

Thompson Nguyen

## Flash Research Assignment: Data Centers and Networking

Over the past year, our company has experienced 10 outages to our ERP systems that has cost the company \$25,670,304. By upgrading to a Tier III data center we can greatly reduce both our cost and downtime. Unlike our current Tier 1 data center, a Tier III data center will add redundant capacity components that will greatly reduce downtime from planned and unplanned activities. Although there is an initial cost of \$35,000,000 to upgrade our data center, the projected savings from investing in a Tier III data center over a 3 year period is \$13,229,056.

Unlike our Tier I Data center, a Tier III Data center has a power backup in place in case any single system component fails. A Tier III data center also feature a concurrently maintainable site infrastructure meaning it has redundant capacity components and multiple independent distribution paths that serve the critical environment. This allows planned maintenance to be done on a capacity or distribution component without impacting the IT environment. In addition to this, a Tier III Data center also allows a planned maintenance to be done on the site infrastructure without needing to be shut down on an annual basis. By upgrading our data center, we will decrease our system downtime from 1735 minutes per year to 105 minutes per year.

The initial cost for the upgrade will be one-time fee of \$35,000,000 and will take 1 year to finish constructing the new data center. After the first year, we will realize annual savings of \$24,114,528. After a 3 year period, we will realize a net benefit of \$13,299,056. In addition to this, we will increase our availability from 99.67% to 99.98%. As a result of the increase in the uptime of our systems, we will be able to process and ship orders more efficiently which will ultimately increase customer satisfaction.

Minutes/Year	Cost/Minute of Downtime	Availability	Downtime	Downtime/Year	Cost
525,600	14,800	99.67%	0.33%	1734.48	25,670,304
525,600	14,800	99.98%	0.02%	105.12	1,555,776

	Year 1	Year 2	Year 3	Total
Cost	35,000,000	0	0	35,000,000
Savings	0	24,114,528	24,114,528	48,229,056
Net Benefits	-35,000,000	-10,885,472	13,229,056	13,229,056

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<http://www.colocationamerica.com/data-center/tier-standards-overview.htm>.

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