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MIS2501 – Flash Research Paper 2: Virtualization and Cloud Computing

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Our company has the opportunity to save $9,200,000 over the next three years by utilizing virtualization to consolidate server workloads. In order to efficiently reduce the cost and make it easy for us to manage all the servers, we should consider running our physical server as virtual machine under VMware.

By implementing virtualization, 80% of our servers can be ran as virtual machine and we can consolidate 10 physical servers onto a single machine server. Therefore, instead of controlling 1000 physical servers like we do now, our company will only have to control 80 virtual machine servers and 200 physical servers. Our company will reap a tremendous savings in power, cooling costs and reduce the datacenter footprint including diesel generator costs, UPS costs, network switch costs, etc. The server consolidation lets our company minimize downtime, improve reliability with business continuity, and increase IT productivity.

Our cost after three years of utilizing virtualization will be $4,800,000; we currently have approximately 1,000 servers in our datacenter, which would cost $14,000,000 over the same three-year period to purchase each of the server and maintain them. Our new maintenance cost will reduce to $1,920,000 in three years instead of our current $6,000,000 cost. We will have the great net benefit of $9,200,000 because of making this decision.

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| --- | --- | --- | --- | --- |
| **Benefit** | **Year 1** | **Year 2** | **Year 3** | **Total** |
| Eliminating 1000 physical servers | $8,000,000 | $0 | $0 | $8,000,000 |
| Eliminating maintenance cost | $2,000,000 | $2,000,000 | $2,000,000 | $6,000,000 |
| Total benefit: | $10,000,000 | $2,000,000 | $2,000,000 | **$14,000,000** |
|  |  |  |  |  |
| **Cost** | **Year 1** | **Year 2** | **Year 3** | **Total** |
| 200 Physical servers | $1,600,000 | $0 | $0 | $1,600,000 |
| 80 VM servers | $1,280,000 | $0 | $0 | $1,280,000 |
| VM server maintenance | $240,000 | $240,000 | $240,000 | $720,000 |
| Physical server maintenance | $400,000 | $400,000 | $400,000 | $1,200,000 |
| Total Cost | $3,520,000 | $640,000 | $640,000 | **$4,800,000** |
|  |  |  |  |  |
| **Net Benefit** | **$6,480,000** | **$1,360,000** | **$1,360,000** | **$9,200,000** |

**Work Cited**

Davis, David. “Top 10 Benefits of Server Virtualization.” *Virtualization Review*, Enterprise Computing Group, 20 June 2011, virtualizationreview.com/articles/2011/06/20/top-10-benefits-of-server-virtualization.aspx.

“Virtualization Technology & Virtual Machine Software.” *VMWare*, VMware, 6 Aug. 2017, www.vmware.com/solutions/virtualization.html.

“Server Virtualization & Consolidation.” *VMWare*, VMware, 6 Aug. 2017, www.vmware.com/solutions/consolidation.html.