

Jose Gil
Flash Research Assignment #1
February 22, 2017

Data Centers and Networking

As the CTA, I recently found and researched new technology for us to invest in and implement to our company, which would reduce cost and increase our efficiency. With our current Tier I data center, we have ongoing operational problems causing unscheduled outages, so I suggest upgrading to a Tier III data center. A Tier III data center would take one year to build and save us \$13,229,056 over a three-year period plus decrease the number of operational problems, which we currently have with the Tier 1 system.

Tier III data center features are perfect for large businesses and have key capabilities useful for our organization. We would increase our availability from 99.76 percent to a 99.98 percent availability, and the Tier III system provides at least 72 hours of power outage protection. All equipment has dual power inputs so if one input fails the other system picks it up as failover. This limits the amount of times the system will be down while the Tier I system had 1,735 minutes of downtime per year, the Tier III only had 105.12. This system incorporates additional system parts and connections in place for maintenances and planned and unplanned outages to keep it running, limiting downtime costs for our company.

With the current Tier I system it would cost us \$77,010,912 over a three-year period since downtime costs us \$14,800 per minute. The Tier I data center is also currently costing us \$25,670,304 annually with a higher amount of downtime than the Tier III system. Over the first year of implementation of the Tier III system, however it will only cost us \$35 million to upgrade for the first year and ultimately save us \$48,229,056 over the next three year years. Even with the cost of implementation it will result in net savings of \$13,229,056 over the same three-year period. Upgrading to a Tier III will save us millions of dollars and improve our efficiency.

	Minutes in a year	Availability	Downtime per year (minutes)	Cost of downtime per minute	Cost of downtime
Tier I	525,600	99.76%	1,735.48	\$14,800	\$25,670,304
Tier III	525,600	99.98%	105.12	\$14,800	\$1,555,776
					Yearly Savings: \$24,114,528

Tier III implementation:

	Year 1	Year 2	Year 3	
Savings	\$0	\$24,114,528	\$24,114,528	\$48,229,056
Cost	\$35,000,000	\$0	\$0	\$35,000,000
				Net Savings: \$13,229,056

Works Cited

- Allen, M. (2014, December 12). *Infrastructure*. Retrieved from Data Centers:
<https://www.datacenters.com/news/infrastructure/138-tier-iii-vs-tier-iv-data-center-whats-the-difference>
- Colocation America. (2015, October 21). *Data Center Standards (Tiers I-IV)*. Retrieved from Colocation America: <https://www.colocationamerica.com/data-center/tier-standards-overview.htm>
- Coreix. (n.d.). *Data Centre Tiering* . Retrieved from Coreix:
<https://www.coreix.net/resources/data-centre-faqs/data-centre-tiering/>
- Hatton, B. (2014, February 21). *Data Center Tiers Explained*. Retrieved from The Data Cave:
<https://www.thedatacave.com/data-center-tiers-explained>