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Flash Research Assignment 1: Data Center
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Our company can save \$72,343,585 by upgrading from a Tier I to a Tier III data center. A Tier III data center provides our data center with multiple power distribution paths for redundancy equipment and distribution components. Last year, our Tier I data center allowed our company to suffer ten abrupt outages to our ERP system. By upgrading to a Tier III data center, our availability will be increased from 99.67% to 99.98% and our ERP system will be equipped with 72-hour power outage protection. The bottom line is, our data center is not reliable, and when our systems go down, product cannot be made, orders cannot be processed, and we cannot move the product.

A Tier III data facility provides multiple power distribution paths for redundancy equipment and distribution components. These essential factors will be our protection against unexpected outages and operational errors that could cause our system to shut down. A Tier III facility provides us with 72 hour power outage protection and redundant delivery paths for both power and cooling, which acts as a lifeline if power is disrupted on one path, our data center will be supported by another path. According to the VP of Emerson Network Power, the top three causes of unplanned outages are UPS battery failure, accidental human error, and UPS capacity exceeded. These three factors are not very far-fetched on a day-to-day basis; however, with the redundant components that a Tier III has to offer, our systems will be able to function even if we experience unforeseen equipment failures.

In accordance with *Uptime Institute, LLC*, our company is running a low reliability Tier I data center. Upgrading to a Tier III data center will cost \$35 million and take one year to implement, therefore, the first three-years will costs a total of \$63,781,856 (table 1). Whereas, our current Tier I data center will cost us a total of \$77,010,912 over a three-year period. Therefore, after the first three years our company can enhance our data center availability from 99.67% to 99.98% and achieve a net benefit of \$13,229,056. In the long run, our company will achieve a net benefit of \$72,343,584 over a three-year period (table 2). Upgrading from a Tier I data center to a Tier III data center is a large expense, but as we move forward and continue to grow, our company will operate more efficiently, effectively, and most important, our Tier III data center will be reliable.

Work Cited

- ColocationAmerica. "Tier 1 Tier 2 Tier 3 Tier 4 Data Center." *ColocationAmerica.com*. Colocation America Inc, n.d. Web. 30 Jan. 2012. <http://www.colocationamerica.com/data_center/tier-standards-overview.htm>.
- Data Center Site Infrastructure Tier Standard: Topology. (2009, January 1). Retrieved September 4, 2014, from http://www.onepartner.com/Portals/4/Docs/uptime_institute_standard_tier_topology.pdf
- Grubb & Ellis. "Tier III Data Center." *National Data Center Practice*. N.p., 2012. Web. 30 Jan. 2012. <<http://datacenterpractice.com/data-center-tiers/tier-iii/>>.

TABLE 1					
Tier I VS. Tier III (Including Upgrading Year)					
Data Center System	Upgrading cost 2	1st Total Downtime Cost	2nd Year Total Downtime Cost	3rd Year Total Downtime Cost	TOTAL COST
Tier 1	\$ -	\$ 25,670,304.00	\$ 25,670,304.00	\$ 25,670,304.00	\$ 77,010,912.00
Tier III	\$ 35,000,000.00	\$ 25,670,304.00	\$ 1,555,776.00	\$ 1,555,776.00	\$ 63,781,856.00
				NET BENEFITS	\$ 13,229,056.00

TABLE 2				
Tier I VS. Tier III (AFTER Upgrading Year)				
Data Center System	Total Minutes in 3 Years	Downtime Cost Per Minute	Availability	Total Downtime Cost
Tier 1	1576800	14800	99.67%	\$ 77,010,912.00
Tier III	1576800	14800	99.98%	\$ 4,667,328.00
			NET BENEFITS	\$ 72,343,584.00