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MIS 2501

Flash Research Paper #2

Virtualization and Cloud Computing

Our company will gain $9.2M in net benefits over a 3-year period, by investing in virtualization. This technique creates virtual servers that can work as physical ones, and consolidate multiple virtual servers onto one hardware, which helps us reduce operation expenses. This investment is appealing since we are at the start of hardware refresh cycle.

The key capability of virtualization allows multiple operating systems share the physical platform to minimizes the number of physical servers required. By consolidating servers through virtualization, our company is able to run ten servers on one virtual machine server, so 800 out of our current 1000 traditional servers onto 80 virtual machine servers, the remaining 200 servers will be traditional. We will save expenses in traditional server purchase and maintenance.

With the server consolidation, the total expenses in installation and maintenance will be $4.8M over a 3-year period. However, the total purchase and maintenance cost for 1000 traditional servers will be $14M over 3 years. We will have $9.2M total savings for investing in virtualization.

References

*The Advantages of Using Virtualization Technology in the Enterprise* (March 2012). Intel Developer Zone. Retrieved from https://software.intel.com/en-us/articles/the-advantages-of-using-virtualization-technology-in-the-enterprise

*Cloud computing Glossary*. Apprenda. Retrieved from https://apprenda.com/library/glossary/definition-server-virtualization/

*Virtualization*. VMware. Retrieved from http://www.vmware.com/solutions/virtualization.html

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| --- | --- | --- | --- | --- |
| **Cost-benefits analysis** | | | | |
| **Cost without virtualization** | Year 1 | Year 2 | Year 3 |  |
| Servers purchase | $ 8,000,000.00 | $0 | $0 |  |
| Servers maintenance | $ 2,000,000.00 | $ 2,000,000.00 | $ 2,000,000.00 |  |
| Total | $ 10,000,000.00 | $ 2,000,000.00 | $ 2,000,000.00 |  |
|  |  |  | **3-year total** | **$ 14,000,000.00** |
|  |  |  |  |  |
| **Cost with virtualization** | Year 1 | Year 2 | Year 3 |  |
| VM purchase | $ 1,280,000.00 | $0 | $0 |  |
| VM maintenance | $ 240,000.00 | $ 240,000.00 | $ 240,000.00 |  |
| Trad. Servers purchase | $ 1,600,000.00 | $0 | $0 |  |
| Trad. Servers maintenance | $ 400,000.00 | $ 400,000.00 | $ 400,000.00 |  |
| Total | $ 3,520,000.00 | $ 640,000.00 | $ 640,000.00 |  |
|  |  |  | **3-year total** | **$ 4,800,000.00** |
| **Net benefits** | Year 1 | Year 2 | Year 3 |  |
|  | $ 6,480,000.00 | $ 1,360,000.00 | $ 1,360,000.00 |  |
|  |  |  | **3-year total** | **$ 9,200,000.00** |

Appendix