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Enterprise IT Architecture

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Flash Research Paper #2 - Virtualization and Cloud Computing

Our manufacturing company can save $9.2 million by using virtualization technology, such as VMware, to consolidate our current server. Virtualization uses software to simulate the existence of a computer hardware that allows a single machine to act as if it were many machines. This upcoming hardware refresh cycle would be a great opportunity to adapt our current servers to virtualization technology to reduce expenses and increase efficiency.

VMware would be ideal because it allows us to run multiple virtual machines on a single physical machine, with each virtual machine sharing the resources of one physical computer across multiple environments. This would reduce our physical servers from 1,000 to only 200 physical servers and 80 virtual machines. In those 80 virtual machines, our company would be allowed to utilize various operating systems and multiple applications on the same physical computer. Implementing this new system would minimize downtime, reduce operating costs and supply applications and resources quicker.

Over a three-year period, the implementation and maintenance of VMware to 80 virtual machines and 200 physical machines will cost us $4.8 million. However, removing our current servers and maintenance will benefit the company $14 million. By year three, our company will have acquired a total net benefit of $9.2 million. Investing in VMware will decrease our number of servers and increase cost-efficiency.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Current Technology | **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Server Cost** | $8,000,000 | $0 | $0 | $8,000,000 |
| **Server Maintenance** | $2,000,000 | $2,000,000 | $2,000,000 | $6,000,000 |
| **Total Cost** | $10,000,000 | $2,000,000 | $2,000,000 | **$14,000,000** |
|  |  |  |  |  |
| New Technology | **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Cost of 200 Physical Servers** | $1,600,000 | $0 | $0 | $1,600,000 |
| **Maintenance cost for 200 physical servers** | $400,000 | $400,000 | $400,000 | $1,200,000 |
| **Cost of 80 Physical Servers** | $1,280,000 | $0 | $0 | $1,280,000 |
| **Maintenance cost for 80 physical servers** | $240,000 | $240,000 | $240,000 | $720,000 |
| **Total Costs** | $3,520,000 | $640,000 | $640,000 | **$4,800,800** |
|  |  |  |  |  |
|  | **Year 1** | **Year 2** | **Year 3** | **Total Savings** |
| **Net Benefits** | $6,480,000 | $1,360,000 | $1,360,000 | **$9,200,000** |

**Work Cited**

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