Mussie Woldezghi

Flash research paper # 3

MIS 2501/ 002

Professor Doyle

Virtualization and Cloud computing

Investing in VMware virtualization will save $9,200,00 at the beginning of the next hardware refresh cycle and will optimize our data center operations. We need to buy 1,000 physical servers that will need to be replaced next year. With VMware we can run 80 percent of these physical servers as virtual machine servers. By consolidating our physical servers, we can increase utilization, reduce hardware requirements, and eliminate downtime leading to increased efficiency and reduce costs.

VMware virtualization can increase our efficiency through the use of software that runs multiple virtual machines servers in one physical server. Most servers operate at five percent of their capacity but with VMware we can increase utilization of our existing physical servers by up to 80 percent by using shared resources. This software can run multiple workloads and operating systems. It reduces data center space, provision time, and energy consumption. VMware will also eliminate downtime by consolidating the physical servers into virtual machines enabling us to perform maintenance without disrupting operations.

We will save $9,200,000 within three years after upgrading to VMware virtualization. If we don’t act it will cost our company $8,000,000 to replace 1,000 physical servers and $2,000,000 each year for running costs, which includes hardware maintenance, software maintenance, technical support, and power use due to air conditioning. If we take advantage of VMare virtualization it will cost our company $1,280,000 for 80 virtual machine servers, and $640,000 each year for running costs. At the end of three years, the total investment will be $4,800,000. Virtualization can increase efficiency and reduce costs.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|   | Year 1 | Year 2 | Year 3 | Total |
| Investment 1000 servers | 8,000,000 | 0 | 0 | $8,000,000  |
| Maintenance 1000 servers | 2,000,000 | $2,000,000  | $2,000,000  | $6.000.000 |
| Total investment | **10,000,000** | **$2,000,000**  | **$2,000,000**  | **$14,000,000**  |
|   |   |   |   |   |
|   |   |   |   |   |
| Investment of 100 physical servers | $1,600,000  | 0 | 0 | $1,600,000  |
| Investment of 80 virtual servers | $1,280,000  | 0 | 0 | $1,280,000  |
| Maintenance of 200 servers | $400,000  | $400,000  | $400,000  | $1,200,000  |
| Maintenance of 80 servers | $240,000  | $240,000  | $240,000  | $720,000  |
| Total Investment | **$3,520,000**  | **640,000** | **640,000** | **$4,800,000**  |
|   |   |   |   |   |
| Savings | Year 1 | Year 2 | Year 3 | Total |
| Total | **$6,480,000**  | **$1.360,000** | **$1,360,000**  | **$9,200,000**  |

Works Cited

Wikipedia. Virtualization. 2012. 1 October 2012 <http://en.wikipedia.org/wiki/Virtualization>.

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