

# Citrix Acquires XenSource

## Abstract

On August 15<sup>th</sup>, 2007, Citrix announced that it is entering the adjacent server and desktop virtualization markets through a definitive agreement to purchase XenSource. Enterprise Management Associates (EMA) believes that this move will extend Citrix's broader Application Delivery strategy, establish Citrix as having the most comprehensive virtualization offerings in the industry, and further its claim to being the leader in virtualization technology. This will set it directly against VMware, and it is likely to be a formidable competitor indeed. The resulting products will not only benefit enterprises interested in Data Center virtualization, but also and particularly those interested in Application and Desktop Virtualization.

## Citrix Announces Agreement To Acquire XenSource

On August 15<sup>th</sup>, 2007, Citrix Systems Inc., a leading vendor of Application Delivery Infrastructure, announced a definitive agreement to acquire XenSource Inc., the vendor of a commercial virtualization platform built on top of the open source Xen hypervisor. The acquisition consists of a non-GAAP \$500 million financial transaction, including assumption of over \$100 million of unvested stock options. While both boards of directors have approved the purchase, the transaction is subject to various closing conditions yet to be fulfilled, such as approval by the XenSource stockholders and compliance with antitrust regulation. The transaction is expected to close within Q4 of 2007.

## Server, Desktop and Application Virtualization Markets

XenSource is the leader of the Open Source project responsible for the Xen server virtualization engine (or 'hypervisor'), which allows multiple guest operating environments to run directly on top of x86 hardware, without requiring a host operating system. The Xen project also includes significant participation from industry heavyweights like IBM, HP, Intel and AMD. Xen is built into operating systems like SuSE, Debian and Red Hat Linux as well as Solaris 10 and OpenSolaris, and is designed to be fully interoperable with Microsoft Windows, sharing a common architecture, file system, and API model with the upcoming Microsoft Windows Server Virtualization (or WSV – formerly known as "Viridian"). The Xen hypervisor forms the basis for commercial virtual infrastructure solutions from multiple vendors, including Virtual Iron and XenSource.

XenSource offers several products built on top of the Xen hypervisor. XenExpress is a free starter package which allows up to 4 virtualized servers on dual socket platforms. XenServer is a higher performance, commercial package allowing unlimited virtualized servers on up to 32 sockets and up to 128GB of RAM and including an extensive graphical server management console (XenCenter). XenEnterprise is a high-power platform for dynamic managed virtualization environments with additional 'enterprise-strength' management capabilities. All products stem from the same code base and can be upgraded to the next tier during runtime.

Citrix focuses on Application Delivery Infrastructure – end-to-end infrastructure components that ensure successful, reliable delivery of any application, to any user, in any location. As a key part of this strategy, Citrix has a longstanding leadership in both application and desktop virtualization. Its flagship product is Citrix Presentation Server (PS), a Windows application delivery controller that allows IT administrators to centralize Windows application clients and desktops in the datacenter and deliver them virtually to any number of end-users, improving security, control, bandwidth usage, and management simplicity. Citrix also provides solutions to deliver Web-based applications (NetScaler); to deliver Windows desktops (Desktop Server); to optimize the delivery of applications over a wide area network (WANScaler); to provide secure SSL VPN access to applications (Access Gateway); to monitor application performance and end-user experience (EdgeSight); and to stream both applications and operating systems to desktop users (the latter from its late 2006 acquisition of Ardenne).

The purchase agreement follows the Initial Public Offering (IPO) by EMC on August 13, 2007, of its subsidiary VMware – the current industry leader in server virtualization. EMC sold only 13% of the stock (or 33 million shares – half of which were pre-sold to Intel and Cisco), retaining 87% ownership. It also follows the release of XenEnterprise Version 4.0, which introduced live migration, resource management for quality of service (QoS) tuning, live migration (the ability to move active virtual machines between separate systems without interrupting processing), XenCenter, 64-bit support, and integration APIs, bringing the XenEnterprise feature set much closer to – and in some ways overtaking – VMware's flagship VirtualCenter.

Both Citrix and XenSource have stated that they are not trying to replace existing installations of competing virtualization software, but are rather looking for 'white space' in new in-

stallations and customers, as they estimate that virtualization market penetration is running currently only around 10%. EMA estimates the virtualization market is growing at around 26% p.a.

## Key Ramifications

There is some potential for this acquisition to trigger backlash from the open source community, just as previous partnership announcements between proprietary vendors and Free and Open Source Software (F/OSS) projects have met with some heavy condemnation (e.g., Microsoft and Novell). However, unlike many other F/OSS projects, the Xen open source project does not rely solely on contributions from individuals – significant R&D is provided by system-level engineers at infrastructure heavyweights like IBM, HP, Intel and AMD, all of whom have made statements in full support of the Citrix acquisition. XenSource and Citrix have also committed to retaining Ian Pratt as the project lead for the open source Xen project, to continue Xen development, to ongoing support of Linux (specifically through commercial partners like Red Hat and Novell). The companies have also stated that they intend to separate oversight of the Xen project to ensure its ongoing independence. With XenSource being built on the GPL licensed Xen, open source will remain a core quality of Xen development culture, strategy and roadmap. Nevertheless, XenSource will continue to focus on Windows.

The deal will also inject capital into the Xen development resource pool, allowing for faster innovation. Since Xen works with erstwhile rivals such HP and IBM, as well as Microsoft, Novell, and Red Hat, Citrix believes that the combined development effort will greatly benefit the open source core of the Xen project. Not only will development resources increase, resulting in a more mature and stable project, but innovation will also be driven by the market interests of all the involved parties.

After the acquisition closes in Q4 2007, the entire XenSource organization will join Citrix forming the company's new Virtualization & Management Division. The Xen and Citrix channels will combine to deliver updated certification, training and other development tools. XenSource will benefit from the excellent support structure of the Citrix organization, and from the intended hiring of new personnel in Support, R&D, Sales, and Marketing.

Citrix could potentially face competition in the server virtualization space from long-time strategic partner, Microsoft's own server virtualization platform, WSV. However, Microsoft has publicly been very supportive of the acquisition and Citrix executives have been adamant that they will work hard to "embrace and extend" the upcoming virtualization features built

into the Windows platform, just as they have done successfully on the Windows Terminal Services front for years. Microsoft and XenSource have also signed a development collaboration agreement to ensure interoperability, including development of tools agnostic to the two platforms, which should strengthen the relationship of the two companies.

## EMA's Perspective

Although this may initially seem to somewhat dilute the core message and focus of Citrix – i.e., application delivery – EMA nevertheless believes that this is an excellent acquisition for Citrix, for XenSource, and for their customers (both present and future). It arguably makes Citrix the leader in virtualization, by expanding its portfolio of virtualization technology to cover Server, OS, Application, and Desktop virtualization, and both OS and Application Streaming. This lineup – by most measures the most complete in the industry today – far outshines even VMware's significant offerings, giving customers a "one-stop shop" for almost all their virtualization requirements. Indeed, EMA's research shows virtualization is typically deployed as a stack – application virtualization on top of server virtualization, for example – so this will greatly simplify enterprise deployments, and extend Citrix's Application Delivery capabilities, especially if/when Citrix tightly integrates the XenSource capabilities with its core Presentation Server and Desktop Server offerings.

Once completed, this will place VMware squarely in the sights of Citrix as a core competitor. Even before this acquisition, VMware had started to encroach on the desktop virtualization space of Citrix through the VMware ACE and VMware Virtual Desktop Infrastructure (VDI) products. However, this acquisition means that Citrix is ready to take the fight to VMware head-on, moving the competition from Desktop Virtualization to every area of system virtualization. Further, Citrix will be able to leverage and combine multiple virtualization capabilities such as OS streaming, application streaming, desktop virtualization, and server virtualization into new product offerings and packages, and drive significant product innovation across its Presentation Server, Desktop Server, and XenSource product lines.

For VMware, this is a significant challenge. While XenSource has been quietly building a solid partner ecosystem, VMware has been alienating important partners by cannibalizing adjacent spaces around its core server virtualization products (such as storage virtualization, virtual machine management, automated lab deployment, etc.). Meanwhile, VMware's core business of server and OS virtualization is becoming increasingly free and open source (through solutions such as Xen, Microsoft Virtual PC, VirtualBox, OpenVZ, etc.) or bundled

with operating system platforms (SuSE, RedHat, Windows Server) – effectively becoming a commodity. VMware is facing substantial pressure to expand into Desktop and Application Virtualization, which is the next battleground for virtualization. Now Citrix has added technically solid server virtualization to its portfolio, and legitimized VMware's most formidable erstwhile competitor, giving Citrix a virtualization stack unmatched by any competitor. This does not bode well for VMware, which is dominant now, but may face difficulties staying so without major strategic change.

For Microsoft – already late to the market with server virtualization, with WSV due six months after the release of Windows Server 2008 – this deal will help to soften the short-term adoption of VMware. Through its strategic partnership with Citrix, its development agreement with XenSource, and the promise of interoperable management (including migration of virtual machines and images between Xen and WSV formats), Microsoft can position Xen as a potential stop-gap until WSV is released, and undermine VMware adoption. Of course, Microsoft also has some functional overlaps with Citrix, through its Terminal Services and (especially) SoftGrid products; and when Microsoft finally releases WSV, it will ostensibly have a stack almost as broad as Citrix. However, EMA believes that widespread deployment of WSV is unlikely to occur for at least two years, so Citrix has time to build additional value and establish critical market share. In addition, while their products may appear competitive on a technology level, Citrix and Microsoft have nevertheless maintained a strong partnership for many years – not least, because Microsoft makes money every time Citrix sells its Windows-based solutions. It is therefore entirely possible that they will continue this balanced relationship, even as they both deliver these new competitive technologies.

The deal puts significant pressure on XenSource's main competitor, Virtual Iron, also built on the open source Xen project. Competing with Citrix will prove much harder for Virtual Iron, particularly given Citrix's already deep penetration of the enterprise market (200,000 customers worldwide) and its formidable channel system (6000 channels), which can catapult XenSource into a high-volume sales operation.

This purchase should serve to drive virtualization even further into the mainstream. It will expand the user base achieving the benefits of virtualization (such as better agility, flexibility, and availability), expand the capabilities and value proposition of the open source Xen hypervisor, and drive significant value for Citrix, XenSource, and their customers. The support of Citrix immediately strengthens the value of the Xen platform, and is fantastic news for enterprises already leveraging XenSource or Citrix, making their past decision a safer bet. EMA would have no hesitation recommending this platform to enterprises of all shapes and sizes.