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MIS 2501 – Section 1

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Server Consolidation using Virtualization

Our company can save our company $5,120,000 on server costs and roughly $3,070,000 on maintenance per year by implementing server consolidation using virtualization. Consolidating our data center will help reduce our cost significantly by cutting down our electrical and space consumption and improve our recovery and turn-around time. Server consolidation using virtualization will be able to provide our growing company with this ability. These benefits will help us “achieve more flexibility and control in our data center by increasing utilization of existing hardware from 5-15% up to 80% and reduce hardware requirements by a 10:1 ratio or better” (VMWare).

Server consolidation and virtualization will help “reduce IT management costs, lower electrical consumption for server power and cooling, and decrease the amount of physical space required for server farms” (Microsoft). By having 80% of our servers virtually on physical servers, it will allow for less maintenance on physical servers. Not only does server consolidation and virtualization reduce cost due to lowering electrical consumption, it also helps with the utilization of computing power as well. Before virtualization and server consolidation, the computing power of our server hardware is 10%, but by consolidating our servers our utilization percentage will increase to 50%-80%. This will allow our servers to replicate multiple production servers on one server with the capability to run several virtual operating systems. “Virtualization will help our company increase server ROI, reduce power and cooling, and provide higher levels of availability in the event of hardware failures without impacting users” (CNS). Failure recovery will benefit our company because of the ability to copy the virtual operating system to an external device allowing us to restore the original system if failure were to occur. “Virtualization will remove the dependency on hardware and reduce downtime” (CNS). The efficiency to replicate our viral servers will allow our company to upload them in a matter of minutes in the occurrence of any system failures.

Over a three-year period, server consolidation and virtualization will save our company roughly $5,120,000 for our servers and $9,200,000 for maintenance for three years. By using server consolidation through virtualization, the costs of our data center will decrease by almost 65% of the original cost. Not only will it save our company money with the number of servers bought but it will also decrease our cost per year on maintenance almost 35% of the original cost. I propose that server consolidation and virtualization will only help our company by increasing our utilization and accessibility to our servers. It will increase our computing power and reduce our costs and server space. Server consolidation and virtualization is the solution to reducing our cost, increasing our utilization and a faster recovery to any failure in our server hardware.

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| Current Data Center Costs |
| 1000 servers |
| $8,000 per server |
| $8,000,000 total servers |
| $2,000 per server maintenance per year |
| $6,000,000 maintenance cost over three-year period |
| $14,000,000 total cost of implementation |

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| Proposed Data Center Costs | |
| Physical Servers | Virtual Servers |
| 200 servers | 800 virtual servers 80 physical servers |
| $8,000 per server | $16,000 per server |
| $1,600,000 total servers | $1,280,000 total servers |
| $2,000 per server maintenance per year | $3,000 per server maintenance per year |
| $1,200,000 maintenance cost over three-year period | $720,000 maintenance cost over three-year period |
| $2,800,000 total cost of implementation | $2,000,000 total cost of implementation |

Works Cited

<http://www.cns-service.com/virtualization.aspx>

<http://www.vmware.com/solutions/consolidation/>

<http://download.microsoft.com/.../a/.../SCUV_Sales_Datasheet_Final.pdf>