Shihao Fei

MIS 2501

Flash Research Paper

Our company will save $3.8 million if we run our 1000 servers as virtual machines. Virtual machines are easier to maintain, and provide more availability and convenience in recovery than physical machines. By switching to virtual machines we could save $5.4 million in hardware and software maintenance.

A virtual machine is a software implementation of physical machine. Multiple virtual machines with their operating system are used in server consolidation, which means different servers are run in separate virtual environments. Every user in a virtual environment is allowed to use all applications and services included in the server. Meanwhile, server consolidation increases the software and hardware utilization. Virtual machines can also decrease the downtime of the datacenter. If one server fails, another virtual machine can be spun up with minimal downtime or data loss. Virtual machines are much easier to expand than physical machines; adding RAM can be finished in a few minutes, while a physical machine may take days to expand.

By switching to this new technology, our company would get significantly decreases spending in hardware and software maintenance, and purchasing. Building and maintenance for 100 virtual machines over next three years would cost $2.2 million. However, this will result in $3.8 million in benefit.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  | cost per year per server | amount of server | period of year | total |
|  | $ spend on original techonolegy | $2,000 | 1000 | 3 | $6,000,000 |
|  |  |  |  |  |  |
|  | balans sheet for original technolegy | | | | |
|  | year 1 | year 2 | year 3 | total |  |
|  | $2,000,000 | $2,000,000 | $2,000,000 | $6,000,000 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | balance sheet for new technolodgy | | | | |
|  | year 1 | year 2 | year 3 | total |  |
| purches price of VM server | $1,600,000 |  |  | $1,600,000 |  |
| cost of server per year | | $300,000 | $300,000 | $600,000 |  |
|  |  |  | total | $2,200,000 |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  | SAVE | $3,800,000 |  |

# Works Cited

DATAPIPE. *The Benefits and Challenges of Virtual Machine Hosting*. 23 April 2014. <https://www.datapipe.com/blog/2014/04/23/benefits-challenges-virtual-machine-hosting/>.

*Understanding the benefits of a virtual machine*. 2016. <http://searchservervirtualization.techtarget.com/tip/Understanding-the-benefits-of-a-virtual-machine>.

*WHAT IS VIRTUAL MACHINE?* n.d. <http://www.serial-server.net/virtual-machine/>.