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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MIS2501 Sec. 002
1/27/15

Flash Research Paper #1: Data Centers And Networking

In the next three years, our organization would make a net savings of over $13.2 million if we update our data center from a Tier I to a Tier III. A Tier III has an average of 105 minutes of downtime per year as opposed to our Tier I average downtime of 1734 minutes per year. With ten outages to our ERP system over the past year, our organization needs to reduce downtime.

An update to a Tier III data center would provide redundant capacity components and multiple independent distribution paths. This allows us to plan to remove any capacity component or distribution path from service without any downtime. Another benefit includes concurrent maintenance, which supplies help during a system failure by creating a disruption to continue customer spending. With a reduction of downtime, our organization will experience a 0.31% increase data center availability, or system accessibility and ability to operate.

The time duration for implementation of a Tier III data center is one year with a cost of $35 million. However, our organization will benefit from over $24.1 million in savings over the next two years. This results in the $13.2 million three year net savings. This information can be found on the two graphs below. With the required benefits and the savings, an upgrade to a Tier III data center needs to happen as soon as possible.

	Minutes In A Year	Availability	Downtime (Min./Year)	Dowtime Cost
Tier I	525600	99.67%	1734.48	25670304
Tier III	525600	99.98%	105.12	1555776
			Savings	24114528
	Year One	Year Two	Year Three	Total
Costs	35000000	0	0	35000000
Benefits	0	24114528	24114528	48229056
			Three Year Net Savings	13229056

Works Cited

Rouse, Margaret. "Uptime Data Center Tier Standards Definition." *techtarget.com*. N.p., 2000. Web. 28 Jan. 2015. <http://searchdatacenter.techtarget.com/definition/Uptime-data-center-tier-standards>.

"Tier Standards Overview." *Colocation America*. N.p., n.d. Web. 28 Jan. 2015. <http://www.colocationamerica.com/data-center/tier-standards-overview.htm>.

Uptime Institute Professional Services, LLC. "Data Center Site Infrastructure Tier Standard: Topology." *Uptime Institute*. N.p., 2009. Web. 28 Jan. 2015. <http://community.mis.temple.edu/mis2501sec001s15/files/2015/01/Data-Center-Site-Infrastructure-Tier-Standar-Topology.pdf>.