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Flash Research Assignment #1: Datacenters and Networking

Choosing to upgrade our Tier I data center to a Tier III data center could potentially save our company more than \$24,000,000 a year. Implementing a Tier III data center will increase availability by .31%, greatly reducing the number of outages that our ERP systems suffer from. Tier III data centers back up the essential components, making them less susceptible to the outages that a Tier I data center might experience. Only one minute of downtime costs our company almost \$15,000.

Our current Tier I ERP system suffered a total of ten unscheduled outages just last year alone. When the ERP system is down, our company is unable to process orders. Additionally, our production and shipping also come to a halt from these outages, causing in severe losses of potential revenue. Tier III data centers have the redundancy to account for outages and downtime, while Tier I data centers are designed to run with no backups or redundancy. In a Tier III data center, if a component goes down unexpectedly, there is a backup in place to keep everything up and running while the initial component is repaired.

Switching to a Tier III data center will be extremely cost efficient in the long run. Although the initial cost of implementing the data center is high, we will have an increase in ROI after only the third year of implementation. Upgrading to a Tier III data center will increase our uptime by .31% a year. If you look at Figure 1, you can see that even such a small percentage increase will lead to a savings of more than \$24,000,000 a year. Now, looking at Figure 2 we are able to determine that in only three years, we will have a net benefit of over \$13,000,000. With all the money we will be saving by upgrading to a Tier III system, we will be able to reinvest elsewhere in the company.

Figure 1: Downtime

	Minutes/year	Availability (%)	Downtime (min/yr)	Total Downtime (\$)
Tier I	525,600	99.67	1734.48	25,670,304.00
Tier III	525,600	99.98	105.12	1,555,776.00
			Savings:	24,114,528.00

Figure 2: Three year net benefits

	Year 1	Year 2	Year 3	Total (\$)
Costs (\$)	35,000,000	0	0	35,000,000
Benefits (\$)	0	24,114,528.00	24,114,528.00	48,229,056
			3 Year Net Benefits:	13,229,056

Works Cited

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