

Flash assignment 1: Data Centers and Networking

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By updating the current Tier I system to a Tier III system this company could avoid large losses. Tier III systems have redundancies and other upgrades that the current Tier I system does not have. These redundancies would help the business avoid incurring a loss of more than \$76 million.

The current Tier I system has no redundant capacity components and only a single, non redundant distribution path. This translates into 99.67% availability, which results in 28.8 hours of planned/unplanned downtime. This is very different than the proposed Tier III system. The Tier III system has redundant capacity components as well as multiple distribution paths. With only one path needed for the computer equipment to run, this system has multiple alternatives to run on. These upgrades create an availability of 99.98% and reduce overall downtime to only 1.6 hours per year, 27.2 hours less downtime than a Tier I system.

This translates into huge losses for the company. Each minute this company has downtime, it cost us \$14,800. Tier I systems have 28.8 hours of downtime per year. This creates a loss of \$25.5 million per year and \$76.7 million loss over the course of the three year that you would expect to see returns from an investment. This loss can be reduced and cover the \$35 million investment needed to transition to a Tier III system. A Tier III system has only 1.6 hours of downtime per year. Assuming the same cost per minute of downtime of \$14,800, this company will lose only approximately \$1.42 million a year. This translates to \$2.8 million over the course of two years. This is a yearly reduction in loss by 94.44%. However, this loss does not include the \$35 million cost it would take to install this system. This would bring the total expense to \$37,841,600. If you also included the loss you would incur for the year you would be running on a Tier I system while the Tier III system is being installed, it would total a loss/expense of \$63.4 million. However, this is still \$13.3 million less than the loss this company would incur, if this company were to stay with the Tier I system instead of implementing a Tier III system over the next three years.

Visual Aids:

	Tier I System	Tier III System
Loss per minute	\$ 14,800.00	\$ 14,800.00
Loss per hour	\$ 888,000.00	\$ 888,000.00
Downtime per year (in hours)	28.8	1.6
Total loss per year	\$ 25,574,400.00	\$ 1,420,800.00
Over three years	\$ 76,723,200.00	\$ 4,262,400.00
Difference	-	94.44%

	Loss with Tier I system	Cost/Expense to implement Tier III system
Cost of installing Tier III system	-	\$ 35,000,000.00
Cost of downtime year 1	\$ 25,574,400.00	\$ 25,574,400.00
Cost of downtime year 2	\$ 25,574,400.00	\$ 1,420,800.00
Cost of downtime year 3	\$ 25,574,400.00	\$ 1,420,800.00
Cost over 3 years	\$ 76,723,200.00	\$ 63,416,000.00
Added revenue over 3 years	-	\$ 13,307,200.00
Reduction in loss	-	94.44%

NOTE: Company is running on Tier I system while Tier III system is being installed

Works Cited

Turner, W. Pitt, IV, John H. Seader, and Vincent E. Renaud. "Data Center Site Infrastructure Tier Standard: Topology." Ed. Julian S. Kudritzki and Kenneth G. Brill. Uptime Institute, n.d. Web. 7 Sept. 2013. <<http://community.mis.temple.edu/mis2501sec001f13/files/2013/08/Data-Center-Site-Infrastructure-Tier-Standar-Topology.pdf>>.