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January 30, 2013

MIS 2501 – Flash Research Paper #1

Data Centers and Networking

System failures within a company have major impacts on lost potential revenue and costs. When the system is down, the company cannot process orders, make product, or ship product. These have a large detrimental impact on both the top line and bottom line of the income statement. By upgrading to a Tier III data center, the company can save over $24 million dollars a year.

Tier III data centers are much more reliable than Tier I data centers. They can do all that a Tier I data center does, plus more protection from system outages. Tier III data centers are Concurrently Maintainable, which means there are multiple independent distribution paths serving the computer equipment. Only one of these paths is needed at a time to keep the system running. All of the information technology apparatus is dual powered with compliance to the Institute’s *Fault Tolerant Power Compliance Specification, Version 2.0*. Twelve hours of on-site fuel storage is also included. With a Tier III data center, every component within the distribution paths can be removed without interrupting any other computer equipment. Planned maintenance will not affect the equipment because of the redundant capacity components and distribution paths.

By investing in a Tier III data center, the company will reduce the amount of money lost due to time and resources wasted from system failures. The new data center may take 1 year to set up and require a $35 million investment, but it will easily pay for itself within a three year time span. Currently, with an availability of 99.67%, the Tier 1 data center costs the company $25,70,304 of downtime per year. With a Tier III data center that has 99.98% availability, the cost will only be $1,555,776 per year. This is a savings of $24,114,528 per year. Over a three year period, the Tier 1 data center will cost you over $38 million more than a Tier III one, with the setup cost included.

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| --- | --- | --- | --- | --- |
|  | Per minute | Per hour | Per day | Per Year |
| Cost of downtime | $ 14,800.00 | $ 888,000.00 | $ 21,312,000.00 | $ 7,778,880,000.00 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | Tier I | Tier III | Difference |
| Availability | 0.9967 | 0.9998 |  |
| Downtime | 0.0033 | 0.0002 |  |
| Cost of downtime per year | $ 25,670,304.00 | $ 1,555,776.00 | $ 24,114,528.00 |

|  |  |  |  |
| --- | --- | --- | --- |
| Downtime Costs | | |  |
|  | Tier I | Tier III | Difference |
| Year 1 | $25,670,304 | $35,000,000 |  |
| Year 2 | $25,670,304 | $1,555,776 |  |
| Year 3 | $25,670,304 | $1,555,776 |  |
| Total | $77,010,912 | $38,111,552 | $38,899,360 |

Works Cited

Turner, W. Pitt, IV, John H. Seader, and Vincent E. Renaud. "Data Center Site Infrastructure Tier Standard: Topology." *Uptime Institute, LLC* (2010): n. pag. Web.