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Flash Research Assignment #2: Virtualization and Cloud Computing

By implementing virtualization technology, we will be able to consolidate servers from 1000 to 280 and earn a net benefit of \$9,200,000 over a three year period. Virtualization will maximize server utilization to almost 100%. Without the virtualization technology, about 95% of each server's capacity is currently going to waste.

Without any virtualization technology, each server will typically only contain one application leading to excess server capacity. With virtualization, we can partition each server into a separate section for each application. These separate sections will act as if they were each their own server, which will help to maximize our server utilization.

If we invest in this virtualization technology, we will have saved \$14,000,000 after its third year. Implementing virtualization into 80 servers will cost us \$1,280,000. Additionally, we will be keeping 200 of our more core components on their own non-virtualized servers, which will cost \$1,600,000. The combined maintenance for these servers will end up being \$640,000 each year, much less than they were with such a smaller amount of servers. After only three years, our company will see a net benefit of \$9,200,000.

As is costs (\$)				
	Year 1	Year 2	Year 3	Total
1000 servers	8,000,000	0	0	8,000,000
Maintenance	2,000,000	2,000,000	2,000,000	6,000,000
Total	10,000,000	2,000,000	2,000,000	14,000,000

To be costs (\$)				
	Year 1	Year 2	Year 3	Total
200 Nonvirtualized	1,600,000	0	0	1,600,000
80 Virtualized	1,280,000	0	0	1,280,000
Maintenance	640,000	640,000	640,000	1,920,000
Total	3,520,000	640,000	640,000	4,800,000
Net Benefit:		$14,000,000 - 4,800,000 = \mathbf{9,200,000}$		

Works Cited

- Dawson, Phillip. "Hype Cycle for Virtualization, 2011." *Gartner*. Gartner Inc., 28 July 2011. Web. 20 Sept. 2014 <<http://my.gartner.com/portal/server.pt?open=512>>.
- "Server Consolidation Explained." Directions on Microsoft. Web. 20 Sept. 2014. <http://www.directionsmicrosoft.com/sample/DOMIS/research/2004/07jul/0704i_sb.htm>.
- Wallen, J. "10 benefits of virtualization in the data center." *Techrepublic.com*. 10 April 2013. Web. 20 Sept. 2014. <<http://www.techrepublic.com/blog/10-things/10-benefits-of-virtualization-in-the-data-center/>>.