Flash Research Assignment 2

John Sanchez

2/27/18

Virtualization and Cloud Computing

As the hardware refresh cycle is among us, there is an opportunity for our company to save $9.2M in the next three years by replacing some of our physical servers with virtual machines. Other than the cost savings, these machines allow benefits that physical servers do not offer such as increased efficiency and availability, and decreases in maintenance.

Virtualization allows our machines to run an emulation of a real computer, similar to the way software runs on a system. While it is not a physical system, it provides the same experience as a computer with its own hardware. The implementation of virtual machines will allow our company to use less physical servers and maintain the same workload, resulting in lower system maintenance costs, less power consumption and reduced cooling demands for the enterprise. (Bigelow 1) For these machines specifically, each virtual machine can consolidate up to 10 servers. Switching to virtual machines also allow greater workload mobility meaning the machines can run a variety of operating systems instead of being limited to those that are designed for certain hardware.

Over a three-year period, the cost for 1000 physical servers with maintenance is $14M, while the cost of switching to 80% virtual machines with maintenance is $4.8M. This yields a three-year benefit of $9.2M as seen in the chart below. With the cost-savings and technical advantages of virtual machines considered, switching 80% of our physical servers to virtual machines is what will create the most value for our company.



References

Bigelow, Stephen J. “Benefits of VMs include workload mobility and fast duplication.” *TechTarget*, 11 Oct. 2009, http://searchservervirtualization.techtarget.com/tip/Understanding-the-benefits-of-a-virtual-machine.

# Burger, Thomas “The Advantages of Using Virtualization Technology in the Enterprise” Intel, 5, March, 2012, https://software.intel.com/en-us/articles/the-advantages-of-using-virtualization-technology-in-the-enterprise

Vanover, Rick “Top 5 Benefits of Server Virtualization Technology”. TechTarget, Oct. 2009, http://searchservervirtualization.techtarget.com/tip/Top-five-benefits-of-server-virtualization