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Flash Research Assignment

Data Centers and Networking

\$25,670,304 is the amount of money spent on downtime using a Tier I data center.

Upgrading to a Tier III data center allows for a net benefit of \$13.2 million within the next three years. The system will utilize redundant components, reducing the unavailability by 0.31% per year.

Tier III data centers run with redundant and dual-powered components to limit interruptions. The N+1 redundancy keeps the system up through planned outages and allows for maintenance to occur without a shutdown. The Tier III data center provides 99.98% availability, limiting the downtime to 105 minutes per year. This is an improvement from the 1,734 downtime minutes per year and 99.67% availability that the Tier I data center provides.

Installing a Tier III data center will cost \$35,000,000. One minute of downtime costs our company \$14,800. Currently the downtime cost of a Tier I data center is \$25,670,304 per year. Switching to a Tier III data center will decrease the downtime cost to \$1,555,776 per year for a total cost savings of \$24,114,528 per year. Over a three-year period, the total benefit will be \$48,229,056. Excluding the \$35,000,000 cost for installation, the Tier III data center produces a net benefit of \$13,229,056 over three years.

Minutes Per Year = 525,600

Cost Per Minute of Downtime = \$14,800

Tier I unavailability = 0.33%

Tier III unavailability = 0.02%

Downtime Cost = (Minutes per year) * (unavailability) * (Cost per minute of downtime)

Tier I Downtime Cost: $(525,600)(0.33\%)(14,800) = \$25,670,304$

Tier III Downtime Cost: $(525,600)(0.02\%)(14,800) = \$1,555,776$

	Year 1	Year 2	Year 3	Total
Cost	\$35,000,000	\$0	\$0	\$35,000,000
Benefits	\$0	\$24,114,528	\$24,114,528	\$48,239,056
Net Benefits over 3 Years				\$13,229,056

Benefits per Year = Tier I cost – Tier III Cost

Benefits: $\$25,670,304 - \$1,555,776 = \$24,114,528$

References

Data Center Site Infrastructure Tier Standard: Topology. Rep. Uptime Institute, 2009. Web. 5 Sept. 2013.

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