

Paul Carbone Jr.  
Flash Research Assignment #2: Virtualizing & Cloud Computing  
Professor Doyle  
2/12/15

Our company has the potential to save roughly \$9,200,000 over the next three years by implementing VMware's virtualization software to consolidate roughly 80% of our 1,000 servers. Virtualization combines software and hardware into virtual machines, allowing a single machine to act in place of many machines. By implementing VMware's virtualization software, we can reduce the number of servers to roughly 280, reduce hardware and energy costs, and enhance the efficiency of our infrastructure. "Virtualization's primary benefit is greater utilization of resources and consolidation of multiple servers into a single server, increasing flexibility and agility." (Cisco, 2011) VMware's virtualization software is the most effective method of increasing our data center's efficiency and capability, while simultaneously reducing our yearly expenditures.

VMware virtualization software "is an approach to building computing facilities that minimize power consumption and capital expenditures, while ensuring high availability and ease of maintenance and operation." (Coutinho, 2010) However, "over a three-year lifecycle, a virtual machine costs approximately 75% less to operate than a physical server." The key benefits of virtualization mean that all of our operating systems and applications necessary for our business to function could potentially be run on a single piece of hardware. Additionally, virtualization minimizes downtime, which enables high availability to ensure confidence in our disaster recovery plan. Upon completing the virtualization environment, fewer servers and storage area network (SAN) will enable IT administrators to be able to focus on more strategic tasks and other projects.

Essentially, VMware virtualization will increase server efficiency, workload capacity, and reduce the amount of hardware needed – thus, reducing costs. The rates for these new servers will cost us \$16,000, plus \$3,000 per year for maintenance, where as the old servers cost us \$8,000, plus \$2,000 per year for maintenance. "Those who use virtualization encounter high up front costs but save money in the long run." (Edtech, 2012) Forfeiting a sizable cost up front for VMware virtualization will result in cutting our costs from \$14,000,000 to \$4,800,000, which will leave us with a net benefit of \$9,200,000 after three years and provide efficiencies and capabilities that a physical world cannot attain. It is critical for our company to efficiently manage costs and keep our server technologies up to date through the consolidation of our server technologies.

### **Work Cited:**

Cisco and VMware: Virtualizing The Data Center. (2011). Retrieved September 25, 2014, from <http://www.cisco.com/c/en/us/solutions/data-center-virtualization/dc-partner-vmware/index.html>

Coutinho, N., Schaapman, P., & Temin, T. (2010). Virtualization and Infrastructure Optimization. Retrieved September 25, 2014, from <http://webobjects.cdw.com/webobjects/media/pdf/CDWG-Virtualization-Infrastructure-Optimization-Reference-Guide.pdf>

<http://www.edtechmagazine.com/higher/article/2012/10/what-virtualization>