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MIS2501 – Sec001

Flash Research Paper 1 – Data Centers and Networking

Our company can save \$13M by investing in Tire III data center. By building a Tire III data center, we will reduce downtime which directly affects our key business activities. Because of downtime, we have experienced 10 outages, but by investing in Tire III data center, our company can save \$1629.28 per minute during downtime.

Unlike Tire I data center, Tier III can protect 72 hours of power outage, with 1.6 downtime hours per year while it is 28.8 downtime hours per year for Tire I (“NixCraft”). Reducing downtime will reduce redundancy, which also reduces backups as well (“Colocation America”). In addition, since Tire III data center is more robust and less prone to failures, it will allow us to have higher uptime with better quality and reliability of a data center. (“TechTarget”)

Initially, it will take a year and cost of \$35M to build a Tier 3 data center. However, we can save downtime cost of \$24.1M per year, which will bring 37.80% of return on investment in three years. Increasing 0.31% of availability will save us \$48.2M in three years. Therefore, by investing into Tire III data center to reduce downtime, we will reduce \$13M.

<Reference>

"Explain: Tier 1 / Tier 2 / Tier 3 / Tier 4 Data Center." *Linux Unix Tutorial for Beginners and Advanced Users NixCraft RSS*. Web. 25 Jan. 2015.

<<http://www.cyberciti.biz/faq/data-center-standard-overview/>>.

"Tier Standards Overview | Data Centers | Colocation America." *Colocation America*. Web. 25 Jan. 2015. <<http://www.colocationamerica.com/data-center/tier-standards-overview.htm>>.

"Uptime Data Center Tier Standards." *What Is ?* Web. 25 Jan. 2015.

<<http://searchdatacenter.techtarget.com/definition/Uptime-data-center-tier-standards>>.

<Appendix 1 – 3-year cost analysis>

	Minutes/Yr	Availability	Downtime(Min/Yr)	Downtime Cost
Tier1	525,600	99.67%	1734.48	25,670,304
Tier3	525,600	99.98%	105.12	1,555,776
	(24*60*365)		Savings	24,114,528

	Year1	Year2	Year3	Total
Cost	35,000,000	0	0	35,000,000
Benefits	0	24,114,528	24,114,528	48,229,056
			3 Year Net Benefits	13,229,056
			3 Year ROI	37.80%