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Virtualization and Cloud Computing

Our organization can save $9,200,000 by utilizing virtualization to consolidate server workload. There has been an increase adoption of virtualization technology, and virtualized workloads has becoming mission-critical. Virtualization enables flexible workload placement and optimization that meet required performance, availability, and efficiency.

80% of servers can run as virtual machine under VM ware, so 10 physical servers on a single virtual machine. The consolidation phase supports energy management and related cost saving. An administrator can convert one physical server into multiple virtual machines, and each virtual server can acts like a unique physical device. Each is capable of running its own operating system. VM recovery solutions help recover from problems such as use or administrator errors, application error, logical errors, physical errors, and disaster recovery errors. Virtualization has enabled significant consolation of high-volume server hardware for many organizations, helping in reduction of capital expenditure on new server hardware and related facilities cost.

We are currently running 1000 physical server, and total cost of physical server cost for three years is $14,000,000 (Table 1). If we implement VMware, then 200 physical server and 80 virtual machine. Total cost of implementing to new virtual machine for three years will be $4,800,000 (Table 2). There will be net benefit of $9,200,000 over the three year period (Table 3). Virtualization enable the use of use of older software for longer period and reduce the need for expensive migration as well as purchase of alternative software.

Table 1: Physical Server Cost

Number of Servers	Installation Cost	1st year Maintenance Cost	2nd year Maintenance Cost	3rd year Maintenance cost	**Total Cost**
1000	8000,000	2000,000	2000,000	2000,000	**14,000,000**

Table 2: Virtual Server Cost

Number of Servers	Installation Cost	1st year Maintenance Cost	2nd year Maintenance Cost	3rd year Maintenance cost	Total Cost
200	1,600,000	400,000	400,000	400,000	2,800,000
80	1,280,000	240,000	240,000	240,000	2,000,000
				Total Cost	**4,800,000**

Table 3: Net Benefit

Cost of Physical Server	Cost of Virtual Server	**Net Benefits**	**Reduction**
14,000,000	4,800,000	**9,200,000**	**-65.71%**

Work Cited

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