Flash Research Assignment: Data Centers and Networking

You are the CTA of a small but rapidly growing manufacturing company. Over the past year your organization has experienced 10 outages to its ERP system. The vast majority of these outages have been caused as a result of inadequate facilities in your existing, primitive data center. When this system is down your organization cannot process orders, cannot make product, and cannot ship product! Outages cause serious operational problems and impact both the top and bottom line of the income statement.

Prepare a paper for the CIO in which you propose building a "Tier III" data center. Describe the key capabilities of a tier III data center and describe the business case for making this investment. Crude estimates indicate that building this data center will take 1 year and cost approximately $35,000,000. Assume that you are currently running a "Tier I" data center with 99.67% availability. You are proposing building a "Tier III" data center with 99.98% availability. Assume that downtime costs your organization $14,800 per minute. Assume that the organization looks at all investments in technology over a period of three years.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

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MIS 2501

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Flash Research Assignment 1

<div align="center">Data Centers and Networking</div>

Our company can save 24 million per year if we upgrade our Tier I data center to a Tier III data center. A Tier III data center requires no shutdowns for equipment replacement and maintenance. It is necessary to upgrade to "Tier III" in order to reduce our current downtimes, and increase operational efficiency.

Tier III data center maintains an availability of 99.98%, because only one distribution path is required to serve the critical environment at any time. This means no more down time, which translates to greater profit. While a Tier III data center needs most or all of the site infrastructure system to be shut down when there is a maintenance, Tier III data center requires no down time at all. If our organization upgrades to a Tier III data center, it will significantly reduce downtime and increase efficiency of processing orders, making products and shipping products.

The downtime of our Tier I system costs our organization $14,800 per minute. A Tier III data center will save our organization $24 million per year. Upgrading to Tier III will cost our organization $35 million, but in a three-year period, Tier III will generate a net profit of $13 million.

Figure 1

	Minutes/year	Availability	Downtime min/year	Downtime cost
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

Fiure 2

	Year 1	Year 2	Year 3	Total
Benefit	$ -	$ 24,114,528.00	$ 24,114,528.00	$ 48,229,056.00
Cost	$ 35,000,000.00	$ -	$ -	$ 35,000,000.00
			Net Benefits	$ 13,229,056.00

Works Cited

Diaz, H. (2014, September 11). Explaining the Uptime Institute's Tier Classification System - Uptime Institute eJournal. Retrieved September 21, 2016, from https://journal.uptimeinstitute.com/explaining-uptime-institutes-tier-classification-system/

Staff, C. A. (n.d.). Data Center Standards (Tiers I-IV). Retrieved September 21, 2016, from http://www.colocationamerica.com/data-center/tier-standards-overview.htm

Uptime Institute, LLC. (n.d.). Data Center Site Infrastructure Tier Standard: Topology.