Cong Ngo

MIS 2501

Professor Doyle

Virtualization and Cloud Computing

By utilizing VMware, which is a server virtualization and cloud computing software, our company can save a net benefit of $9,200,000 over 3 years. This technology will convert our current physical servers into virtual servers and reduce the number of physical servers needed, which ultimately reduces our maintenance, power and cooling, and purchasing costs.

VMware installed on the physical server allows multiple virtual servers to run on the same physical server. Therefore, it can consolidate 10 physical servers into one physical server by converting those physical servers into virtual servers. Each virtual server acts like a unique physical server device and is capable of running its own operating system. As a result, with VMware, we can reduce our current 1000 physical servers in the datacenter into 80 virtual servers and 200 physical servers. Specifically, this technology will eventually help us reduce the size of our datacenter, decrease maintenance costs of physical servers, and lower power and cooling costs because fewer physical servers means fewer redundant components and less equipment.

The cost of server virtualization over 3 years is $4,800,000 because it comprises of purchasing expense and maintenance cost. This technology helps us reduce our number of current physical servers, decrease costs of maintenance and power and cooling, and generate total benefits of $14,000,000. Therefore, in 3 years, the server virtualization will yield us a net savings of $9,200,000.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Costs** |  |  |  |  |
| 200 Traditional Physical Servers | $1,600,000 | 0 | 0 | $1,600,000 |
| 80 Virtual Servers | $1,280,000 | 0 | 0 | $1,280,000 |
| Maintenance 200 Traditional Servers | $400,000 | $400,000 | $400,000 | $1,200,000 |
| Maintenance 80 Virtual Servers | $240,000 | $240,000 | $240,000 | $720,000 |
| **Total costs** |  |  |  | **$4,800,000** |
|  |  |  |  |  |
| Cost Avoidance Benefits |  |  |  |  |
| Eliminate 1000 physical servers | $ 8,000,000 | $ - | $ - | $ 8,000,000 |
| Eliminate maintenance on 1000 physical servers | $ 2,000,000 | $ 2,000,000 | $ 2,000,000 | $ 6,000,000 |
| **Total Benefits** |  |  |  | **$ 14,000,000** |
|  |  |  |  |  |
| **Net benefits** |  |  |  | **$9,200,000** |

Sources:

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