## Data Centers and Networking

The company can save up to \$13 million over the span of three years. Upgrading our system from Tier I to a Tier III data center, the number of unscheduled outages in the organization can be reduced. A Tier III data center is equipped with fully redundant subsystems that help measure the uptime of the data center. Using a Tier III data center would be a beneficial investment for the company.

The reason why you are experiencing so many outages in the ERP systems is because you are running a Tier I data center that has a single non-redundant distribution path. Important time is lost because you have to shut the system down every time maintenance is needed. Upgrading to Tier III would increase efficiency because it would allow you to have multiple independent distribution paths along with concurrent maintenance capabilities. By having multiple distribution paths and concurrent maintenance capabilities, the system enables you to keep the data center running while performing necessary maintenance at the same time. This saves you a lot of money and time because it reduces the amount of downtime the organization face from 28.8 hours/year with Tier I to only 1.6 hours/year with Tier III (Tier Standards Overview).

Upgrading to Tier III would only cost you \$35 million in one year for implementation but over a span of three years you can save over \$48 million. Implementing Tier III is a smart investment because of its redundancy capabilities that can reduce the downtime the organization faces. The Tier I system only have an availability of 99.67% giving the downtime of 1734.48 (min/year). Whereas a Tier III system have the availability of 99.98% thus giving us a downtime of 105.12 (min/year). Figure 2 shows the three year downtime cost of Tier I would amounts to \$25,670,304 and for Tier III \$1,555,776. Upgrading to Tier III could save you over \$24 million just on downtime cost alone. Overall, by upgrading the data center you would mitigate the downtime cost while continuing to save millions of dollars after the three-year period.

Figure 1	Year 1	Year 2	Year 3	Total
Costs	\$35,000,000	\$0	\$0	\$35,000,000
Benefits	\$0	\$24,114,528	\$24,114,528	\$48,229,056
3 Year Net				\$13,229,056
Benefits				

Figure 2	Minutes/year	Availability	Downtime	<b>Downtime Cost</b>
			(min/year)	
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

- Dalon, Chantal. "Data Center Availability Tiers 1-4 Explained First Communications." *First Communications*. N.p., 07 Oct. 2013. Web. 20 Jan. 2015.
- "Data Center Tier Classifications and Five-nines Availability." *Cabling Install*. N.p., 1 Feb. 2010. Web. 20 Jan. 2015.
- "Tier Standards Overview | Data Centers | Colocation America." *Colocation America*. N.p., n.d. Web. 20 Jan. 2015.