To: Mart Doyle

From: John Canavati

Flash Research Assignment: Data Centers and Networking

We need to upgrade our Tier I datacenter to a Tier III datacenter. The current system has failed ten times this year, interrupting business processes causing us to lose $14,800 per minute. The Tier III system has an increased availability rate meaning a decreased probability that the datacenter will go down. The Tier III system will also save us $13,229,056 million over a three-year period.

The Tier III Datacenter would give us 99.982 % uptime throughout the year, this equates to a maximum of 1.6 hours of downtime per year. This would be a significant upgrade over our current system, which has an availability rate of 99.671%, which exposes us up to 28.8 hours of downtime per year.

It costs us $14,800 per minute when our system goes down. With our current system, we are exposing ourselves to a possible 28.8 hours of downtime, which could cost us $25,670,304 every year. The cost of implementing the Tier III system would be a onetime fee of $35,000,000, however over the course of the three-year period we would end up saving $13,229,056 because of the reduced possible downtime.

*Figure A*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Availability | Downtime minutes per year | Downtime Cost (per minute) | Total Downtime Cost/Year |
| Tier I | 99.67% | 1,734 | $14,800 | **$25,670,304** |
| Tier III | 99.98% | 105 | $14,800 | **$1,555,776** |
|  |  |  | Difference | $24,114,528 |

*Figure B*

|  |  |  |  |
| --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 |
| **Savings** | $0 | $24,114,528 | $24,114,528 |
| **Cost** | $35,000,000 | $0 | $0 |
|  |  |  | $48,229,056 |
|  |  | Overall Cost | $35,000,000 |
|  |  | Overall Savings | **$13,229,056** |
|  |  |  |  |

Work Cited

"Data Center Site Infrastructure Tier Standard: Topology." UPTIME INSTITUTE, LLC, n.d. Web. 20 Feb. 2017. <http://www.gpxglobal.net/wp-content/uploads/2012/08/tierstandardtopology.pdf>.

Staff, Colocation American. "Data Center Tier Rating Breakdown - Tier 1, 2, 3, 4 - CLA." *Colocation America*. Colocation American Staff, 08 Feb. 2016. Web. 20 Feb. 2017.

Ovh. "Understanding Tier 3 and Tier 4." *Tier 3/Tier 4: datacentre classification - OVH*. N.p., n.d. Web. 20 Feb. 2017.