Kurtis Konrad

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Flash Research Assignment

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Virtualization and Cloud Computing

Over three years we will see a net benefit of $9,200,000 if we invest in server consolidation through virtualization. Virtualization allows our organization to make better use of our physical servers that are being under-utilized, along with reducing the number of physical servers and ultimately saving money on operating costs.

The key capability of server consolidation via virtualization is the ability to sustain ten virtual machines through only one physical server. Currently, our servers operate at just five to fifteen percent of their total load capacity, however by utilizing virtual machines many of these servers will consolidate into single ports of the physical hardware in order to prevent under-utilization. The number of physical servers will be decreased from 1000 to 200 and the remaining 800 physical servers will be consolidated into 80 virtual machines. By decreasing the number of physical servers, we will be able to reduce the amount of hardware and operating costs.

The cost of consolidation through virtualization is $4,800,000 comprising of the virtual machine maintenance, newly acquired virtual servers, and physical servers. Over three years virtualization will give us a cost avoidance benefit of $14,000,000 by eliminating the extensive amount of maintenance on our current physical servers giving us a net benefit $9,200,000.

Current Servers / cost avoidance benefit				
	year 1	year 2	year 3	total
server	8,000,000			8,000,000
maintance	2,000,000	2,000,000	2,000,000	6,000,000
Total	10,000,000	2,000,000	2,000,000	14,000,000

New Server's				
	year 1	year 2	year 3	total
VM Servers	1,280,000.00			1,280,000.00
VM Maintencance	240,000.00	240,000.00	240,000.00	720,000.00
Physical Servers	1,600,000.00			1,600,000.00
Physical Server Maintenance	400,000.00	400,000.00	400,000.00	1,200,000.00
Total	3,520,000.00	640,000.00	640,000.00	4,800,000.00

3 year net benefit				
	year 1	year 2	year 3	total
Current Servers	10,000,000	2,000,000	2,000,000	14,000,000
New Servers	3,520,000.00	640,000.00	640,000.00	4,800,000.00
Total New Benefit	6,480,000.00	1,360,000.00	1,360,000.00	9,200,000.00

Works Cited

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