**Data Centers and Networking**

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A Tier III system will save the company $13,229,056 in the first three years of implementing this standard. Data centers are dependent upon successfully integrated operating systems. Switching from a Tier I to a Tier III system will increase the quality of service we provide to our customers and decrease the number of outages per year.

With a Tier III implementation, outages will become less frequent due to the enhanced capabilities of this system. According to Gartner, a Tier III rated standard will have about 1.6 downtime hours per year, where a Tier I would have 28.8. The Tier III system offers a concurrently maintainable environment resulting in less outages. This means that the each and every capacity component can be removed and serviced without affecting the critical environment in the data center. This will decrease the number of outages since the system is built to be maintained for long- term viability. In addition, the Tier III system will have one active and one alternative distribution paths. This will eliminate the downtime cost per year by $24.1 milion.

Switching to a Tier III system can increase our organization's profits by $13.2 million in three years. The initial cost of $35 million is more than year with 10 outages, the long run gain is greater. The availability of the Tier III system is a .31% increase which is a net benefit of $13.2 million compared to Tier I system. Less outages can increase the company's efficiency.

Appendix

Works Used

Brill, Kenneth G., Ed Orchowski, and Lars Strong, P.E. "Fault - Tolerant Power Certification Is Essential When Buying Products for High - Availability." Uptime Institute. Site Infrastructure White Paper. Web. 07 Sept. 2015.

Cecci, Henrique. "Select the Right Data Center Design Standard to Reduce Risks and Save Money." Gartner. N.p., n.d. Web. 07 Sept. 2015.

Turner, W. Pitt, IV, John H. Seader, and Vincent E. Renaud. "Data Center Site Infrastructure Tier Standard: Topology." N.p., n.d. Web.

| | **Minutes in a Year** | **Availability** | **Downtime** | **Downtime Cost** | **Cost per Minute** |
|---|---|---|---|---|---|
| **Tier I** | 525,600 | 99.67% | 0.33% | $25,670,304.00 | $14,800 |
| **Tier III** | 525,600 | 99.98% | 0.02% | $1,555,776.00 | |
| | | | **Savings** | **$24,114,528.00** | |

| | **Year 1** | **Year 2** | **Year 3** | |
|---|---|---|---|---|
| **Benefits** | $0 | $ 24,114,528 | $ 24,114,528 | $ 48,229,056 |
| **Costs** | $ 35,000,000 | $0 | $0 | $ 35,000,000 |
| **3 Year Benefit** | | | | **$13,229,056.00** |