virtualization & cloud computing

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The company can generate a 3-year net benefit of $9,200,000 by consolidating the server workloads. Utilizing VMware, the company can decrease expenses by virtualizing majority of the current physical servers.

Virtualizing the servers allows the company to consolidate the physical servers. A virtual machine mimics a physical machine, meaning that it functions like a normal computer, but it does not have any physical components to it. All of its components are virtual. When the servers are consolidated, they use resources more efficiently. This is beneficial for the company because it can provide 10 physical servers on a single virtual machine server, which in turn cuts expenses. There would be 80 virtual servers and 200 physical servers all together. Slicing out 10 machines from one larger machine decreases total maintenance expenses as well. Doing so also saves space, as the servers would be virtual rather than physical.

The 3-year total costs of using the traditional physical servers, which include purchase price and maintenance costs, would be $14,000,000. However, by utilizing VMware and virtual machines, the 3-year total costs would only be $4,800,000, which translates to a 3-year net benefit of $9,200,000.

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| --- | --- | --- | --- | --- |
| Costs | Year 1 | Year 2 | Year 3 | Total |
| 200 Physical Servers | $1,600,000.00 |   |   | $1,600,000.00 |
| 80 Vmware Servers | $1,280,000.00 |   |   | $1,280,000.00 |
| Maintenance on 200 Physical Serers | $400,000.00 | $400,000.00 | $400,000.00 | $1,200,000.00 |
| Maintenance on 80 Vmware Servers | $240,000.00 | $240,000.00 | $240,000.00 | $720,000.00 |
|   |   |   |   |   |
|   |   |   | Total Cost | **$4,800,000.00** |
|   |   |   |   |   |
| Benefits | Year 1 | Year 2 | Year 3 | Total |
| Cost of 1000 Servers | $8,000,000.00 |   |   | $8,000,000.00 |
| Maintenance of 1000 Servers | $2,000,000.00 | $2,000,000.00 | $2,000,000.00 | $6,000,000.00 |
|   |   |   |   |   |
|   |   |   | Total Savings | **$14,000,000.00** |
|   |   |   |   |   |
|   |   |   | **3-Year Net Benefit** | **$9,200,000.00** |

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