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## Flash Research Paper: Data Centers and Networking

Investing in a Tier III data center will save our company over $\$ 13$ million within the next three years. Tier III data centers have significantly less downtime than our current Tier I datacenter. The reduced downtime will save our company from losing money.

Tier III data centers have redundant capacity components. This means redundant units have the ability to take over if the primary unit fails without interruption to the data center. The estimated downtime per year in a Tier III datacenter is 27 hours less than a Tier I datacenter. The Tier III datacenter also allows concurrent maintenance, which means maintenance can occur without having to shut down the data center.

A Tier III data center will result in $\$ 13,229,056$ in net savings over three years. The original investment for a Tier III data center is a one-time cost of $\$ 35,000,000$ in the first year which covers installation. Since downtime costs $\$ 14,800$ per minute the total benefit would be $\$ 48,229,056$ since we are cutting 27 hours of downtime. A Tier III datacenter will improve operations and save our company millions of dollars.

|  | Minutes <br> Available | Availabilit <br> y | Downtime per year(min) | Downtime <br> $\operatorname{Cost}(\$)$ |
| :---: | :---: | :---: | :---: | :---: |
| Tier I | 525,600 | 99.67\% | 1,734.48 | 25,670,304 |
| Tier III | 525,600 | 99.98\% | 105.12 | 1,555,776 |
|  |  |  | Savings per year | 24,114,528 |
|  | Year 1 | Year 2 | Year 3 | Total |
| Benefit s | 35,000,000 | 0 | 0 | 35,000,000 |
| Cost | \$0 | 24,114,528 | 24,114,528 | 48,229,056 |
|  |  |  | Net Benefit | \$13,229,056 |

Work Cited

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