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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Flash Research Assignment 2

Virtualization and Cloud Computing

Our company can save 9.2 million per year if we utilize virtualization to consolidate server workloads. Virtualization is a software based server that applies to different applications, servers, and networks, etc. It is necessary to use virtualization to consolidate server workloads in order to reduce expenses and increase efficiency.

A single virtualization can replace 10 single servers. Because a single software is capable of running more than one virtual systems and several operating systems and applications. This means less capital and operating costs, which translates to greater profit. While the 1000 physical servers take much more space, and it also takes more time and cost on maintenance, Virtualization requires no physical space, and reduce less time on physical server maintenance. Besides server virtualization can extend the use life of old applications. If our organization use a server virtualization, it will significantly reduce physical space and operating costs.

The cost of 1000 servers over three years is $14 million. The server virtualization will save our organization $1.35 million per year. Utilizing virtualization will cost our organization $1.28 million. But in a three-year period, it will save our expense of 9.2 million.

	cost/per year	Number of servers	total cost		
Server	$ 2,000	1000	$ 2,000,000		
VM	$ 3,000	80	$ 240,000		
server	$ 2,000	200	$ 400,000		
Savings			$ 1,360,000		
	year 1	year1 maintenance cost	year2	year3	total
cost(server)	$ 8,000,000	$ 2,000,000	$ 2,000,000	$ 2,000,000	$ 14,000,000
cost(vm)	$ 1,280,000	$ 240,000	$ 240,000	$ 240,000	$ 2,000,000
cost(server)	$ 1,600,000	$ 400,000	$ 400,000	$ 400,000	$ 2,800,000
			Net savings		$ 9,200,000

Works Cited

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