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MIS 2501: Enterprise IT Architecture

Data Centers and Networking

Upgrading from a Tier I to a Tier III system will give the company a net benefit of

$13,229,056 over the first three years of implementation. Tier III data centers have great uptime

and it is also concurrently maintainable which essentially means less shutdowns. While

switching from a Tier I to a Tier III will cost the company $35,000,000, it will help improve

business operations.

The key capability of a Tier III data center is that it has the ability to operate as a backup,

with 72-hour power outage protection. Tier III centers have multiple active power and cooling

distribution paths, but only one path that is active in case of failures. According to Colocation

America, Tier III systems are held to no more than 1.6 hours of downtime per year and an

availability of 99.98% compared to a Tier I system with 28.8 downtime hours per year and

99.67% availability. It will cost a lot of money but investing in a Tier III data center will save the

company $24,114,528 a year.

Although it will take an initial cost of $35 million to implement the new system, a Tier III

system will decrease the annual downtime which will benefit the company $48.2 million. The

company will have a net profit of $13.2 million over the course of three years if we switch to a

Tier III system.

|        | Minutes in a Year | Availability | Downtime (mins/year) | Downtime Cost |
|--------|------|--------------|----------------------|---------------|
| Tier I | 525,600 | 99.67% | 1734.48 | 25670304 |
| Tier III | 525,600 | 99.98% | 105 | 1555776 |
|        |      |              |                      | 24114528 |

|        | Year 1 | Year 2 | Year 3 | Total |
|--------|--------|--------|--------|-------|
| Costs | 35000000 | 0 | 0 | 35000000 |
| Benefits | 0 | 24114528 | 24114528 | 48229056 |
| 3-Year Net Benefit |        |        |        | 13229056 |

Staff, Colocation American. "Data Center Standards (Tiers I-IV)." Colocation America. N.p., n.d. Web. 27 Sept. 2016.

Allen, Mike. "Mike Allen." *Tier III vs Tier IV Data Center – What's the Difference?* N.p., 12 Dec. 2014. Web. 27 Sept. 2016.

Beal, By Vangie. "Data Center Tiers." *What Is Data Center Tiers? Webopedia Definition*. N.p., n.d. Web. 27 Sept. 2016.

"Explaining the Uptime Institute's Tier Classification System - Uptime Institute EJournal." *Uptime Institute EJournal*. Matt Stansberry, 30 Sept. 2014. Web. 27 Sept. 2016.