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Only Physical vs. Hybrid of Physical and Vmware Server Structures

Refreshing the firm's current physical servers with new physical servers will cost roughly $14,000,000 over 3 years. Switching to a hybrid structure of 80 Vmware servers running 10 virtual machines per server and 200 physical servers will save $5,120,000 in upfront expenses. Over a 3 year period we will experience net savings of $9,200,000 by switching to this strategy. Utilizing servers capable of running multiple virtual machines per server will allow us to consolidate the number of servers we run from 1,000 to 280, creating more free space.

Our current 1,000 physical only server strategy requires considerable amounts of hardware and space. We can convert 800 of our physical servers into 80 Vmware servers; a 10:1 consolidation ratio. This is possible due to Vmware servers being capable of running multiple applications simultaneously. Being able to run 10 applications per server allow us to free up space due to eliminating 720 servers.

The costs are the following, $2,880,000 for 80 Vmware servers and $1,600,000 for 200 physical servers. Maintenance and operating expenses over 3 years are $1,920,000, bringing total costs to $4,800,000. We save $5,120,000 in upfront server expenses switching to a hybrid server structure. Yearly savings in maintenance and operating expenses are $1,360,000; $4,080,000 over 3 years. The total benefit from eliminating 1000 physical servers is $14,000,000. The 3 year net of this strategy is $9,200,000.

Table 1.1 - 3 Year Forecast

	Year 1	Year 2	Year 3	Total
Costs				
200 Physical Servers	$1,600,000	$0	$0	$1,600,000
80 Vmware Servers (10:1 consolidation)	$1,280,000	$0	$0	$1,280,000
Operating Costs of Physical Servers	$400,000	$400,000	$400,000	$1,200,000
Operating Costs of Vmware Servers	$240,000	$240,000	$240,000	$720,000
Total Costs				**$4,800,000**
Benefits				
Eliminate 1,000 Physical Servers	$8,000,000	$0	$0	$8,000,000
Eliminate Operating Costs on 1,000 Physical Servers	$2,000,000	$2,000,000	$2,000,000	$6,000,000
Total Benefits				**$14,000,000**
3 Year Net Benefits				**$9,200,000**

Table 1.2 – Breakdown

All Physical Servers	
Number of Physical Servers	1,000
Cost per Physical Server	$8,000
Total Purchase Cost	$8,000,000
Annual Operating Expenses per Physical Server	$2,000
Total Annual Costs	$2,000,000
Total Server Images	
Physical Servers	200
Vmware Servers	800
Purchase Physical Servers	$1,600,000
Purchase Vmware Servers	$1,280,000
Total Hardware Purchase Price	$2,880,000
Hardware Savings	$5,120,000
Annual Operating Expenses Physical	$400,000
Annual Operating Expenses Vmware	$240,000
Total Annual Operating expenses	$640,000
Annual Savings	$1,360,000

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