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MIS 2501

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

By implementing the virtualization technology, our company can gain a three year net benefit of $9,200,000. Moreover, by consolidate 10 physical servers onto a single virtual machine server, virtualization can bring tremendous benefits which includes bringing server utilization capacity, providing optimization and integrate data delivery. Therefore, investing money in virtualization technology is a wise decision to reduce costs and improve the capacity.

Virtualization technology is the abstraction of the IT resources that makes the physical nature and boundaries of those resources from users, such as running multiple operating systems and applications on a single physical server (Gartner). Currently, we have approximately 1,000 servers in the data center and these servers contain one server per machine. By installing the virtualization technology, it allows us to consolidate 10 physical servers onto a single virtual machine server and 80% of our servers could run under VMware. With virtualization technology, we can simplify transform 1,000 servers into 280 servers which includes 200 traditional servers and 80 virtualization servers.

Without virtualization, there will be an $8,000 cost per server and with $2,000 per year on maintenance for these servers. The total over a three year period without virtualization would be $14,000,000. By implement the virtualization technology, we can significantly reduce unnecessary costs. The installation for visualization technology will cost a total $4,800,000 in three years period which includes $640,000 fees for maintenance and technical support per year. This will result in a total $14,000,000 benefits over a period of three years and by comparing the result, implementing the virtualization technology can help us gain a net benefit of $9,200,000 over a three-year period.

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| Table Without Virtualization Technology |
|  | Year 1 | Year 2 | Year 3 | Total |
| 1000 non-virtualized servers | $8,000,000 | $0 | $0 | $8,000,000 |
| Non-virtualization system support | $2,000,000 | $2,000,000 | $2,000,000 | $6,000,000 |
| Total Fees | $10,000,000 | $2,000,000 | $2,000,000 | $14,000,000 |

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| Table with Virtualization Technology |
|  | Year 1  | Year 2 | Year 3 | Total |
| 200 non-virtualized servers | $1,600,000 | $0 | $0 | $1,600,000 |
| 80 virtualized machine servers | $1,280,000 | $0 | $0 | $1,280,000 |
| Both System Supports  | $640,000 | $640,000 | $640,000 | $1,920,000 |
| Total Fees | $3,520,000 | $640,000 | $640,000 | $4,800,000 |

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| Result of Implementation  |
|  | Year 1 | Year 2 | Year 3 | Total |
| Cost for implement virtualized technology | $3,520,000 | $640,000 | $640,000 | $4,800,000 |
| Benefit | $6,480,000 | $1,360,000 | $1,360,000 | $9,200,000 |

Work Cited

"Market Guide for Data Virtualization." Gartner, 25 July 2016. Web. 28 Feb. 2017.

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"Virtual Machines and Containers Solve Different Problems." Gartner, 10 Dec. 2015. Web. 28 Feb. 2017. <Virtual Machines and Containers Solve Different Problems>.