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Our current server system is not efficient to continued growth. By switching to a servers run on VMware, we can simulate 10 servers on one machine and convert 80% of our physical servers into VMware servers. Doing this, we will save $8,000,000 over three years by selling excess servers and reducing maintenance.

VMware is a virtualization program that allows us to run multiple virtual machines on a single physical machine ("What is VMWare?"). Virtualization means to create a virtual version of an operating system (Rouse) while virtual machines are simulations of computers that match their functionality (Techopedia). VMware is designed to create multiple easy to use virtual machines on a single physical machine. Based on our current resources, we can convert 80% of our physical servers into virtual machines and can host 10 virtual servers on each physical machine, reducing our number of physical machines from 1,000 to 280. Consolidating is also extremely efficient. Traditional physical servers use only 5% - 10% of computing capacity while upgrading to a VMware server hosting multiple virtual machines can increase utilization to 50% - 80% (Bigelow).

Over the next three years, this conversion will save us $9,200,000. This is achieved by replacing our 1,000 physical servers during the upcoming refresh cycle, which cost $8,000 a server, and replacing them with 200 physical servers at the same price and 80 VM servers at $16,000 a server. By performing this reset, we will also lower our maintenance costs from $2,000 per server per year for 1,000 physical servers to $2,000 for 200 physical servers and $3,000 per server per year for 80 VMware servers. By making this change, we will earn a net benefit of $6,480,000 in Year 1 and a net benefit of $1,360,000 in Years 2 and 3 for a total net benefit of $9,200,000 over three years (Figure 1).

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Figure 1

Benefit	Year 1	Year 2	Year 3	Total
Replace old physical servers[1]	$8,000,000	$0	$0	$8,000,000
Maintenance savings[2]	$2,000,000	$2,000,000	$2,0000,000	$6,000,000
Total benefits	$10,000,000	$2,000,000	$2,000,000	$14,000,000
Cost				
Cost of new VM servers[3]	$1,280,000	$0	$0	$1,280,000
Maintenance of VMware[4]	$240,000	$240,000	$240,000	$720,000
Cost of new physical servers[5]	$1,600,000	$0	$0	$1,600,000
Maintenance of physical servers[6]	$400,000	$400,000	$400,000	$1,200,000
Total Costs	$3,520,000	$640,000	$640,000	$3,200,000
Net Benefits	$6,480,000	$1,360,000	$1,360,000	$9,200,000

1) 1000 servers costing $8000 per server in Year 1

2) Cease paying maintenance on 1000 physical servers of $2,000/yr/server

3) Buy 80 new VM servers at $16,000 per server

4) Pay maintenance on 80 VM servers of $3,000/yr/server

5) Purchase 200 new physical servers at $8000/server

6) Pay maintenance on 200 physical servers of $2,000/yr/server

Works Cited

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