

Mia Jardine
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FLASH RESEARCH: Virtualization & Cloud Computing

With the hardware refresh cycle approaching, virtualization could save us \$14 million. Currently the company is using 1000 separate servers, each requiring their own maintenance. However, with the utilization of virtual machine servers we could consolidate multiple servers onto one single physical server..

Virtualization uses virtual capabilities to consolidate multiple servers onto one machine. A virtual machine involves multiple operating systems running on one machine. This allows 80% of the current servers to run as virtual machines and the consolidation of 10 physical servers onto one machine. Only 280 physical servers would be needed to operate the same tasks as 1000 physical servers. The decrease in amount of servers lowers the total costs of maintenance by \$1.36 million. According to VMware, most servers run at only 15 percent of their capacity. With virtualization each physical server would run at a larger capacity, utilizing each server to its full potential.

Virtualization reduces the need to replace 1000 servers to only 280 within the next year. Replacing servers with virtualization avoids the \$14 million costs of our current servers. Virtualization has a total cost of \$4.8 million to implement and yields a return on investment of 92%. Over a three-year period the net savings from virtualization is \$9.2 million.

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Resources:

Angeles, S. (2014, January 20). Virtualization vs. Cloud Computing: What's the Difference? Retrieved February 8, 2015, from <http://www.businessnewsdaily.com/5791-virtualization-vs-cloud-computing.html>

Bittman, T. (2011, March 3). The Road Map From Virtualization to Cloud Computing. Retrieved February 9, 2015, from <http://www.gartner.com/document/code/210845?ref=ggrec&refval=1959315>

Virtualization Basics. (n.d.). Retrieved February 12, 2015, from <http://www.vmware.com/virtualization/virtualization-basics/what-is-virtualization.html>

Calculations:

Current State	
Amount of Servers	1000
Servers Cost Total	\$8,000,000
Maintenance Total	\$2,000,000
Total Cost	\$10,000,000

To-Be State	
Amount of VMservers	80
Server cost	\$1,280,000
Maintenance	\$240,000
Total Cost VMware	\$1,520,000
Amount of Servers	200
Server cost	\$1,600,000
Maintenance	\$400,000
Total Server Cost	\$2,000,000

Three year Savings Analysis Current State			
	Year 1	Year 2	Year 3
Server Cost	\$8,000,000	\$ -	\$ -
Maintenance	\$2,000,000	\$2,000,000	\$2,000,000
Sum	\$10,000,000	\$2,000,000	\$2,000,000
		Total Cost	\$14,000,000

Three Year Cost Analysis VMware			
	Year 1	Year 2	Year 3
Physical Server Cost	\$1,600,000	\$ -	\$ -
Maintenance	\$400,000	\$400,000	\$400,000
VMware Server	\$1,280,000	\$ -	\$ -
Maintenance	\$240,000	\$240,000	\$240,000
Total Cost	\$3,520,000	\$640,000	\$640,000
		Total Cost	\$4,800,000

Three Year Benefit VMware			
	Year 1	Year 2	Year 3
Savings	\$6,480,000	\$1,360,000	\$1,360,000
Net Benefit			\$9,200,000

ROI= 92%