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Flash Research Assignment: Data Centers and Networking

Our company has the chance to save \$13 million over a span of three years by renovating our current data center. A data center is an infrastructure of computer servers that stores, processes, and serves large amounts of data. We currently operate using a Tier I data center; however, if we upgrade to Tier III we will decrease the amount of downtime from over 1,700 to 105 minutes per year.

A Tier III data center has many advantages over Tier I. Upgrading our data center will allow us to have multiple cooling/heating components and multiple independent distribution paths serving the equipment. These are beneficial if one of the components shuts down or malfunctions, as the other components can still maintain the data center operations normally. All of the information technology equipment is dual powered and fully compatible with the data center's structure. The average downtime for using a Tier I data center is 28.8 hours per year, whereas Tier III would be less than 1.6 hours of downtime.

As shown in the figure below, this implementation will save us upwards of \$48 million in a three year time period by reducing downtime and will only cost \$35 million in those three years for installation. Therefore, our three-year net benefit would total \$13 million.

Works Cited

- "Data Center Site Infrastructure Tier Standard: Topology." GPX Global. Uptime Institute LLC, 28 Jan. 2014. Web. 21 Sept. 2016.
- Colocation American. "Data Center Standards (Tiers I-IV)." Colocation America. Web. 21 Sept. 2016.
- Rouse, Margaret. "What Is Uptime Data Center Tier Standards?" SearchDataCenter. Tech Target, May 2008. Web. 21 Sept. 2016.

	Minutes in yr	Availability	Downtime (min/yr.)	Downtime Costs
Tier I	525,600	99.67%	1,734.48	\$25,670,304
Tier II	525,600	99.98%	105.12	\$1,555,776
			Savings =	\$24,114,528

	Year 1	Year 2	Year 3	Total
Costs	\$35,000,000	-	-	\$35,000,000
Benefits	-	\$24,114,528	\$24,114,528	\$48,229,056
			3 year net =	\$13,229,056