Khanh Tran Mart Doyle Enterprise IT Architecture Flash Research - Data Centers and Networking September 19, 2018

By upgrading the current Tier I datacenter to a Tier III datacenter, the company will generate \$13,229,056 million in net benefit over a three-year period. A Tier III datacenter has multiple independent distribution paths and redundant capacity components. Implementing the Tier III datacenter will decrease downtime, save on cost and increase company operations, which will reduce interruptions to our ERP system.

Compare to Tier I datacenter, all of Tier III equipment's are dual powered with multiple distribution paths to avoid any system interruptions due to outages (Data Center Site). So, this means that the datacenter will still be able to run even when there is an outage or a hardware failure since it will have a backup power source. Upgrading to a Tier III datacenter will decrease the downtime to 1,629 minutes per year.

To upgrade the data from Tier I to Tier III, it will cost us 35,000,000 million dollars over a three-year period. Even though the initial investment is a significant amount of money, the new datacenter will not only decrease the amount of downtime but also save \$24,114,528.00 per year starting the 2nd year. The total benefit with upgrading to Tier III for the next three years will be \$48,229,056.00. Therefore, the three-year net benefit will be \$13,229,056.00.

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Calculation of Benefit for 3 Year-Period

Cost of downtime per minute	\$14,800			
	Minutes per year	Availability	Downtime(minutes)	Cost
Tier I	525,600	99.67%	1734.48	\$25,670,304.00
Tier III	525,600	99.98%	105.12	\$1,555,776.00
			Savings	\$24,114,528.00
Benefits of Investment Over 3yr Period				
	Year 1	Year 2	Year 3	Total
Costs	\$ 35,000,000.00	\$0	\$0	\$35,000,000
Benefits	\$0	\$24,114,528.00	\$24,114,528.00	\$48,229,056.00
			Net Benefits	\$13,229,056.00