Nicholas Schratz

Flash Research

Virtualization and Cloud Computing

There is an opportunity for our company to earn a net benefit of $9,200,000 over three years by moving 80% of our servers to virtual machines. Virtual Machines can consolidate ten physical servers into one virtual machine server. This would allow us to down on the total cost of installation and maintenance by reducing our overall number of servers from 1,000 to 280.

Since operating systems and applications often run into compatibility issues it requires us to underutilize our physical servers and causes us to purchase far more servers than we really need leading to unnecessary costs. Whereas virtual machines can embody a operating system and application and allow for us to have multiple servers running on each that would utilize these systems. This would increase the utilization off each of our servers and allow us to consolidate 10 servers into just 1 virtual machine, eliminating the need for 800 physical servers.

By using only 200 physical servers and 80 virtual machines our company would only endure a cost of $4,800,000 between installation and maintenance over three years. We would capture a benefit of $14,000,000 over the same span by eliminating the need to install and maintain 1,000 physical servers. Most importantly, we would receive an overall net benefit of $9,200,000 over the timeframe.

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| --- | --- | --- | --- |
| VM and Physical | Year 1 | Year 2 | Year 3 |
| Cost: |  |  |  |
| Physical Servers | $1,600,000 |  |  |
| Maintenance | $400,000 | $400,000 | $400,000 |
| VM Servers (10:1) | $1,280,000 |  |  |
| Maintenance | $240,000 | $240,000 | $240,000 |
| Per Year | $3,520,000 | $640,000 | $640,000 |
|  |  | Total Cost: | $4,800,000 |
| Benefit: |  |  |  |
| Eliminated Physical | $8,000,000 |  |  |
| Eliminated Maintenance | $2,000,000 | $2,000,000 | $2,000,000 |
| Per Year Benefit | $10,000,000 | $2,000,000 | $2,000,000 |
|  |  | Total Benefit: | $14,000,000 |
|  |  | Net Benefit: | $9,200,000 |

Works Cited

Strickland, Jonathan. “How Server Virtualization Works.” HowStuffWorks, HowStuffWorks, 2 June 2008, computer.howstuffworks.com/server-virtualization.htm.

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

Marshall, David. “Top 10 benefits of server virtualization.” InfoWorld, InfoWorld, 2 Nov. 2011, www.infoworld.com/article/2621446/server-virtualization/server-virtualization-top-10-benefits-of-server-virtualization.html.