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Enterprise IT Architecture
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Flash Research Paper #1

Data Centers and Networking

Our company can benefit \$13.1 million over the next three years by investing in a Tier III data center. A Tier III data center has redundant capabilities with several distribution paths that increases a data center's availability and prevents company power outages. Therefore, I propose we upgrade to a Tier III data center to minimize our company's downtime costs and save \$24.1 million dollars a year.

Tier III data centers are beneficial because they consist of redundant capabilities with several distribution paths that increases its availability to 99.98%. This means that all critical components from the power supply to the cooling systems that run the data centers have multiple backups. Thus, if a power outage occurs or if the cooling systems malfunction, a Tier III data center will be unaffected since there are backups that require only one distribution path to serve the environment. In the end, because the backups only require one distribution path, Tier III data centers are always readily available. This means if emergencies occur, businesses will consistently be running which decreases a company's downtime costs and profit losses.

With our current Tier I data center's 99.67% availability, we are losing \$25.7 million annually due to the constant power outages. However, the implementation of a Tier III data center is projected to save us \$24.1 million by bringing downtime costs to \$1.6 million a year through its 99.98% availability. After investing \$35 million to upgrade to a Tier III data center, our three-year benefit will exceed \$48.2 million dollars with a net benefit of \$13.1 million. As a result, it is imperative our company invests in a Tier III data center to minimize company downtime costs.

“Data Center Site Infrastructure Tier Standard: Topology.” *Uptime Institute, LLC*. 2012. Web. 22 Jan. 2015.

Neudorfer, Julius. “Understanding ‘Uptime’ and Data Center Tier Levels.” *Data Center Knowledge*. 2012. Web. 22 Jan. 2015.

“Understanding Tier 3 and Tier 4.” *OVH*. 2014. Web. 22. Jan. 2015.

	Minutes in a year	Availability	Downtime (min/year)	Downtime Cost
Tier I	525,600	99.67	1734.48	25,670,304
Tier III	525,600	99.98	105.12	1,555,776
			Savings	24,114,528

	Year 1	Year 2	Year 3	Total
Cost	\$35,000,000	\$0	\$0	\$35,000,000
Benefit	\$0	\$24,114,528	\$24,114,528	\$48,229,056
3-Year Benefit				\$13,229,056