|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Downtime cost/minute | Minutes in a year | Percentage of downtime | Down Time per year in hours  | Cost of downtime per year |
| Tier 1 | $14,800 | 525600 | .33% | 28.9 | $25,670,304 |
| Tier 3 | .02% | 1.7 | $1,555,776 |
|  |  |  |  |  | Savings = $24,114,528 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Year 1  | Year 2 | Year 3 | Total |
| Cost | $35m | 0 | 0 | $35m |
| Benefit | 0 | $24m | $24m | $48m |
|  |  |  |  | Benefit = $13m |

Tier 1 to Tier 3

 Building a tier III data center would save us almost $13,000,000. Our company right now has been experiencing downtime calculating up to 28.9 hours a year. Due to tier III’s cooling paths and backup power source, we will only experience a downtime of 1.7 hours a year.

In the past year, the company’s tier I data center has experienced ten downtimes due to the fact that the data center relies on a single path for power and a cooling distribution without redundant components. Tier I provides uptime availability of 99.67%. If we build a tier III data center, then it will provide multiple active power and cooling distribution paths with redundant components and will be concurrently maintainable. This will increase the uptime availability by to 99.98%. The down time of the data center will decrease by 27.2 hours.

 For every hour of downtime, the company loses $888,000. Decreasing the down tie by 27.2 hours will benefit the company $24,114,528 a year which will add up to $48,229,056 over a three-year period. The first year will cost the company $35,000,000 to build the new data center. However, by the third year of the installment the company will net benefit 13,229,056. The company will benefit a lot if the tier III data center is built.

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