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DATA CENTERS AND NETWORKING

In order to ensure smooth operations in an organization, it is important to maintain a safe infrastructure in our firm’s data center; an upgrade in our data centers can bring our firm savings of over $13,000,000 in a period of three years. The standard of our organization is currently Tier I which has given us 99.67% of reliability. This performance may seem adequate but it has room for improvement, upgrading our infrastructure to a Tier III standard will bring 99.98% reliability. Failure in our systems are very expensive and bring serious consequences to the organization in both the short term and the long term, keeping these failures at minimum is crucial. A 99.67% reliability translates into 1,734.48 minutes of downtime in a year and this is very costly for our business. Investing in upgrading our facilities to significantly decrease these downtime minutes per year can translate into big savings for our firm.

Our Tier I facility does not have redundant capacities components and non-redundant distribution paths. A Tier III facility must gave a redundant capacity components and many distribution paths serving the computer. Only one distribution path usually serves the computers but the other ones are there in case of failure of the primary one. The equipment must also have dual power and backup batteries in case of failure from one of the power sources or failure from both. Most of our Tier I facility systems must be shut down in case of planned work in the facility. In a Tier III facility all of the capacity components and distribution paths should be able to be removed without affecting the equipment in case repairs or replacements need to be made. The site may still be vulnerable to disruption coming from unplanned activities but the risk is diverted through the infrastructure.

With these upgrades to our data center, we will have a Tier III Standard in our data center which will grant 99.98% availability to our systems and they will bring us savings of over $13,000,000 in a three year period. A 99.98% availability translates into only 105.12 minutes of downtime per year. Each minute of downtime costs our firm $14,800; with our current availability of 99.67% and downtime of 1,734.48 minutes; our yearly downtime costs are $25,670,304. Having only 105.12 minutes of downtime coming from our Tier III security, our yearly downtime costs will be reduced to $1,555,776. Our yearly savings after fully upgrading our database to a Tier III database will be $24,114,528. The cost of upgrading our data canter infrastructure is $35,000,000 and it will take a year for it to be completed. We will not receive any benefits the first year while we upgrade the database infrastructure but after three years of implementing this strategy, our net benefits will be $13,229,056 giving us a return on investment of 38% and we will continue saving $24,114,528 from downtime costs every year.

REFERENCES

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