Flash Research Assignment: Virtualization and Cloud Computing

You are the CTA for a small but rapidly growing manufacturing company. You have approximately 1,000 servers in your datacenter. The average server costs $8,000 to purchase (including system software). You also spend approximately $2,000 per year per server for hardware maintenance, software maintenance, technical support, power and cooling.

You believe that there are considerable opportunities for savings by utilizing virtualization to consolidate server workloads. You believe that 80% of your servers could run as virtual machines under VMware and that, on average, you could consolidate 10 physical servers onto a single virtual machine server. These would be higher end servers costing approximately $16,000 each (including system software). In addition, they will cost more to run, approximately $3,000 (each server) per year for hardware maintenance, software maintenance, technical support, power and cooling.

Prepare a paper for the CIO that describes virtualization and focuses on the benefits of server consolidation. Describe the business case for making investments in this technology. This organization always looks at investments over a 3-year period. Assume that you are at the start of a hardware refresh cycle and you will be replacing all 1,000 servers in the next year.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

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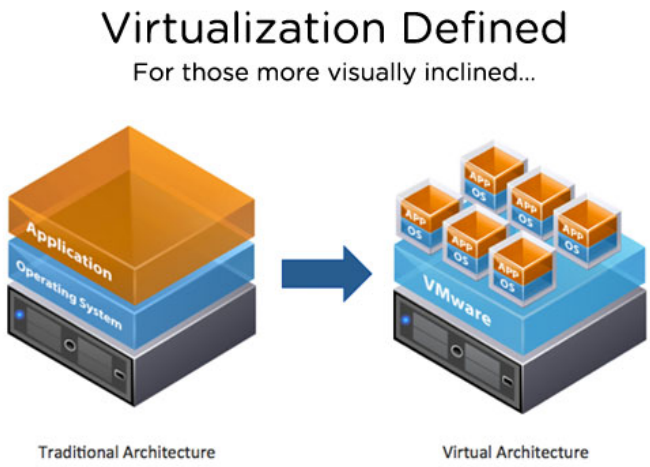
MIS 2501 Sec. 002
2/12/15

Flash Research Paper #2: Virtualization And Cloud Computing

With the use of virtualization to consolidate our server workloads our organization will experience a net savings of over $9.2 million in the next three years. With VMware, 80% of our current servers can run as virtual machines, and we can consolidate ten physical servers onto a single virtual machine server. If we utilize virtualization, we will not only save money, but we will also save space, time, and server utilization.

With virtual machines being completely independent, it allows applications to be run on a single computer. Server consolidation is the act of combining these applications to one physical server, which reduces the amount of servers needed in a datacenter. Consolidating the physical servers, overall capacity usage increases to 80% compared to our current 10-30 percent. Another benefit is the flexibility of moving workloads on an as-needed basis, which means that there will be no downtime for any maintenance or upgrades. Virtualization reduces the amount of space needed for servers, reduces downtime during server maintenance, and can save our company a lot of money.

With the switch to virtualization, our organization will save $5.2 million in server costs and $1.4 million in annual maintenance costs. Our organization will face $3.5 million in costs the first year as opposed to the $10 million that we spend without virtualization. After three years, we will be looking at a net benefit of over $9.2 million. Virtualization and server consolidation will save this organization a large sum of money and we will get better usage out of our servers.



	Number Of Physical Servers	Total Purchase Cost	Maintenance Cost Per Year	
Current Server Cost	1000	8000000	2000000	
Upgraded Server Cost	280	2880000	640000	
	Savings	5120000	1360000	
	Year 1	Year 2	Year 3	Total
Current Costs	10000000	2000000	2000000	14000000
Upgraded Costs	3520000	640000	640000	4800000
			Savings	9200000

Works Cited

"What Is A Virtual Machine." *VMware*. N.P., n.d. Web. 10 Feb. 2015. <http://vmware.com/virtualization/virtualization-basics/how-virtualization-works/>.

Janssen, Cory. "Server Consolidation." *Techopedia*. N.P., n.d. Web. 10 Feb. 2015. <http://www.techopedia.com/definition/16016/server-consolidation/>.

Bigelow, Stephen J., ed. "How Server Consolidation Can Benefit Your Data center." *TechTarget*. N.p., Oct. 2009. Web. 10 Feb. 2015. <http://searchservervirtualization.techtarget.com/tip/How-server-consolidation-can-benefit-your-data-center>.