

Virtualization and Cloud Computing

Virtualization of our company's servers will save the company \$9,200,000.00 over the course of three years. Utilizing virtual machines to consolidate server workloads by 80% would allow us to consolidate 10 physical servers onto a single virtual machine server, subsequently reducing the number of servers by 68%.

Virtualization is the process of partitioning a physical server into smaller virtual servers, providing scalability through consolidation. A single virtual machine replaces 10 physical servers, vastly reducing the physical space servers occupy, as fewer physical servers are required. For our company, this means reducing 1,000 physical servers to 280 servers, effectively reducing the number of servers by 68%. As a result, our company can save on such costs as hardware maintenance, software maintenance, technical support, power and cooling for each server. As these overall maintenance costs will be paid in perpetuity, it is important to reduce these costs as much as possible.

To replace all 1,000 current servers at the beginning of the hardware refresh cycle, the company will incur a net three-year cost of \$14,000,000.00. To implement the virtualization of servers, the company will have a reduced, net three- year cost of \$4,800,000.00. The total net benefits from consolidation would therefore be \$9,200,000.00. For a growing manufacturing company, efficient server space utilization is crucial, since the number of servers will increase with the size of the company. As a result, the implementation of virtual machines will help our burgeoning business most cost effectively prepare for its future prospects.