

Eric Rose

## Virtualization and Cloud Computing Flash Research Paper

It is possible for our firm to significantly cut datacenter costs if we properly utilize virtualization technologies. Virtualization software would provide many benefits, with the most important being server consolidation, which can eliminate our number of servers without decreasing their capabilities. This upgrade will allow us to cut costs by more than \$9 M after three years by reducing our current number of servers from 1000 to 280.

Utilizing VMware is a feasible solution to consolidate our servers. VMware would allow each server to run many operating systems simultaneously, rather than just one per server. These more powerful servers can handle workloads at a 10:1 ratio of our current servers, and we estimate that 80% of our servers are available to upgrade. This upgrade would result in cutting our current 1000 servers down to 280; 80 of which would run VMware, and 200 would remain the same.

The 3-year cost of the new, virtualized datacenter will be \$4.8 M. Through cost avoidance of our old hardware, which includes installation and maintenance costs, we can benefit \$14 M after three years. After all installation and maintenance costs are accounted for, this consolidation project will provide us a net benefit of \$9.2 M after 3 years by reducing our number of servers.

## Bibliography

“Server Consolidation”. (2017). *VMware*. Retrieved from

<http://www.vmware.com/solutions/consolidation.html>

Lo, K. (2011, Jan 19). *Techsoup*. Retrieved from [http://www.techsoup.org/support/articles-and-](http://www.techsoup.org/support/articles-and-how-tos/virtualization-101)

[how-tos/virtualization-101](http://www.techsoup.org/support/articles-and-how-tos/virtualization-101)

### Old

	Year 1	Year 2	Year 3
Installation Cost	\$ 8,000,000.00	\$ -	\$ -
Maintenance Cost	\$ 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
		<b>3 Year Cost</b>	<b>\$ 14,000,000.00</b>

### New

	Year 1	Year 2	Year 3
Installation Cost (VM)	\$ 1,280,000.00	\$ -	\$ -
Installation Cost (Old)	\$ 1,600,000.00	\$ -	\$ -
Maintenance Cost (VM)	\$ 240,000.00	\$ 240,000.00	\$ 240,000.00
Maintenance Cost (Old)	\$ 400,000.00	\$ 400,000.00	\$ 400,000.00
 Total	 \$ 3,520,000.00	 \$ 640,000.00	 \$ 640,000.00
		<b>3 Year Cost</b>	<b>\$ 4,800,000.00</b>
		<b>Net Benefit</b>	<b>\$ 9,200,000.00</b>