful planning and implementation of new desktop and application delivery strategies.

"Building on the successes of server virtualization and server blades, these technologies extend beyond server consolidation to address the multitudes of distributed desktops.

They hold the promise of bringing management, security, and control back to IT, while taking best advantage of a distributed, virtualized infrastructure, and ultimately delivering a highly successful user experience — letting users focus on managing their work instead of managing their software."

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Continuing on the concepts and definitions outlined in Figure 1, Appendix B provides a glossary of terms to help remove confusion when vendors use different terms to mean the same/ similar things or use the same terms, but mean something different.

In conclusion, Focus believes that these new and emerging technologies, working together, bring long-needed help to the painful challenges of managing distributed desktops and applications. Building on the successes of server virtualization and server blades, these technologies extend beyond server consolidation to address the multitudes of distributed desktops. They hold the promise of bringing management, security, and control back to IT, while taking best advantage of a distributed, virtualized infrastructure, and ultimately delivering a highly successful user experience — letting users focus on managing their work instead of managing their software.

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Focus Solution Profiles and Case Studies

As part of the Desktop and Application Delivery Research Series, Focus has published the following related solution profiles and case studies. Clients who have purchased the entire research series receive these profiles as part of their package. For more information, or to purchase these additional profiles individually or in a package, please see details at http://www.focusonsystems.com/research/.

Solution Profiles

Virtual Desktop Architecture

Focus Solution Profile: Citrix XenDesktop

Focus Solution Profile: Qumranet

Focus Solution Profile: VMware Virtual Desktop Solutions

Virtual Machine Infrastructure/Server Virtualization

Focus Solution Profile: Citrix XenServer

Focus Solution Profile: Microsoft Hyper-V and System Center Virtual Machine Manager

Server-Based Computing

Focus Solution Profile: Citrix XenApp

Focus Solution Profile: Microsoft Terminal Services

Application Virtualization and Streaming

Focus Solution Profile: AppStream

Focus Solution Profile: Citrix XenApp

Focus Solution Profile: Endeavors Technologies

Focus Solution Profile: Microsoft Application Virtualization

PC and Workstation Blades

Focus Solution Profile: ClearCube

Focus Solution Profile: Hewlett-Packard Centralized Desktop Solutions

Focus Solution Profile: Teradici

Case Studies

Focus Case Study: Citrix XenApp

Focus Case Study: ClearCube - PC Blades, User Ports, and Sentral

Focus Case Study: Endeavors AppExpress

Focus Case Study: VMware VDI

Focus Case Study: VMware VDI and Citrix XenApp