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Flash Research Assignment #2: Virtualization and Cloud Computing**

The current server configuration in the company’s datacenter costs the company $2 million annually to maintain. This cost can be reduced by eliminating some of the physical servers on our premises; an investment in new virtual server technology will save the company money because, without compromising utility, physical servers can be recreated as virtual machines, sparing the IT department the cost burden of powering, cooling, and servicing channels. A plan to eliminate 80% of current physical machines is expected to save the company $7.8 million over three years.

 The primary benefit of virtualizing the company’s servers is mobility (a.k.a. agility, flexibility): imagine an entire server network on a single storage unit. Server virtualization can be accomplished by migrating the company’s data to a non-physical VMWare machine, however a datacenter such as ours will require 10 physical computers. Because there are minimal physical components of a virtualized server, things such as disaster recovery and duplication/scalability are much faster (Marshall). The key benefit of virtualization is the reduction of maintenance costs associated with hardware, including vendor contracts (VMWare). The operating costs of a datacenter, including power, cooling, security, and staffing, often reach $1 million and will exceed initial cost of the servers within six years (Brill); virtualization relieves this cost burden.

 Approximated 80% of the current physical servers can be converted to virtual machines. The initial cost of this investment is $2.88 million, which includes more sophisticated machines designed for virtualization optimization. The net benefit is observed in the cost to maintain the servers: with virtualization, the cost reduces from $2 million annually to $640,000. Over a three year period, the net benefit is $7.84 million. Upon approval, servers will be decommissioned on a rolling basis throughout the year.





# Works Cited

Brill, Kenneth. "Understanding the True Cost of Operating a Server." *Facilities Net* November 2008. http://www.facilitiesnet.com/datacenters/article/Understanding-the-True-Cost-of-Operating-a-Server--10063?source=previous.

Marshall, David. "Top 10 benefits of server virtualization." *Info World* 2 November 2011. http://www.infoworld.com/article/2621446/server-virtualization/top-10-benefits-of-server-virtualization.html.

VMWare. *Advantages of Virtualization*. 2015. http://www.vmware.com/virtualization/virtualization-basics/virtualization-benefits. 18 February 2015.