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Flash Research Paper 1

Data Centers and Networking

Investing in a Tier III data center will lead to a net benefit of over $13 million for our company within the next three years. Our current data center cannot adequately support our rapidly growing company with system outages costing over $25 million per year. A Tier III data center allows for redundant equipment on all important components within the system, eliminating downtime significantly. The downtime eliminated by upgrading from a Tier I to a Tier III data center will increase the productivity of our company and translate to an annual benefit of $24 million after installation.

A Tier III data center has an availability of 99.98% and no more than 1.6 hours of downtime per year. This is caused by its capacity for redundant equipment and dual power sources for critical components and functions within the system. The multiple power circulation paths allow for all important equipment to have backup power sources, making them fault tolerant. In a Tier III data center, routine system maintenance and repairs can be carried out without impacting equipment or halting operations.

The three-year cost of the Tier III data center is $35 million, which stems from the initial cost incurred to build the data center. The reduction in downtime will result in a three-year benefit of $48 million. A Tier III data center would reduce the financial losses incurred from downtime from $25.6 million to $1.5 million. Upgrading data centers will ultimately save our company $13 million over a three-year time frame.

Work Cited

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Gupta, Rishika. "Why to Prefer a Tier 3 Data Center?" RackBank, RackBank® Datacenters Private Ltd., 5 Jan. 2015, www.rackbank.com/blog/why-to-prefer-tier-3-data-center/.

Ovh. "Understanding Tier 3 and Tier 4." OVH, OVH, www.ovh.com/us/dedicated-servers/understanding-t3-t4.xml.

Financial Breakdown

	Tier I	**Tier III**
Availability	99.67%	99.98%
Downtime	(1-.9967)=.0033	(1-.9998)=.0002
Minutes/year	525,600	525,600
Downtime in minutes/year	(525,600*.0033)=1,734.48	(525,600*.0002)=105.12
Cost of downtime/minute	$14,800	$14,800
Cost of downtime per year	(14,800*1,734.48)=$25,670,304	(14,800*105.12)=$1,555,776

Potential Savings per year: $25,670,304-$1,555,776 = **$24,114,528**

	Cost	Benefit
Year 1	$35,000,000	$0
Year 2	$0	$24,114,528
Year 3	$0	$24,114,528
Total	$35,000,000	$48,229,056

Potential Net Benefit: $48,229,056-$35,000,000 = **$13,229,056**

Return on Investment: ($13,229,056/$35,000,000) = .3380 = **33.80%**