Flash Research Paper: Virtualization and Cloud Computing

The company can save $9.2 million over the next three years by investing in a partially virtualized server system. Harnessing virtualization technology can reduce total cost of ownership by allowing physical servers to be utilized more efficiently.

Virtualization technology allows multiple servers to be consolidated onto a reduced number of physical servers by sharing the physical server’s CPU and RAM amongst several virtualized servers. Traditional physical servers utilize 5-10% of their computing capacity while virtualized serves utilize 60-80% of their capacity. By implementing virtualization technology our company can consolidate 10 physical servers into one physical server with VMware’s virtualization software. Reducing the number of physical servers will decrease software maintenance, technical support, and power and cooling components necessary for server operations.

 Investing in a non-virtualized server system for this year’s hardware refresh cycle the company can expect to incur $14.0 million in net costs over the next three years as opposed to $4.8 million in net costs with a partially virtualized server system. The three year net savings from investing in a virtualized server system will result in $9.2 million in net benefits over three years.

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| Non Virtualized Server System |
|   | Year |
| Cost | 1 | 2 | 3 | Total |
| Physical Server Initial (1000) | $8,000,000.00 | $0.00 | $0.00 | $8,000,000.00 |
| Physical Server Maintenance | $2,000,000.00 | $2,000,000.00 | $2,000,000.00 | $6,000,000.00 |
|  |  |  | 3 Year Net Cost | $14,000,000.00 |
|  |  |  |  |  |
| Partially Virtualized Server System |
|   | Year |
| Cost | 1 | 2 | 3 | Total |
| Physical Server Initial (200) | $1,600,000.00 | $0.00 | $0.00 | $1,600,000.00 |
| Virtual Server Initial (80) | $1,280,000.00 | $0.00 | $0.00 | $1,280,000.00 |
| Physical Server Maintenance | $400,000.00 | $400,000.00 | $400,000.00 | $1,200,000.00 |
| Virtual Server Maintenance | $240,000.00 | $240,000.00 | $240,000.00 | $720,000.00 |
|  |  |  | 3 Year Net Cost | $4,800,000.00 |
|  |  |  |  |  |
| Non Virtualized | $14,000,000.00 |  |  |  |
| Partially Virtualized | $4,800,000.00 |  |  |  |
| 3 Year Net Savings | $9,200,000.00 |  |  |  |

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