Khanh Tran Mart Doyle Enterprise IT Architecture Flash Research - Virtualization and Cloud Computing October 11th, 2018

By implementing VMware our company can experience a three-year net benefit of \$9.2 million. Virtualization consolidates 10 physical servers into a single server. Utilizing virtualization, the company can consolidate the current 1000 physical servers into 280 physical servers. By consolidating the physical servers, we will increase hardware utilization by reducing maintenance and power costs.

The key capability of using virtualization is that we can consolidate multiple physical servers into one. Virtual machines mimic a standard computer, but it has no physical hardware components. This means that one machine will have the capabilities of running multiple servers all at once. With virtualization, we can consolidate the company's servers. Instead of having 1000 physical servers, we can reduce it to 80 virtual servers and 200 physical servers under VMware. By consolidating our servers, we can save on floor space, maintenance and power costs.

The cost of implementing virtualization and migrating 80% of the physical servers into virtual machine under VMware is \$4.8 million over a three-year period. By consolidating our physical servers to 280 and moving 80% of it to virtual machines under VMware, our total benefit is \$14 million over a three-year benefit. The total benefit of implementing virtualization with VMware is \$14 million and the net benefit over a three-year period is \$9.2 million.

Works Cited

Beckham, Jeff. "Cloud Computing vs. Virtualization: The Differences and Benefits." Cisco

Blogs, Cisco, 26 Oct. 2011, blogs.cisco.com/smallbusiness/cloud-computing-vs-

virtualization-the-differences-and-benefits.

Kamoun, Faouzi. "Ubiquity: Virtualizing the Datacenter Without Compromising Server

Performance." Acm - an Acm Publication, Aug. 2009,

ubiquity.acm.org/article.cfm?id=1595424.

Rivera, Andreas. "Virtualization vs. Cloud Computing: What's the Difference?" Business News

Daily, Business News Daily, 25 July 2018, www.businessnewsdaily.com/5791-

virtualization-vs-cloud computing.html.

Cost of Servers			
Avg Cost of maintenance per server = \$2,000			
Total Server Cost = \$8000*1000 = \$8,000,000			
Total Maintenance cost = \$2000*1000 = \$2,000,000			
Physical Servers			
	Year 1	Year 2	Year 3
Server	\$8,000,000	\$0	\$0
Maintenance	\$2,000,000	\$2,000,000	\$2,000,000
Total Cost Per Year	\$10,000,000	\$2,000,000	\$2,000,000
Total Benefit			\$14,000,000
New Server			
Server cost = \$16,000*1000 = \$16,000,000			
Maintenance cost per year = \$3,000			
New Servers			
Cost:	Year 1	Year 2	Year 3
200 Physical Servers	\$1,600,000	\$0	\$0
Maintenance	\$400,000	\$400,000	\$400,000
80 Virtual Machines	\$1,280,000	\$0	\$0
Maintenance	\$240,000	\$240,000	\$240,000
Total Cost Per Year	\$3,520,000	\$640,000	\$640,000
Total Cost 3 Year Benefit			\$4,800,000
Net Benefit			\$9,200,000