Ashley Lombardo
Enterprise IT Architecture
Mart Doyle
Flash Research Paper #2

Virtualization and Cloud Computing

Our company can save $9.2 million by utilizing virtualization to consolidate our physical servers. Virtualization allows us to use the full potential of a computer by running multiple operating systems on a single computer. We are at the start of a hardware refresh cycle and will be replacing all 1,000 servers in the next year, so it is a cost-effective idea to convert most of these servers to virtual machine servers.

Virtualization is a way of partitioning physical servers into virtual servers, so our company is able to consolidate ten physical servers onto a single virtual machine server. The key capability of server consolidation is that it cuts 1,000 servers down to 280 servers. Virtualization eliminates the amount of servers needed because it allows us to run multiple operating systems on a single computer, utilizing the full potential of the computer. This benefits the company by cutting down the amount of servers in the data center, decreasing the maintenance costs which saves money in the end.

Virtualization and server consolidation will cost $4.8 from implementing 80 virtual machines and 200 physical machines but the benefits of eliminating most physical servers and the maintenance costs from them will be $14 million. This ends up in a total net benefit of $9.2 million dollars over three years. Investing in virtualization saves us money because it cuts down the amount of servers we have and the costs that come along with them.

Dawson, Philip., & Hill, Nathan. (2014) Hype Cycle for Virtualization, 2014.
   <http://my.gartner.com/portal/server.pt?open=512&objID=260&mode=2&PageID=3460
   702&resId=2806422&ref=QuickSearch&content=html#h-N73146>

Strickland, Jonathan. "HowStuffWorks "Why Use Server Virtualization"" *HowStuffWorks*. N.p.,
   n.d. Web. 25 Sept. 2014. <http://computer.howstuffworks.com/server-
   virtualization1.htm>

"Virtualization Basics." VMware Virtual Machine & Virtualization Benefits. Web. 23 Sept.
   2014. <http://www.vmware.com/virtualization/virtualization-basics/how-virtualization-
   works>

Benefits:	Year 1	Year 2	Year 3	Total
Eliminating Physical Servers	8,000,000	0	0	8,000,000
Eliminating Maintenance Costs	2,000,000	2,000,000	2,000,000	6,000,000
Total Benefits:	10,000,000	2,000,000	2,000,000	**14,000,000**
Costs:	Year 1	Year 2	Year 3	Total
VM Servers	1,280,000	0	0	1,280,000
Maintenance	240,000	240,000	240,000	720,000
Physical Machines	1,600,000	0	0	1,600,000
Maintenance	400,000	400,000	400,000	1,200,000
Total Costs:	3,520,000	640,000	640,000	**4,800,000**
	Year 1	Year 2	Year 3	Total
Net Benefits:	6,480,000	1,360,000	1,360,000	**9,200,000**