Ariana Castaneda

MIS2501

February 28, 2018

“Data Centers and Networking”

Our company can realize a total net benefit of $13M over the next three years by implementing a new Tier III data center. Tier III offers a “Concurrently Maintainable data center” that has redundant capacity components and multiple independent distribution paths. With this implementation, the company will reduce downtime costs and significantly increase the company’s site availability to 99.98% in one year.

Our current Tier I has a redundant capacity with a non-redundant distribution path. With Tier III, all the equipment will not be affected by any damages and will continue to work on a regular basis. Tier III is dual powered for all IT equipment, which can benefit our company as we will no longer have to wait for maintenance to continue with performing. This means there will always be a “plus one” machine to back up any unexpected disruptions in our system. Lastly, the Tier III data center has a twelve-hour on-site fuel storage that our current Tier I does not have. Therefore, if our company has a power loss in both generators, no data will be lost within the next twelve hours of operation.

The total implementation cost during the first year is $35M, allowing the company to save over $24M per year. We will realize a net benefit of $13M over the next three years by reducing downtime costs from $23M to $1.5M per year.

Works Cited

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Minutes/Year** | **Availability** | **Downtime** | **Cost/Year** |
| **Tier I** | $525,600.00 | 99.67% | $1,734.48 | $23,670,304.00 |
| **Tier III** | $525,600.00 | 99.98% | $105.12 | $1,555,776.00 |
|  |  |  | **Savings per Year=** | **$24,224,528.00** |
| **Tier III** | **Year 1** | **Year 2** | **Year 3** | **Total** |
| **Cost** | $35,000,000.00 | $0.00 | $0.00 | $35,000,000.00 |
| **Benefit** | $0.00 | $24,114,528.00 | $24,114,528.00 | $48,229,056.00 |
|  |  |  | **3 Year Benefit=** | **$13,229,056.00** |

Turner VI, Pitt W., Seader, John H., Renaud, Vincent E. “Data Center Site Infrastructure Tier Standard: Topology.” UptimeInstitute, LLC. Web. 2010.

<http://community.mis.temple.edu/mis2501sec001f13/files/2013/08/DataCenter-Site-Infrastructure-Tier-Standar-Topology.pdf>

Gupta, Rishinka, “Why to Prefer a Tier 3 in Data Center?” Rack Bank. 05 Jan. Web, 18 Sept. 2016.

<<https://www.rackbank.com/blog/why-to-prefer-tier-3-data-center/>>.

Diaz, Hector. “Explaining the Uptime Institute’s Tier Classification System” UptimeInstitute, LLC. 2010. Web. 18, Sept. 2016.

<<https://journal.uptimeinstitute.com/explaining-uptime-institutes-tier-classification-system/>>