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Flash Research Paper #1

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MIS 3406Enterprise IT Architecture

 Datacenter and Networking

We are losing $25,670,304 per year due to downtime caused by system outages from our present infrastructure, the Tier I data center. However, building a Tier III data center with multi data distribution paths, redundant capacity, and dual power equipment will create less room for outages.

A Tier III data center offers redundant capacity components which concurrently allow maintenance and IT operations on the systems without interrupting the operations of the data center. A Tier III data center guarantees 99.98% availability of data, 72-hour power outage protection, and multiple independent distribution paths. All these features make the Tier III data center less susceptible to outages, which is beyond what is obtainable in the Tier I data center

Adapting to the Tier III data center – a one-year project, costing $35million will provide a benefit of $25,670,304.00. Thus, our company could achieve a net benefit of $13,229,056 at the end of the third year of implementation.

**Cost Benefit Analysis**

Total minute/year: 365 days \*24hours\*60 minutes = 526,600 minutes., downtime cost/minute $14, 800.

Initial investment Cost $35,000,000

Tier I (Current Infrastructure) at 99.67% availability and 0.33% downtime

(525,600 minutes \* 0.33%) \* $14,800 = $25, 670,304.

Tier III (Proposed Infrastructure) at 99.98% availability and 0.33% downtime

(525,600 minutes \* 0.02%) \* 14,800 = $1, 555,776.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Total Minutes /Year** | **Availability** | **Downtime** | **Downtime cost $** |
| **Tier I** | 526,000 | 99.67% | 1, 734.48 | 25, 670,304.00 |
| **Tier III** | 525,600 | 99.98% | 105.12 | (1, 555.776.00) |
|  |  |  | Saving | 24,114,528.00 |
|  | Year 1 | Year 2 | Year 3 | Total |
| **Benefit $** | - | 24,114,528.00 | 24,114,528.00 | 48, 229,056.00 |
| **Cost $** | 35,000,000 | - | - | 35,000,000.00 |
|  |  |  | 3 year Net benefit | 13, 229,056.00 |
|  |  |  |  |  |

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