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MIS 2501 – Flash Research Assignment #3

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Virtualization and Cloud Computing

Our company has an opportunity to save approximately $9,200,000 over the span of five years by utilizing virtualization under VMWare, a dominant virtualization vendor. Virtualization is the use of software to allow a piece of hardware to run multiple operating systems. The use of virtualization will allow our organization to consolidate the number of servers within our data center and provide long-term savings in server and maintenance costs.

Server consolidation and virtualization will decrease the amount of physical space required for servers and allow our organization to run multiple operating systems on one server. By having 80% of our servers virtually on physical servers, it will allow for less maintenance on physical servers. Also, virtualization will completely utilize server-computing power. This will allow our servers to replicate multiple production servers on one server with the capability to run several virtual operating systems. Virtualization will allow our organization to copy our virtual operating system to an external device and restore the original system if failure were to occur.

Virtualization under VMWare will offer a server and maintenance cost reduction of 66% and a cost savings of $9,200,000. Virtualization will reduce capital expenses through server consolidation and improve operating expenses through automation. Virtualization will remove the dependency on hardware and reduce unplanned application and system downtime. Our company will decrease the number of servers in our data center by 72% and consolidate the number of our servers to only 80 virtual servers and 200 physical servers; ultimately providing a larger return on investment and substantial cost savings.

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|  |  |  |  |  |  |
| **Current Costs** | | | | | |
| **Current Server Costs** | | | | | |
| # of Servers | Avg Cost per Server | Total Server Costs | Avg Maintenance Cost per Service | Total Maintenance Cost per Year | Total Server Cost |
| 1,000 | 8,000 | 8,000,000 | 2,000 | 2,000,000 | 10,000,000 |
|  |  |  |  | **Total Cost Year 1** | **10,000,000** |
|  | | |  | **Total Cost Year 2** | **2,000,000** |
|  |  |  |  | **Total Cost Year 3** | **2,000,000** |
|  |  |  |  | **Total Cost** | **14,000,000** |
| **VMWare Implementation Cost** | | | | | |
| **Virtual Server Costs** | | | | | |
| # of Virtual Servers | Avg Cost per Server | Total Server Costs | Maintenance Cost per Server | Total Maintenance Cost per Server | Total Server Cost |
| 8 | 16,000 | 128,000 | 3,000 | 24,000 | 152,000 |
| **Non-Virtual Server Costs** | | | | | |
| # of Servers | Avg Cost per Server | Server Costs | Maintenance Cost per Server | Total Maintenance Cost per Server | Total Server Cost |
| 200 | 8,000 | 1,600,000 | 2,000 | 400,000 | 2,000,000 |
|  |  |  |  | **Total Cost Year 1** | **3,520,000** |
|  |  |  |  | **Total Cost Year 2** | **640,000** |
|  |  |  |  | **Total Cost Year 3** | **640,000** |
|  | **VMWare Cost Savings** | |  | **Total Cost** | **4,800,000** |
|  | **Cost Savings** | |  |  |  |
|  | **Cost Savings** | **9,200,000** |  |  |  |
|  | **Cost Reduction** | **66%** |  |  |  |
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Works Cited

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