Weiming He
MIS2501 – Flash Research Paper
Mart Doyle
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Flash Research Assignment: Data Centers and Networking

Last year, we lost about $25.7 million due to ten outages to our ERP system associated with our

Tier I data center, which has non-redundant capacity, and is highly susceptible to disruption. I

recommend upgrading Tier I data center to a Tier III, because a Tier III data center can give us

the redundant capacity that we need and increase our system's availability by 0.31%. Ultimately,

the Tier III data center will generate a net benefit of $13 million over three years.

The Tier I data center we are using provides non-redundant capacity components and one single

distribution path. Any error or maintenance activity can impact the systems resulting in

downtime. Our annual downtime currently is 1734.48 minutes and we are losing $14,800 every

minute, because nothing can be done in any business process during downtime. The Tier III data

center can prevent systems shut down from maintenance or minor errors. In Tier III data center,

all IT equipment is dual-powered, so we will still have power back-up during outages. With the

Tier III data center, we can improve our availability from 99.67% to 99.68%, translating to a

reduction our current down time per year from 1734.48 minutes to 105.12 minutes.

Implementing a Tier III data center will give us a net benefit of $13,229,056 over a three-year

period. It takes one year and costs approximately $35 million to build the data center, but we will

be able to realize a $24 million annual savings starting the second year. At the end of three years,

the net benefit will be about $13 million.

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	Availability	Downtime per year in minutes	Cost of downtime	Percentage
Tier I	99.67%	1734.48	$25,670,304.00	100%
Tier III	99.98%	105.12	$1,555,776.00	6%
Increase	0.31%	**Reduction**	**$24,114,528.00**	**94%**

Implementation of Tier III Center				
	Year 1	Year 2	Year 3	**Total**
Savings	$ -	$ 24,114,528.00	$ 24,114,528.00	**$ 48,229,056.00**
Cost	$ (35,000,000.00)	$ -	$ -	**$ (35,000,000.00)**
			Net benefit	**$ 13,229,056.00**

Resources:

McFarlane, Robert. "The Causes and Costs of Data Center System Downtime." *TechTarget*,
    Where Serious Technology Buyers Decide. TechTarget, June 2011. Web. 09 Sept. 2013.

Rouse, M. (2014, March 7). What is Uptime data center tier standards? - definition from
    WhatIs.Com. Retrieved March 2, 2017, from *TechTarget*,
    http://searchdatacenter.techtarget.com/definition/Uptime-data-center-tier-standards

"Tier Standard: Topology." Uptime Institute. 2010. Print.