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## Virtualization and Cloud Computing

Our company can save \$9.2 million over the next three years by virtualizing and consolidating our physical servers at the start of a hardware refresh cycle. Virtualization is the process of dividing one physical server onto multiple virtual servers through consolidation. I propose we virtualize and consolidate some of our physical machines to lower company costs.

The key capability of server virtualization is its ability to consolidate multiple physical servers onto one virtual server. Through consolidation, the number of physical servers are significantly reduced because a single computer can run multiple operating systems. Specifically, ten physical servers can be combined into one virtual machine. This means that through virtualization a company can consolidate 80% of its 1,000 physical servers into 80 virtual machines and 200 physical machines. In the end, virtualization saves a company money by decreasing costs since consolidating physical machines lowers the amount of machines a company has in its data centers along with its maintenance, power, and energy costs.

Virtualizing and consolidating our servers will cost us \$4.8 million dollars. However, by eliminating 750 of our physical servers into 80 virtual machines and 200 physical machines, our company will benefit \$14 million over the next three years. Therefore, despite the initial costs, the investment creates a three year net benefit of \$9.2 million, which is why it is imperative to invest in virtualization to lower company costs.

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<b>Benefits</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>Eliminating Physical Servers</b>	8,000,000	0	0	8,000,000
<b>Eliminating Maintenance Costs</b>	2,000,000	2,000,000	2,000,000	6,000,000
			<b>Grand Total:</b>	\$14,000,000
<b>Costs</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
<b>80 Virtual Machine Servers</b>	1,280,000	0	0	1,280,000
<b>Virtual Machine Maintenance</b>	240,000	240,000	240,000	720,000
<b>200 Physical Servers</b>	1,600,000	0	0	1,600,000
<b>Physical Server Maintenance</b>	400,000	400,000	400,000	1,200,000
			<b>Grand Total:</b>	\$4,800,000
<b>Net Benefit</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Total</b>
	6,480,000	1,360,000	1,360,000	\$9,200,000