

Virtualization: Extending Enterprise Application Life Span

A Rimini Street White Paper

Executive Summary

Modern virtualization software enables IT organizations to extend the life span of critical enterprise applications and reduce total cost of ownership. Virtualization is a proven, viable, cost-effective method of preserving the stability of your enterprise software infrastructure while keeping your technology stack up-to-date.

Definition of Virtualization

There are many kinds of virtualization including hardware virtualization, storage virtualization, desktop virtualization and network virtualization. This white paper is concerned primarily with *application virtualization*. A definition:

Application virtualization is an umbrella term that describes software technologies that improve portability, manageability and compatibility of applications by encapsulating them from the underlying operating system on which they are executed. A fully virtualized application is not installed in the traditional sense, although it is still executed as if it were. The application is fooled at runtime into believing that it is directly interfacing with the original operating system and all the resources managed by it, when in reality it is not.¹

The Issue

When vendors introduce new releases of browsers, operating systems, and databases, these new releases may be incompatible with existing, mature, stable enterprise software applications. The issue is that updating your browser, operating system, and database software is often necessary to remain compliant from a security perspective, but doing so may result in “breaking” your enterprise application platform infrastructure. For example, “Our version of Siebel won’t work with the new version of Microsoft Internet Explorer. We don’t want to upgrade our Siebel application — it’s too expensive and we don’t need new functionality. What do we do now?”

The Resolution

Rimini Street helps clients address this issue cost-effectively with virtualization software from VMware and Citrix. The use of virtualization software enables tremendous benefits, including:

- The option to extend the life span of critical enterprise applications, without requiring a software upgrade on top of hardware upgrades
- The ability to extend most applications efficiently across different devices
- The ability for users to run different applications on a local workstation, regardless of their local platform and operating system, as easily as a web-based application
- Cost savings from the reduction of physical hardware
- Lower energy costs to run fewer physical servers

In This White Paper

This white paper includes:

- An introduction to the basic concepts of virtualization software
- Summary descriptions of the virtualization solutions recommended by Rimini Street for Siebel clients that take advantage of third-party support:
 - VMware ThinApp™
 - Citrix XenApp™, Citrix XenDesktop™ and Citrix XenServer

Introduction to Virtualization Software

Challenges of Change

IT organizations are under constant conflicting pressures to:

1. Preserve the stability of their infrastructure
2. Update technology for compliance, security, consistency or other reasons

Organizations face a growing challenge of maintaining a balance between running a mature and stable application (such as Siebel) and staying current with platform, hardware, operating system, and browser releases. In fact, most software vendors often follow the lead of platform vendors, resulting in software certification which only applies to the latest releases of the database and operating system. Thus there is a constant need to “play catch-up” as new browser releases and operating systems continue to introduce complexity and instability to mature and stable software applications. User workstations are an especially vulnerable area because of updated security requirements and new hardware allocation.

Traditional Application Deployment and Maintenance

The traditional approach to application deployment is to perform an installation on each individual user’s PC, and then attempt to manage, upgrade, patch and maintain the applications at the endpoint. This method quickly creates cost and complexity that grows exponentially as applications and users are added or changed in any way.

For example, the Siebel CRM 6.x application is a full client install on each client device. And although Siebel CRM 7.x and 8.x application offer a Web-based entry point requiring only a standard Web browser, the Siebel High Interactivity Framework for Internet Explorer is a client that must be downloaded and maintained on each client device. In addition, each client PC must have the proper prerequisite installations and security settings in order to successfully utilize the High Interactivity Framework.

“Don’t Deploy — Deliver!” with Virtualization Software

Recognizing these perpetual challenges facing IT shops, Rimini Street recommends that clients examine and implement alternative technologies such as application virtualization to address the conundrum between maintaining a stable enterprise application and accommodating the need for users to run new devices that include browser and operating system upgrades.

Virtualization software is not a new concept; virtualization was first developed by IBM in the 1960s to fully utilize mainframe hardware by logically partitioning them into virtual machines.² In the 2000s, implementation of virtualization solutions has surged as IT groups have had to deal with the challenges of high maintenance, management and infrastructure costs.

Today, virtualization has found a secure place in the IT ecosystem, as cost pressures continue to strain IT organizations. The traditional approach to application deployment and maintenance is increasingly giving way

to a world of directly delivered, virtualized applications, a shift highlighted in the title of a 2007 Forrester Consulting report, "Moving IT From Application Deployment To Application Delivery."³

Virtualization Vendors

There are multiple virtualization software vendors in the market, led by VMware and Citrix and also including Microsoft and Oracle. For the purposes of this white paper, we will focus on the current dominant application virtualization software vendors: VMware and Citrix. The prototype virtualization solutions outlined in this white paper are based on software currently available from VMware and Citrix.

In effect, these virtualization solutions help insulate the Siebel application implementation from future pressures as new Internet Explorer and operating systems versions are released, and older versions are further pressured towards obsolescence. By using virtual applications, organizations can enable fewer, simpler virtual desktop images and eliminate system conflicts. This can reduce application regression testing and increase virtual desktop density.

How to Use This White Paper

The remainder of this white paper consists of high-level scenarios of a number of VMware and Citrix virtualization solutions that are applicable to Siebel licensees. This white paper is not intended to be an exhaustive description of all available scenarios and solutions.

Further research into the solutions' cost structure and scalability should be undertaken by organizations interested in virtualizing their Siebel applications. For the reader's convenience, links to selected websites for further research are provided in each section.

Rimini Street Proposed Delivery System for Siebel: VMware ThinApp

VMware ThinApp enables IT to package applications into single executables that run completely isolated from each other and the operating system for conflict-free execution on end-point devices. With ThinApp's agentless application virtualization, organizations can accelerate application delivery and simplify application migration.

VMware ThinApp: Typical Siebel Scenario

Example: Client Requirement

Maintain Siebel 7.x and 8.x compatibility with newer Internet Explorer browsers, newer operating systems, databases, security patches, and so on.

Solution Benefits

With ThinApp you can:

- Deploy application packages to different Windows platforms, eliminating costly recoding and regression testing to allow for easy migration of existing applications to Windows 7
- Eliminate application conflicts, reducing the need for recoding and regression testing
- Deliver reliable and flexible application access to all user profiles
- Eliminate the need for additional server hardware or software investments

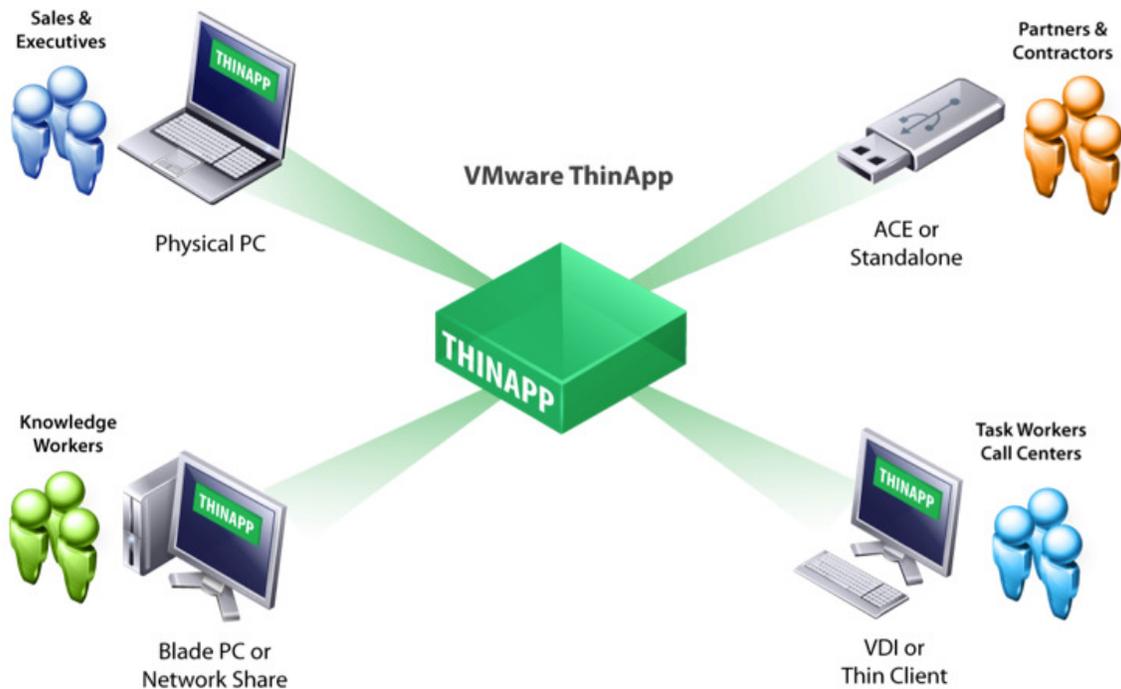
Solution Technical Details

- ThinApp dynamic application delivery requires no additional servers or databases.
- Straightforward application delivery:
 - Install VMware ThinApp.
 - Virtualize Internet Explorer. This process will create a single .EXE or .MSI file.
 - Deliver the .EXE or .MSI file to user's laptops/desktops (the application packages created in .EXE or .MSI format can be copied to endpoints or served from a file share). This does not interfere with the local instance of Internet Explorer already installed on the user's laptops/desktops, as the virtualized application package acts totally isolated from the operating system.
- Single image executables can be integrated into your existing enterprise software delivery system or processes.
- Customized integrations can also be done using the ThinApp SDK or standard scripting language such as VB, C or Java.

For More Information

Contact VMware or visit <http://www.vmware.com/products/thinapp/>.

Virtualization of Enterprise Applications



VMware ThinApp: Package once, deploy to many end points.

Image source: <http://www.vmware.com/products/thinapp/>

Rimini Street Proposed Delivery Systems for Siebel: Citrix

For organizations under pressure to adopt current versions of Internet Explorer because they are running older Siebel releases, Citrix is an attractive solution because it removes the application's dependency from the user's workstation, and can be deployed in almost any device. For this reason, Siebel's vulnerability to changes in Active-X controls or browser-level objects is well mitigated.

Rimini Street clients leverage Citrix virtualization to extend applications for development, quality assurance (QA), and support. This white paper summarizes three Citrix solutions that can provide significant value to Siebel clients:

1. Citrix XenDesktop
2. Citrix XenApp Platinum Edition
3. Citrix XenServer

1. Citrix XenDesktop: Typical Siebel Scenario

Example: Client Requirement

Maintain Siebel 6.x application while the rest of the technology stack warrants an upgrade to the operating system, Internet Explorer, and/or database.

Solution Benefits

Benefits of Citrix XenDesktop include:

- Delivery of Siebel application instantly to users anywhere.
- Centralizes and simplifies desktop management across the entire desktop lifecycle, dramatically reducing storage and endpoint costs, and providing the lowest TCO for desktops.
- Improved security with centralized control and secure access to data and applications
- By maintaining a single master virtual desktop image in the data center, users are provided an up-to-date, pristine virtual desktop at each logon, drastically reducing patch and upgrade maintenance efforts, and cutting storage costs of hosted virtual desktops.

Solution Technical Details

- Administrators can use the single virtual desktop image to provision virtual desktops hosted in the data center, or stream the virtual desktop to the endpoint to leverage local processing power.
- Users are instantly provisioned with a pristine virtual desktop that incorporates the user's personal settings and applications (such as Siebel), regardless of the access device or location — whether accessed while on the corporate network or via remote desktop access.
- Citrix XenDesktop is secure by design, offering centralized data, encrypted delivery, an SSL VPN appliance, and multifactor authentication. This ensures appropriate data security and ensures that intellectual property is protected and in compliance with regulations.

For More Information

Contact Citrix or visit <http://www.citrix.com/English/ps2/products/product.asp?contentID=163057&ntref=mainxdvanityurl>.

Virtualization of Enterprise Applications



How XenDesktop Desktop Delivery Works

Image source: http://www.1st-computer-networks.co.uk/citrix_xen_desktop.php

2. Citrix XenApp Platinum Edition: Typical Siebel Scenario

Example: Client Requirement

Maintain Siebel 7.x and 8.x compatibility with newer Internet Explorer browsers, newer operating systems, databases, security patches, and so on.

Solution Benefits

Benefits of Citrix XenApp Platinum Edition include:

- Delivery of the Siebel application is through the Internet Explorer browser in the data center.
- Most of the network traffic is localized in the data center and access to these applications can be accommodated in a rapid manner on any device from any network.
- Citrix XenApp is used to deploy, upgrade and manage applications from a centralized location.
- The need to install or manage applications on individual user devices is eliminated, lessening the administrative burden typically associated with application testing, provisioning, management and support.
- Utilizing Citrix XenApp dramatically improves the cost, simplicity and security of managing applications — without compromising the end-user experience in any way.

Solution Technical Details

- IT staff can install and configure Internet Explorer, Siebel High Interactivity Framework, and auxiliary components such as the Java Runtime Environment centrally on Citrix XenApp Server and make the Siebel application immediately available to all users on any workstation.
- Installing the application components one time in the data center and virtualizing the application delivery over the network means that only pixels, mouse movements, and keystrokes are traversing the network. This significantly reduces IT administrative overhead.
- Organizations may use the application streaming feature to maximize server resources and provide offline application access to users if required.

For More Information

Contact Citrix or visit http://www.citrix.com/English/ps2/products/product.asp?contentID=186&ntref=prod_top and <http://solutions.oracle.com/solutions/citrix/xenapp>.

3. Citrix XenServer: Typical Siebel Scenario

Not an application virtualization package, Citrix XenServer is a server virtualization solution for integrating, managing and automating a virtual data center. The combination of Citrix XenServer and Citrix XenApp is a virtualization option that has been validated by Oracle for use with Siebel 6, Siebel 7 and Siebel 8.

Citrix XenServer, a member of the Citrix Delivery Center product family, is one of the simplest and most effective ways to virtualize servers and deliver dynamic data centers that are responsive to the ever-changing demands of business. Using Citrix XenServer, organizations can deploy high-performance virtual machines rapidly and easily, and manage them and their related storage and networking resources from a single easy-to-use management console.

Example: Client Requirement

Improve server ROI: reduce the total number of Oracle servers in the data center through server virtualization.

Solution Benefits

- A reduced number of underutilized servers in IT infrastructure
- Dramatically reduced Oracle server hardware and operating costs through savings on power, space, cooling and system maintenance
- Increased server utilization, reduced total cost of ownership, and more dynamic data centers that make it easier for IT to respond quickly to business change
- Continuous application availability for Oracle applications with XenMotion allowing virtual machines to move seamlessly without downtime

Solution Technical Details

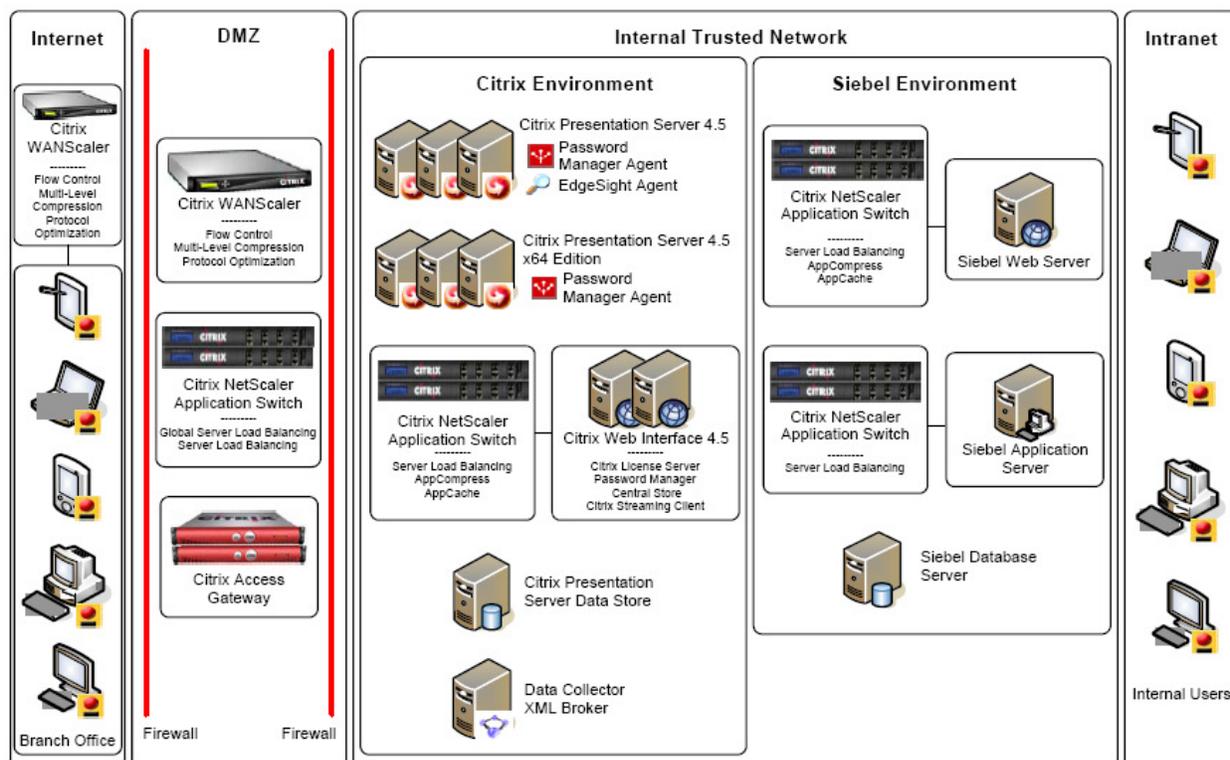
Citrix XenServer delivers:

- High-performance virtualization within an easy-to-use virtualization platform
- Easy-to-use Windows and Linux virtualization solutions with built-in virtual machine lifecycle management
- The XenCenter unified virtualization management interface to manage Oracle servers along with their associated storage and networking
- Native 64-bit hypervisor providing scalability and support for Oracle enterprise applications

For More Information

Contact Citrix or visit <http://www.citrix.com/English/ps2/products/product.asp?contentID=683148>.

Virtualization of Enterprise Applications



Siebel CRM 8.0 and Citrix: Fully Integrated Solution

Image source: http://www.citrix.com/site/resources/dynamic/partnerDocs/CitrixDeliverySystemforOracleApplications_Siebel.pdf

About Rimini Street, Inc.

Rimini Street is the leading third-party provider of enterprise software support services. The company is redefining enterprise support services with an innovative, award-winning program that enables Oracle and SAP licensees to save at least 50 percent in annual support fees and save up to 90 percent in total support costs over a decade. Clients can remain on their current software release without any required upgrades or migrations for at least ten years. Hundreds of Global, Fortune 500, midmarket, and public sector organizations from virtually all industries have selected Rimini Street as their trusted, software vendor independent support provider. To learn more, please visit www.riministreet.com or call within the USA (888) 870-9692 or internationally +1 (702) 839-9671.

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Endnotes

¹ "Application Virtualization," *Wikipedia: The Free Encyclopedia*, http://en.wikipedia.org/wiki/Application_virtualization, accessed October 27, 2010.

² "History of Virtualization," *InfoBarrel*, http://www.infobarrel.com/History_of_Virtualization, accessed October 27, 2010.

³ "Moving IT from Application Deployment To Application Delivery: A Guide to Application Delivery for IT Infrastructure Operations Managers: Spotlight: Windows Applications," Forrester Consulting, July 2007.