**Virtualization and Cloud Computing**

We’ve spent $8 million purchasing our current servers and we’re also spending $2 million every year maintaining those servers. By consolidating our servers we could reduce our number of servers from 800 to only 80 virtual servers. Our current servers consume a lot of energy. By consolidating our servers we would increase efficiency and increase our revenues. In only three years we would have a net benefit of $9.2 million.

Server consolidation is an approach to the efficient usage of computer server resources in order to reduce the total number of servers or server locations that an organization requires. By consolidation we would only need a total of 280 servers, 80 virtual and 200 physical. Through this we would reduce downtime and improve reliability with business continuity and built-in disaster recovery. VMware virtualization technology makes it possible to package a complete server—hardware, operating system, applications, and configurations—into one portable virtual machine package. Multiple virtual machines can then run simultaneously and independently on a single server with a consolidation ratio of 10:1. Since these machines run independently if something were to occur, we wouldn’t have to shut down the whole system. Maintenance would only be needed for that one specific server. Another beneficial aspect to implementing VMware would be that we would reduce energy consumption tremendously.

By consolidating our servers we could reduce hardware and operating costs by as much as 50% and energy costs by as much as 80%. We would only need 80 virtual machines, compared to 800 regular servers. Within a three-year time frame, using virtual servers, we would only spend $4.8 million, compared to $14 million we’ve already used for our physical servers. By switching to virtual servers we would see a $9.2 million net benefit in only three years. These new servers would provide more efficiency, reduce operating and energy costs, and decrease downtime.

References,

"Server Consolidation." *Server Consolidation and Containment* (n.d.): n. pag. *Vmware*. Web. 11 Feb. 2015. <http://www.vmware.com/pdf/server\_consolidation.pdf>.

Strickland, Jonathan. "How Server Virtualization Works - HowStuffWorks." *HowStuffWorks*. N.p., n.d. Web. 11 Feb. 2015. <http://computer.howstuffworks.com/server-virtualization.htm>.

"Virtualization." *Technology & Virtual Machine Software*. N.p., n.d. Web. 11 Feb. 2015. <http://www.vmware.com/virtualization/virtualization-basics/what-is-virtualization.html>.