

Josh Grover  
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Flash Research Paper #1  
Data Centers and Networking

Upgrading to a Tier III data center would provide a three-year net benefit of \$13,229,056 to the company. Our Tier I data center is primitive and clearly proving inadequate for our needs. When the ERP system is down, operations cease – we cannot process orders, make our products, or ship our products. A Tier III data center utilizes redundant components to minimize such downtime. In order to reduce significant costs and deliver consistent reliability for our customers, we should upgrade to a Tier III data center.

A Tier III data center has numerous benefits over our current Tier I design. Tier III is described as having “Concurrently Maintainable Site Infrastructure.” This means it has redundant capacity components, like engine generators, UPS modules, cooling units, etc., and all IT equipment is dual powered. The design prevents interruptions from planned service on, replacement of, or failure in one component or power distribution path, maintaining the critical environment. The redundancy would reduce our yearly downtime to 0.02%, from 1,734.48 minutes to 105.12 minutes.

Downtime costs the company \$25,670,304 each year. Upgrading to a Tier III data center will decrease these annual downtime costs to \$1,555,776, a reduction of 93.94%. Building the new data center will have a three-year cost of \$35,000,000 and will take one year to complete. The cost savings, starting in the second year, will amount to \$24,114,528 annually, with a total benefit of \$48,229,056 over a three-year period. This will result in a net benefit of \$13,229,056 after 3 years from the project start date. The company will recoup the entire cost of building the data center during the second year after the project’s completion, and additional savings will accumulate beyond that time.

## References

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