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Our organization has experienced devastating losses due to ten unscheduled outages. Updating Tier I data center to Tier III data center is necessary because Tier III data center can reduce downtime to 1.6 hours per year and provide a 72 hour power outage protection. Also, updating can save $24 million loss and bring $13 million benefits over three years.

Tier III data center can be maintained and replace equipment without shutting down systems since a redundant path of power and cooling is added. Redundant capacity components provide maintenance and increase safety of the database. Tier III is also concurrently maintainable which means it can improve the system availability by decreasing unplanned system outages which result in reducing the downtime. Lastly, it provides 99.98% availability compared to Tier I's 99.67% which can reduce more than 1600 minutes downtime for us.

In order to upgrade Tier I to Tier III, it requires a $35 million investment at first. It will take about one year to start to generate benefit. The benefit basically comes from the different losses between Tier I and Tier III. We currently lose $25 million due to downtime, but after the upgrading, the loss will be reduced to $1.56 million. We could gain about $48 million over three year period and the profit is $13 million. For all these great reasons, we should upgrade our data center as soon as possible.

Work Citation

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Calculation:

Annual Downtime Cost

	Availability	Downtime	Loss
Tier I	99.67%	1734.48	$25,670304.00
Tier III	99.98%	105.12	$1,555,776.00
Difference	0.31%	-1629.36	$24,114,528.00
Downtime Cost (per min)	Min for one year		
$14,800	525600		

3 Year Cost/Benefit(Tier III)				
	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 Net Benefit				$13,229,056

Data Center Tiers