Partner’s Guide to
VIRTUAL DESKTOP INFRASTRUCTURE

An RCP Solution Spotlight on a joint effort by Microsoft and Citrix to bring a VDI solution to the market. By Scott Bekker
Turn the Hype into Money.
Desktop Virtualization from Citrix and Microsoft Delivers Desktops as a Service to Users Anywhere.

Help your customers reduce the total cost of ownership by up to 40%, ensure business continuity, and improve security by centralizing desktop lifecycle management in the datacenter.

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Microsoft and Citrix Systems Inc. are working together on a joint go-to-market strategy for partners to take Virtual Desktop Infrastructure (VDI) solutions to the market.

VDI is a special subset of desktop virtualization, itself a subset of virtualization in general.

While virtualization separates hardware from software, Microsoft’s overall virtualization approaches fit into four broad buckets—server virtualization, desktop virtualization, presentation virtualization and application virtualization. The biggest part of the virtualization market to date has been consolidating multiple software servers onto comparatively fewer hardware servers.

Such server consolidation is still a growth industry, especially in a down economy, in which there are savings to be gained by reducing hardware and power expenses. But analysts see potential in other areas of virtualization. One of the most promising seems to be desktop virtualization. Research firm IDC forecasts the desktop virtualization market will be worth $1.7 billion by 2011. Analysts at Gartner Inc. project that 50 million desktops will be virtualized by 2012.

The Microsoft-Citrix VDI solution brings nearly all the elements of Microsoft’s virtualization technology stack together, along with some glue from Citrix. The many moving pieces of the VDI puzzle require competent, trusted solution providers to put them all together for customers. If this opportunity materializes in the way that analysts forecast that it will, partners will be the reason.

Microsoft defines VDI this way in a datasheet: “Microsoft Virtual Desktop Infrastructure (VDI) is a centralized desktop delivery solution from Microsoft, which allows customers to centralize the storage, execution and management of a Windows desktop in the data center.”

Key beneficiaries are companies with employees in home offices, those that need employees to be able to access a personalized desktop from any workstation or those with extensive security or compliance requirements.

“VDI is best suited for contract and offshore workers, for users who need access to their work environment from anywhere, including from a non-company-owned PC, as well as enterprise customers with a centralized desktop strategy for office workers,” the Microsoft materials explain. That’s not to say everyone is appropriate for VDI, even when a fat client isn’t the answer for some reason.

“Terminal Services, which has been widely adopted for virtualizing the presentation of entire desktops or individual applications, is an alternative centralized desktop delivery solution from Microsoft and provides the most cost-effective solution for task workers,” according to Microsoft.

As in the early days of Terminal Services, Microsoft is once again turning to Citrix for help. Those with a long memory in the industry recall Citrix’s special status as a strategic technology partner of Microsoft’s dating back to 1989. One of the biggest stress points in that relationship came when Microsoft moved to build its own Terminal Services and then to include Terminal Services directly in the operating system, stepping into an area where Citrix had been adding value. Even since, Citrix has managed to stay close to Microsoft and release complementary products that fill technology gaps in the Microsoft product line.

Citrix has long been proud of its ability to both stay out from under Microsoft’s feet while embracing and extending Microsoft platforms, and the company continues to build nearly all of its sales on Microsoft technologies. One partner-facing Citrix Web site (which includes a characteristically enthusiastic endorsement from Microsoft CEO Steve Ballmer that “They know how to partner best with Microsoft!”) notes that 99 percent of all Citrix business is on Windows. The site also points out that every Citrix Channel Partner is a Microsoft Certified Partner.
According to Citrix executives, the company feels it has discovered a new opportunity to help Microsoft extend its platform capabilities to allow personalized virtual desktops to be generated from the data center using XenDesktop together with Microsoft Windows Server, Hyper-V and System Center Virtual Machine Manager. It’s significant that Microsoft is producing go-to-market materials with Citrix that feature both Microsoft and Citrix technologies, rather than taking the more standard approach of handing out parallel datasheets—one featuring its technologies and the other featuring a favored partner’s.

**WHAT VDI OFFERS**

Microsoft and Citrix have worked out several business reasons that partners can use to pitch the new joint VDI solution. Touted advantages to the approach are:

✱ **Low desktop TCO:** With desktop lifecycle management centralized and simplified, storage requirements are reduced and endpoint management requirements are lowered.

✱ **Single image desktop management:** Administrators maintain a single master desktop image in the data center. The image can be fully patched and secure at each log-on.

✱ **Real-time desktop assembly:** The clean desktop is provisioned to the user at log-on, with personal settings and applications assembled on the fly on any supported access device.

✱ **Built-in virtual applications:** Virtual applications enable fewer, simpler desktop images and eliminate system conflicts. This can reduce application regression testing and increase virtual desktop density by up to two times.

✱ **Secure by design:** The solutions use encryption to keep over-the-wire transmissions secure and offer multi-factor authentication to make sure users are connecting to the right data in their image. This is especially important in environments with intellectual property concerns or regulatory compliance requirements.

**UNDER THE COVERS**

The solution from the two vendors consists primarily of Microsoft technologies and components with a key piece from Citrix. A core technology is **Microsoft Windows Server 2008**

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**VIRTUALIZATION BASICS**

Here’s an at-a-glance look at what virtualization is, what it accomplishes and why it’s so important to partners right now.

Virtualization, for the uninitiated, is the breaking of the bond between software and hardware. In the standard pre-virtualization data center, one software program, such as Microsoft SQL Server or Microsoft Exchange, is typically loaded on one physical server. That leads to servers with wasted capacity, as most run at less than 10 percent. When you need to add capacity, you add another physical box.

Breaking the software-hardware bond enables changes such as putting multiple software servers on a piece of hardware. There might be five copies of Exchange or SharePoint on a physical server. It’s also possible to run disparate operating systems, such as Windows Server 2008 and Linux, on that same server. The server will be using more of its capacity, and adding another database server or Web server won’t normally require buying and provisioning a new hardware server.

Virtualization comes in different flavors. Here are thumbnail sketches of the types mentioned in this story:

✱ **Server Virtualization:** A server’s hardware is virtualized, or abstracted, allowing multiple operating systems or software servers to run simultaneously on one physical server.

✱ **Desktop Virtualization:** This can be defined in different ways. The older way is very similar to server virtualization. The desktop’s hardware is virtualized, allowing multiple operating systems to run on one physical workstation. Other definitions include presentation virtualization (see next entry) and VDI (see last entry).

✱ **Presentation Virtualization:** A client computer’s data, including operating system, applications and customization data like wallpaper and personalized desktop, is stored in a virtual machine (VM) in a data center server. The computing environment is then delivered remotely to the user, but the VMs are managed, created, updated and stored centrally. This definition can also refer to traditional Terminal Services technologies.

✱ **Application Virtualization:** This involves isolating an application in a VM and delivering it to an end user to keep it from interfering with other applications.

✱ **Virtual Desktop Infrastructure (VDI):** A solution that combines elements of server virtualization, presentation virtualization and application virtualization.

—Keith Ward and Scott Bekker
with Hyper-V. Microsoft’s server virtualization platform provides the foundation on which the virtual desktops are stored and where they run.

Another component is System Center Virtual Machine Manager (SCVMM) 2008. This piece takes care of the deployment, provisioning and management of virtualized desktops. One role of SCVMM is to place virtual machines (VMs) on the most appropriate physical host servers. The technology also provides performance and resource optimization for management of the virtual infrastructure.

Vista Enterprise Centralized Desktop (VECD) is the licensing model for VDI desktops. For PCs, the model involves an annual subscription in addition to Windows Software Assurance. For thin clients, VECD is an annual subscription that includes Software Assurance.

What Microsoft lacks is the connection broker, and that’s where Citrix comes in with Citrix XenDesktop. The Citrix technology supports Hyper-V and integrates with the Microsoft-Citrix VDI solution brings nearly all the elements of Microsoft’s virtualization technology stack together, along with some glue from Citrix.

of App-V’s appeal is an ability to install and run applications on the fly, streaming startup components first and other components only as they’re needed. The technology adds to the assemble-at-logon nature of the whole VDI solution.

Another option in VDI solutions is Windows Server 2008 Terminal Services to virtualize the presentation of entire desktops or certain applications in a virtualized desktop.

There are also opportunities for Microsoft partners to implement System Center Server Management Suite Enterprise (SMSE), the umbrella suite of Microsoft management technologies, into solutions.

MARKET OPPORTUNITIES
Because of the complexity and the expense of the components for these solutions, this is a solution for customers in the midmarket and above. Citrix targets midsize to large enterprises with at least 250 desktops. Some of the most logical industries for the solution include financial services, health care and pharmaceuticals, government, education, manufacturing and professional services.

One area of opportunity is outsourcing. As the economy sours, some IT market analysts predict outsourcing will surge (although others predict it will fall slightly). If the positive outlook for outsourcing is correct, Microsoft VDI could help. Microsoft and Citrix pitch VDI as a way to support off-shoring and outsourcing initiatives, providing virtual desktops to overseas employees or contractors. In any case, distributed workforces can be good candidates for a VDI solution.

Some of the other target industries for VDI are distinguished by their heavy regulatory compliance burdens or their need for extra precautions surrounding data privacy. The solution can be a fit in those industries where data accessed by a distributed or contract workforce must be carefully controlled. A virtualized approach also has the potential to reduce the impact of lost or stolen equipment.

One other business opportunity is as part of a business continuity plan. Remote or branch office workers who
get their desktops served through VDI could be up-and-running in a backup location or working from home in case of a flood, storm or other disaster.

Some other sales opportunities depend on already installed software. In the case of customers who are already using Microsoft System Center products to manage traditional PC deployments, there’s a chance to expand the engagement by bringing in the virtualization side of System Center through SCVMM.

Customers who are already using VMware Inc. software for server virtualization may be willing to put in the Hyper-V-based solution side-by-side for the VDI side.

As Microsoft’s materials say, VDI isn’t for everyone. But some customers have subsets of workers who may be ideal for VDI. A successful pilot program serving those subsets of employees may lay the groundwork for a broader deployment across the company in the future.

STRIKE POINTS
A few scenarios are likely instances when customers would be most willing to buy a VDI solution, according to Citrix. They include:

✱ Companies that are planning major desktop rollouts for branch office expansions or global expansions.
✱ Companies that are newly coming to terms with issues of compliance requirements or secure data mandates for end-user devices.
✱ Companies newly concerned about disaster recovery and business continuity.
✱ Organizations looking for a new strategy for refreshing user desktops.

COMPETITION
The competitive set can be summed up in one word, VMware. The company that’s name is synonymous with the term virtualization has a VDI solution called VMware View. The solution consists of VMware Infrastructure 3, a virtual data center operating system that pools physical servers for provisioning of virtual systems, and VMware View Manager 3, a desktop management solution for managing, provisioning and deploying VMs. A premier edition adds VMware View Composer—for creation of desktop images that share virtual disks with a master image; VMware ThinApp—for application virtualization; and Offline Desktop—for moving a virtual desktop to the physical device for offline use.

MARKETING RESOURCES
Microsoft and Citrix have been working over the last few months to pull together resources for partners. They’ve developed a “Getting Started Kit.” The companies have created several online courses, as well. They include the “Microsoft VDI with Citrix XenDesktop Selling and Positioning course” and the “Microsoft VDI with Citrix XenDesktop Advanced Technical Training Overview.” There are also online tools and TCO calculators at www.onegreatpartner.com. Microsoft also has broader VDI materials at www.microsoft.com/vdi.

INTEGRATION TIME
The joint Microsoft-Citrix VDI solution creates a unique opportunity for partners. Because it’s not a single product, but instead a solution constructed out of a mix of a half dozen products that will shift with each customer scenario, solution provider expertise will be critical for successful implementations.

Partner firms that can get a handle on the fiendishly complex details of the capabilities of, the interactions between, and limitations of each of the component products in the solution will be in a position to solve customers’ business problems. And those who take the trouble to understand the licensing details, hidden costs and hidden savings in the solution can put themselves in a position to save customers a boatload of money while collecting hefty service fees for themselves.

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Citrix XenDesktop™ is a desktop virtualization system that centralizes and delivers desktops on-demand as a service to users anywhere. XenDesktop dynamically assembles a ‘new and pristine’ high-performing desktop with a personalized set of applications and settings every time a user logs on. For IT organizations, XenDesktop simplifies desktop lifecycle management and radically drives down the cost of ownership by separating the delivery of the desktop OS, applications and user settings.

**Q** How does XenDesktop offer innovation that’s beyond other products available in the market today?

**A** XenDesktop offers a next-generation, user-centric desktop virtualization solution that provides a complete system for desktop delivery. It has a high-speed delivery protocol providing unparalleled responsiveness over any network.

**Q** What’s the market opportunity for VDI?

**A** Virtualization is a hot market, and the fastest-growing virtualization market by far is desktop virtualization. Virtual Desktop Infrastructure, or VDI, as it’s commonly known, is growing at an estimated 90 percent year-over-year for the next four to five years, which would make it a $12-$15 billion dollar market by 2012.

**Q** What is the benefit of XenDesktop to customers?

**A** For IT organizations, desktop management today is manual, time-consuming and expensive. Ensuring data security and regulatory compliance is complex when desktops are distributed around the globe. And business continuity is difficult to implement when users are tied to their physical PCs. For users, the longer they have to keep their PCs, the more the performance degrades as patches and app updates inevitably cause bloat. The alternative is to replace or re-image the machines, meaning disruptions and loss of productivity.

Citrix XenDesktop will enable customers to leverage the Hyper-V feature of Windows Server® 2008 as a hypervisor platform for centralizing desktops, as well as Citrix and VMware infrastructures. The Microsoft and Citrix solutions complement each other to provide three fundamental capabilities: desktop hosting, desktop management and desktop delivery.

- Microsoft Hyper-V™ provides a hypervisor platform needed to centralize desktops.
- System Center Virtual Machine Manager™ offers tools that enable IT to manage, update and maintain enterprise virtual desktops.
- Citrix XenDesktop provides the Dynamic Virtualization Services, management and performance needed to deliver those virtual desktops to office workers.

**Q** What differentiates XenDesktop from other alternatives?

**A** First of all, XenDesktop has superior user experience for rapid user adoption. With simple desktop provisioning and management, desktop delivery is accelerated. XenDesktop’s Reliable Desktop Access Management provides ‘anywhere’ access and reliable business continuity. XenDesktop has Desktop Optimization and Support for proactive performance management. And finally, XenDesktop has a broad desktop delivery ecosystem for infrastructure flexibility and choice.

Simply put, XenDesktop allows you to leverage the power of virtualization and streaming technologies to build a flexible and dynamic solution that will keep management costs down.

**Q** What can someone do to become a Citrix Partner for XenDesktop?

**A** They can visit www.citrix.com/partners to learn more about the Citrix Partner Network™ and to apply to become a Citrix Solution Advisor™.

For a FREE XenDesktop evaluation copy, visit: www.citrix.com/vdi