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Virtualization and Cloud Computing

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 The company will generate a net benefit of $9,200,000 over a three-year period by investing in virtualization. A virtual server imitates a physical server and enables you to run more than one independent computer system on a single physical computer system. In return, it takes up less space, saves money, and is more efficient.

 A virtual server represents a complete physical system, with processors, memory, networking, and storage, that acts the same as a physical. Server virtualization will allow 10 physical servers to run on a single virtual machine server through the use of VMware. Power is used more efficiently when one physical server is converted into multiple virtual servers because each server can run multiple operating systems and applications. Utilization can increase from 15% to 80% by running multiple virtual servers on one physical server.

 Investing in VMware will generate a cost avoidance benefit of $14,000,000, and additionally it will function more efficient. It will cost $4,800,000 over a three-year period for the installation of the new servers, hardware maintenance, and software maintenance, technical support, power and cooling. The resulting net benefit of introducing virtualization will be $9,200,000.

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| **Cost Avoidance Benefits** |  |
| 1000 Servers | $8,000,000  |
| Maintenance | $6,000,000  |
| **Total:** | $14,000,000  |

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| **New Costs** |  |
| 200 physical servers | $1,600,000  |
| 80(10:1) | $1,280,000  |
| Physical Maintenance | $1,200,000  |
| Virtual Maintenance | $720,000  |
| **Total** | $4,800,000  |

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| **Net Benefit** | $9,200,000  |

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