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Flash Research Assignment: Virtualization and Cloud Computing

Our company can generate a net benefit of $9.2M over the next three years by switching from physical servers to virtual servers. Virtual servers can consolidate server workloads of 10 physical servers on average and increase sustainability. Implementing virtual servers will allow us to consolidate 1000 of our current machines into 80.

With the implementation of virtual server technology using VMware, the company will increase the overall utilization of hardware by having 10 servers run on a single server machine. This facilitates the servers’ management by reducing the total number of servers. Individual physical servers normally do not utilize all of their hardware configuration resources and often have excess resources like RAM and Processor unutilized. Deploying virtualization technology and consolidating several servers in one high-end server will have most of the server resources utilized; e.g. 10 servers using on average 2GB of RAM out of a 4GB machine can be combined into a single physical server with 24GB of RAM instead of having 10 physical 4GB servers.

Purchasing and maintenance costs of 1000 distinct physical servers over three years will be $14,000,000. Virtualizing servers reduce these costs to $4,800,000 for 80 virtual servers and 200 physical servers. The company will generate a 3-year net benefit of $9,200,000 by switching 80% of our physical servers to virtual under VMware.

Works Cited

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| --- | --- | --- | --- | --- |
|  | **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Costs** |  |  |  |  |
| 200 Traditional Physical Servers | $ 1,600,000 | $ - | $ - | $ 1,600,000 |
| 80 Vmware Servers | $ 1,280,000 | $ - | $ - | $ 1,280,000 |
| Maintenance 200 Traditional Servers | $ 400,000 | $ 400,000 | $ 400,000 | $ 1,200,000 |
| Maintenance 80 Vmware Servers | $ 240,000 | $ 240,000 | $ 240,000 | $ 720,000 |
| **Total Costs** |  |  |  | **$ 4,800,000** |
| **Cost Benefits** |  |  |  |  |
| 1000 Servers (Elimination) | $ 8,000,000 | $ - | $ - | $ 8,000,000 |
| 1000 Traditional Servers Maintenance (Elimination) | $ 2,000,000 | $ 2,000,000 | $ 2,000,000 | $ 6,000,000 |
| **Total Benefits** |  |  |  | **$ 14,000,000** |
| **NET BENEFITS** |  |  |  | **$ 9,200,000** |

“Physical Servers vs Virtual Machines - How backups work.” *Veeam Software Official Blog*, 30 Nov. 2017, [www.veeam.com/blog/why-virtual-machine-backups-different.html](http://www.veeam.com/blog/why-virtual-machine-backups-different.html).

Marshall, David. “Top 10 benefits of server virtualization.” *InfoWorld*, InfoWorld, 2 Nov. 2011, [www.infoworld.com/article/2621446/server-virtualization/server-virtualization-top-10-benefits-of-server-virtualization.html](http://www.infoworld.com/article/2621446/server-virtualization/server-virtualization-top-10-benefits-of-server-virtualization.html).

Ullman, Ellen. “5 Reasons to Switch to Virtual Servers.” *University Business Magazine*, 15 Oct. 2011, [www.universitybusiness.com/article/5-reasons-switch-virtual-servers](http://www.universitybusiness.com/article/5-reasons-switch-virtual-servers).