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MIS 2501

2/27/2018

Virtualization and Cloud Computing

By running 80% of our servers as virtual machines, we would need fewer physical servers that have high costs and lead to inefficiencies within the company. Implementing virtualization would result in a net benefit of $9.2 million.

Virtualization allows us to run multiple operating systems on one machine, rather than having 1,000 physical servers. Several VMware machines would create many virtual machines, and once one virtual server is created, it will only take minutes to create a new one. This saves the company hours of configuration time associated with creating new physical servers. Virtualization also means that we are not dependent on hardware that might break or fail, costing the company both time and money. At the same time, we minimize the amount of space needed for our servers while increasing performance efficiency.

Using virtualization to replace the 1,000 servers would generate a net benefit of $9.2 million over three years. Over this period, replacing the servers with physical machines would cost $14 million in purchasing and maintenance, while virtual machines would only cost $4.8 million. With fewer physical servers, we could save $1.36 million per year.

Works Cited

“Top 5 benefits of server virtualization technology.” SearchServerVirtualization, searchservervirtualization.techtarget.com/tip/Top-five-benefits-of-server-virtualization.

“Virtualization Technology & Virtual Machine Software: What is Virtualization?” VMWare, 14 Feb. 2018, www.vmware.com/solutions/virtualization.html.

“What Is Virtualization and How Does It Work for Your Small Business?” Blogs@Cisco - Cisco Blogs,blogs.cisco.com/smallbusiness/what\_is\_virtualization\_and\_how\_does\_it\_work\_for\_your\_small\_business.

Cost/Benefit Analysis:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Current** | Year 1 | Year 2 | Year 3 | **Total** |
| Server | $   8,000,000.00 | $                   - | $                   - | $   8,000,000.00 |
| Maintenance | $   2,000,000.00 | $ 2,000,000.00 | $ 2,000,000.00 | $   6,000,000.00 |
| **Total Cost** | **$ 10,000,000.00** | **$ 2,000,000.00** | **$ 2,000,000.00** | **$ 14,000,000.00** |
|  |  |  |  |  |
| **New** | Year 1 | Year 2 | Year 3 | Total |
| Server | $   1,280,000.00 | $                   - | $                   - | $   1,280,000.00 |
| Current | $   1,600,000.00 | $                   - | $                   - | $   1,600,000.00 |
| Maintenance | $      640,000.00 | $    640,000.00 | $    640,000.00 | $   1,920,000.00 |
| **Total Cost** | **$   3,520,000.00** | **$    640,000.00** | **$    640,000.00** | **$   4,800,000.00** |
| **Net Benefit** | **$   6,480,000.00** | **$ 1,360,000.00** | **$ 1,360,000.00** | **$   9,200,000.00** |