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Flash Research Assignment #1: Data Centers and Networking

   Each year, our company loses $25,670,304 in downtime costs because of our outdated Tier 1 data center. Upgrading our data center can unlock more opportunities for our company through key features such as low downtime and redundant components. By switching to a Tier III data center, we will save $24,114,528 in downtime costs per year.

   We are currently using a Tier I data center which offers the fewest components out of the 4 tiers of data centers. Our current data center has 28.8 hours of downtime per year. A Tier III data center has a maximum of only 1.6 hours of downtime per year. On top of that, a Tier III data center offers redundancy. For example, in the case of a power outage a Tier I data center would simply be out of power. However, a Tier III data center offers an uninterruptible power supply to continue providing power during a power outage. A Tier III data center also provides 24 hour hardware monitoring and system management to monitor the center.

   This new data center would be a one-time cost of $35,000,000 to build and would be complete in just one year. Once complete, it will lower our cost of downtime per year from $25,670,304 (Tier I) to $1,555,776 (Tier III). Over three years, switching to a Tier III data center will result in a net benefit of $13,229,056.

Cost of Downtime:

	Minutes in 1 year	Cost per minute of downtime	Minutes of downtime	Total cost of downtime per year
Tier I	525,600	$14,800	1,734.48	$25,670,304
Tier III	525,600	$14,800	105.12	$1,555,776

Tier III:

	Year 1	Year 2	Year 3	Total
Benefits	$0	$24,114,528	$24,114,528	$48,229,056
Costs	$35,000,000	$0	$0	$35,000,000

Net Benefit = Benefit Over 3 Years - Initial Investment
Net Benefit = $48,229,056 - $35,000,000 = **$13,229,056**

Works Cited

Data Center Tier Rating Breakdown - Tier 1, 2, 3, 4 - CLA "Data Center Tier Rating Breakdown - Tier 1, 2, 3, 4 - CLA." *Colocation America*. N. p., 2018. Web. 20 Sept. 2018.

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