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Our company will have a net benefit of approximately $9.2 million dollars if we invest in new virtualization server technology. “Virtualization is the process of creating a software-based representation of something rather than a physical one.” (vmware.com) Instead of having thousands of servers in our datacenter, virtualization enables many machines to belong to a single physical server.

We currently have 1000 physical servers and I believe we can consolidate about 80% of them, which would make us only need 280 physical machines. With the additional space in our warehouse we will be able to effectively manage it. Also, virtualization will allow our company to control how much processing power we want, how much storage we need, and how much memory we want to give our virtual machines. Other benefits of virtualization are cutting cost, minimizing downtime, increasing productivity, and simplify data center management.

In a 3-year period, our current costs of having 1,000 physical servers is $14,000,000 which includes hardware and software maintenance, technical support, and power and cooling. Consolidation of 80% of our physical machines and have 280 physical servers will be $4,800,000 including maintenance costs. Our net benefit if we consolidate these servers is $9,200,000

**Current Costs:**

1000 Servers \* $8000 (cost per server) = **$8,000,000**

1000 Servers \* $2000 (maintenance) = $2,000,000 \* 2 = **$4,000,000** (maintenance for year 1-2)

Total costs= **14,000,000**

**Implementation of Virtualization:**

1000 Servers \*80% = 800/10 (ratio) = 8 \* 16,000 (costs per server) = **$1,280,000**

80 (VMs) \* $3000(maintenance costs) = $240,000 per year \*3(years) = **$720,000**

**Tradition Servers:**

200 Machines \* 8000(cost per machine) = **$1,600,000**

200 Machines \* 2000(maintenance costs) = 400,000 \* 3(years) = **$1,200,000**

Total costs= **4,800,000**

**Net Benefit:**

Total Costs (Current)- Total Costs(Implementation) = **$9,200,000**

Works Cited

*Understanding Virtualization*, [www.redhat.com/en/topics/virtualization](http://www.redhat.com/en/topics/virtualization).

“Virtualization Technology & Virtual Machine Software.” *VMWare*, 22 June 2017, www.vmware.com/solutions/virtualization.html.