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**Flash Research Assignment 1:** Data Centers and Networking

By upgrading to Tier III, we save a net benefit of $13,307,200 within three years. With our current Tier I system we have already lost a minimum of $148,000 from the ten times our system has gone offline over the last year. This solution cuts the amount of downtime by 18 times. This number is significant because for each minute our system is down it cost us $14,800.

A Tier III Data center has the same qualities as our original tier and in addition has the benefits of redundancies that minimize the amount of time and possibility that our site would go down. It will also give us the opportunity to run updates without having to go offline. With the new upgrade, we will adapt the N+1 policy which adds back up redundancy to our current systems that will kick in if our day-to-day systems go off-line and will provide at least 72 hours of protection. A good example of these redundancies is adding backup generators in case the current power system shuts down. Making the change from Tier I to Tier III will cause the availability and uptime to increase from 99.67% to 99.98%. Cutting that 0.31% cuts the hours of downtime from an average of 28.8 a year to 1.6 hours a year, reducing the cost of going offline significantly.

System as is:

$14,800 per minute

$888,000 per hour

$25,574,400 a year

Upgrade Tier III:

$14,800 per minute

$888,000 per hour

$1,420,800 a year

Our records show that our systems went offline ten times in the past year. Investing $35,000,000 the first year will save us $24,153,600 in year 2, and by year 3 we will have saved $48,307,200 giving us a net benefit of $13,307,200.

Works Cited

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