

Reduce IT Costs Using Citrix XenApp 5

XenApp 5 on 64-bit platforms lowers the cost of ownership for delivering applications

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Executive Summary

Citrix XenApp is the industry-standard way to virtualize business applications through a centralized and secure architecture. This means that IT can centralize and consolidate applications in the data center where they can be better controlled, managed and secured, while delivering a secure, satisfying user access experience to local, remote and mobile users, on any device or network.

This white paper compares user densities and the resulting total cost of ownership (TCO)¹ for two types of implementations of XenApp 5 on Windows Server 2008. The TCO results are:

- XenApp 5 (32-bit) on Windows Server 2008 (32-bit) – 12.5% increase in users, 6% TCO decrease compared to Presentation Server 4.5 on Windows Server 2003 (32-bit)
- XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 33% increase in users, 28% TCO decrease compared to XenApp 5 (32-bit) on Windows Server 2008 (32-bit)
- XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 50% more users, 32% TCO decrease compared to Presentation Server 4.5 (32-bit) on Windows Server 2003 (32-bit)

These results indicate that XenApp 5 on Windows Server 2008 significantly increases the number of users per server, leveraging Citrix's virtual memory optimization feature and resource-based CPU utilization management options.

Because of the flexibility of this solution, IT can run 32-bit applications today on the 64-bit system and transition to 64-bit applications as they become available, without changing operating systems or servers. The 64-bit version of XenApp can be deployed and managed together with the 32-bit version in a single server farm, so current customers can easily integrate this new platform.

For new customers, the deployment of XenApp 5 is less expensive since fewer servers will be required. For both new and existing customers, using either the 32-bit or 64-bit versions of XenApp 5 allows IT to significantly reduce the number of XenApp servers, resulting in lower annual operating and management costs. Bottom line, whether you are an existing customer or a new customer, XenApp 5 on either a 32-bit or 64-bit platform greatly reduces total cost of ownership (TCO) while providing a high return on investment (ROI).

The scenarios provided in this white paper can be used to develop a business case or financial justification – whether first purchasing XenApp 5 or upgrading to a 64-bit architecture. The user density, server cost and maintenance cost examples indicated are provided to help demonstrate the potential TCO and ROI that may be achieved with XenApp 5. Your own costs and actual results may vary, depending on the applications and hardware configuration used.

¹ TCO percentages based on an average server life expectancy of five years

Assumptions

Customer has active Citrix Subscription Advantage™ membership so there is no cost to upgrade to XenApp 5.

Windows 2003 Server (32-bit) and Citrix® Presentation Server 4.5 (32-bit)

User density (users/server)	160
Configured with two dual processors, 8GB RAM	
Data center costs (elect, floor, etc.) per server/year	\$1,200
Maintenance (hardware/software upgrades)	\$9,000

Windows 2008 Server (32-bit) and Citrix® XenApp 5 (32-bit)

User density (users/server)	180
Configured with two dual processors, 8GB RAM	\$3,868
Data center costs (elect, floor, etc.) per server/year	\$1,200
Maintenance (hardware/software upgrades)	\$9,000

Windows 2008 Server (64-bit) and Citrix® XenApp 5 (64-bit)

User density (users/server)	240
Configured with two dual processors, 16GB RAM	\$4,142
Data center costs (elect, floor, etc.) per server/year	\$1,200
Maintenance (hardware/software upgrades)	\$9,000

Testing was done using published Microsoft PowerPoint 2007 and Word 2007.

New Customer Scenario

I) New Customer Scenario (XenApp – First Purchase)

Environment: Organization that requires 1200 Citrix XenApp Concurrent User Licenses (CCUs)

Purchase 32-bit Solution (Windows Server 2008 and XenApp 5)

Requires 7 servers	\$ 27,076
Data center cost for 7 servers	\$ 8,400
Maintenance cost for 7 servers	\$ 63,000
3 year total cost	\$ 241,076
5 year total cost	\$ 384,076

Purchase 64-bit Solution (Windows Server 2008 and XenApp 5 64-bit)

Requires 5 servers	\$ 20,710
Data center cost for 5 servers	\$ 6,000
Maintenance cost for 5 servers	\$ 45,000
3 year total cost	\$ 173,710
5 year total cost	\$ 275,710

Total cost savings with x64 after 3 years	\$ 67,366
Total cost savings with x64 after 5 years	\$ 108,366

% TCO Savings:

XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 28% TCO decrease compared to XenApp 5 (32-bit) on Windows Server 2008 (32-bit)

Existing Customer Scenario

II) Existing Customer Scenario

Environment: 8 servers with Windows 2003 Server and 1200 Citrix Presentation Server 4.5 CCUs

Maintain current environment

Data center cost for 8 servers	\$ 9,600
Maintenance cost for 8 servers	\$ 72,000
3 year total cost	\$ 244,800
5 year total cost	\$ 408,000

Upgrade to Windows Server 2008 (32-bit) and XenApp 5 (32-bit) solution

Purchase 7 new servers	\$ 27,076
Data center cost for 7 servers	\$ 8,400
Maintenance cost for 7 servers	\$ 63,000
3 year total cost	\$ 241,276
5 year total cost	\$ 384,076

Cost savings after 3 years

\$ 3,524

Cost savings after 5 years

\$ 23,924

Upgrade to Windows Server 2008 (64-bit) and XenApp 5 (64-bit) solution

Purchase 5 new servers	\$ 20,710
Data center cost for 5 servers	\$ 6,000
Maintenance cost for 5 servers	\$ 45,000
3 year total cost	\$ 173,710
5 year total cost	\$ 275,710

Cost savings after 3 years with x64

\$ 67,566

Cost savings after 5 years with x64

\$ 108,366

% TCO Savings:

XenApp 5 (32-bit) on Windows Server 2008 (32-bit) – 6% TCO decrease compared to Presentation Server 4.5 on Windows Server 2003 (32-bit)

XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 28% TCO decrease compared to XenApp 5 (32-bit) on Windows Server 2008 (32-bit)

Conclusion

As the test results show in this white paper, upgrading from Presentation Server 4.5 to XenApp 5 provides a higher return on investment and lower total cost of ownership. The TCO results are as follows:

- XenApp 5 (32-bit) on Windows Server 2008 (32-bit) – 12.5% increase in users, 6% TCO decrease compared to Presentation Server 4.5 on Windows Server 2003 (32-bit)
- XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 33% increase in users, 28% TCO decrease compared to XenApp 5 (32-bit) on Windows Server 2008 (32-bit)
- XenApp 5 (64-bit) on Windows Server 2008 (64-bit) – 50% more users, 32% TCO decrease compared to Presentation Server 4.5 (32-bit) on Windows Server 2003 (32-bit)

Upgrading from Presentation Server 4.5 on Windows Server 2003 to XenApp 5 on Windows Server 2008 will save \$23,924 over the five year life of the servers. Customers looking to upgrade from XenApp 5 (32-bit) on Windows Server 2008 (32-bit) to XenApp 5 (64-bit) on Windows Server 2008 (64-bit) will save \$108,366 over five years. The highest amount of savings will be recognized by upgrading to a 64-bit platform. Upgrading from Presentation Server 4.5 on Windows Server 2003 to XenApp 5 (64-bit) on Windows Server 2008 (64-bit) will save \$132,290 over the life of the servers.²

² Savings amounts based on a 1200 CCU environment

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Citrix Consulting Solutions	0.3	Consulting Solutions Quality Assurance	10/14/2008
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