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Flash Research Assignment #2: Virtualization and Cloud Computing

By running 80% of our physical servers on VMware, we can save our company \$9.2 million over the next three years. While the cost for a VM server is much higher than a physical server, we will be able to consolidate ten physical servers onto one virtual machine, thus reducing the total cost. Virtualization will allow us to utilize encapsulation which will enhance availability and business continuity.

Encapsulation is a key capability of virtualization because it allows a virtual machine to be represented as a single file, so it can be easily identified based on the service it provides. When virtual machines are encapsulated, they can move independently of the hardware. For example, a virtual machine can be loaded onto one piece of hardware, but if there is some type of failure, the machine can be moved onto another piece of hardware later. This is important because we do not have this capability with physical servers alone. Consolidating physical servers to virtual machines allows for multiple virtual machines to run on one physical server.

The cost to replace our servers with only physical servers will be \$14 million over the next three years. By consolidating 80% of our servers onto 80 virtual machines and using physical servers for the remaining 20%, it will cost \$4.8 million over the next three years. The difference in these costs gives us a net three-year benefit of \$9.2 million. We should use a combination of virtual machines and physical servers, not only because of the financial benefits, but also because of the technological capabilities.

	Year 1	Year 2	Year 3	Total
phys cost	10000000	2000000	2000000	14000000
phys + VM cost	3520000	640000	640000	4800000
			3 year NET BENEFIT	\$ 9,200,000.00

Works Cited

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