

Data Centers and Networking

An investment in an upgraded infrastructure for our data center will save our company millions over the next three years by significantly reducing system downtime. A Tier III system will introduce redundancy to our system and eliminate the susceptibility to unplanned outages and unavailability of our ERP system. The move from Tier I to Tier III data infrastructure will improve our system availability from 99.67% to 99.98%, saving \$13.23 million.

Upgrading to a Tier III data center means implementing a fault resistant solution to our system to which means making sure we have less downtime and are prepared for outages. The three part upgrade will include fault tolerance through system redundancy, dual power solutions for components, and multiple distribution paths for data transmission. These three system upgrades will allow for regular maintenance and planned outages for our system without causing system downtime for the end-user. In the event of catastrophe, any single component, power source, or data transmission path will have a redundant component to ensure continuity of operations. These three risk mitigation efforts combined as key pillars of our new Tier III data center will greatly increase our company uptime from 99.67% to 99.98%.

Our current Tier I data center with 99.67% uptime costs our company \$25.6 million per year or \$76.8 million over a three year period. The initial cost of increasing our system reliability will be \$35 million and as a result of the improvements, years two and years three each will experience a net benefit of \$24.1 million. The upgraded hardware will not only ensure our company is able to process orders, make products, and fulfill orders without interruption, but will also produce a net benefit of \$13.23 million for this investment in three years.

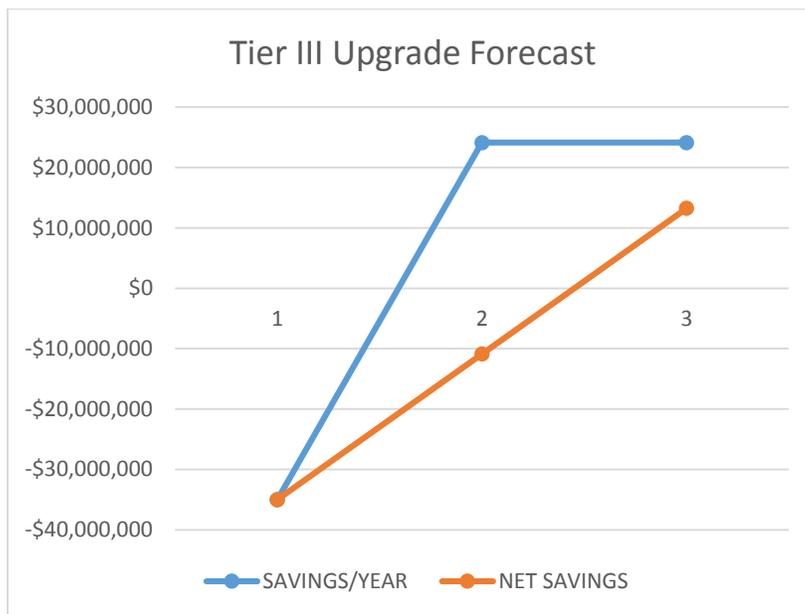
Figure1

	DOWNTIME %	DOWNTIME MINUTES	COST/MIN	DOWNTIME COSTS
TIER I	0.0033	1734.48	\$14,800	\$25,670,304
TIER III	0.0002	105.12	\$14,800	\$1,555,776
				\$24,114,528

Figure2

	SAVINGS/YEAR	NET SAVINGS OF PROJECT
YEAR 1	-\$35,000,000	-\$35,000,000
YEAR 2	\$24,114,528	-\$10,885,472
YEAR 3	\$24,114,528	\$13,229,056

Figure3



WORKS CITED

“Data Center Infrastructure Tier Standard: Topology.” *Uptime Institute*. Uptime Institute Professional Services, 1 Aug. 2012. Web. 24 Jan.2015

2013 Cost of Data Center Outages (2013): 1-19. Emerson Network Power. Ponemon Institute, 1 Dec. 2013. Web. 24 Jan. 2015.

Verge, Jason. "Study: Data Center Downtime Costs \$7,900 Per Minute." Data Center Knowledge. N.p., 03 Dec. 2013. Web. 24 Jan. 2015.