Flash Research Paper #2

We need to commit to virtualization software in order to consolidate our data servers. By using virtualization software such as VMware, we can reduce 72% of our data center machines, and by doing so, we can save $2,800,000 over the next three years.

10 computer servers will be run on a single machine instead of a single machine dedicated to a single server. This traditional use of servers has a very low utilization rate for its machines, and is not space-conscious; we expect utilization to increase by 50-80% per machine by using virtualization. This creates an economy of scale in the sense that it would be much cheaper and easier to add more servers in the future if needed to. Virtualization software also allows for better manageability of systems and deconstructing of data silos, which are, since data is much more easily backed up. We expect cost of maintenance and support for each machine to, but the consolidation of so many machines will heavily drop our total costs.

By consolidating 80% of our 1000 physical servers into virtual machine servers, which along with cost savings also provides technical benefits of maximized utilization by running 10 servers on one machine, we can save a net total of $2,800,000 over 3 years.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Cost of Virtualization** | | | | | | | | | | |
|  | # of servers | # of VMs | Cost to purchase | Cost to maintain | Total cost of purchase | Total cost of maintaining | Total Costs Year 1 | Year 2 | Year 3 | Net cost |
| Current | 1,000 | 0 | $8,000 | $2,000 | $0 | $2,000,000 | $2,000,000 | $2,000,000 | $2,000,000 | $6,000,000 |
| Proposed | 280 | 80 | $16,000 | $3,000 | $1,280,000 | $640,000 | $1,920,000 | $640,000 | $640,000 | $3,200,000 |
|  |  |  |  |  |  |  |  |  | **Net benefit:** | $2,800,000 |

Works Cited

<https://www.gartner.com/doc/354152/server-consolidation-benefits-challenges>

<http://www.sysprobs.com/server-consolidation-benefits-with-real-world-examples>

<http://www.gartner.com/document/3270618?ref=solrAll&refval=174824574&qid=c68e6bfe69795bf28e528a111e26da24>

<http://www.gartner.com/document/3388318?ref=solrAll&refval=174824425&qid=e153956fec763059e3e0aa590cd4fdf0>