**Flash Research Assignment:** Data Centers and Networking

You are the CTA of a small but rapidly growing manufacturing company. Over the past year your organization has experienced 10 outages to its ERP system. The vast majority of these outages have been caused as a result of inadequate facilities in your existing, primitive data center. When this system is down your organization cannot process orders, cannot make product, and cannot ship product! Outages cause serious operational problems and impact both the top and bottom line of the income statement.

Prepare a paper for the CIO in which you propose building a “Tier III” data center. Describe the key capabilities of a tier III data center and describe the business case for making this investment. Crude estimates indicate that building this data center will take 1 year and cost approximately $35,000,000. Assume that you are currently running a “Tier I” data center with 99.67% availability. You are proposing building a “Tier III” data center with 99.98% availability. Assume that downtime costs your organization $14,800 per minute. Assume that the organization looks at all investments in technology over a period of three years.

The maximum length of the body of this paper is 1 page. Additional pages may be used for optional diagrams and required references.

Sara Monahan

Flash Research Paper #1- Data Centers and Networking

Our company experienced 10 outages in our ERP system alone last year; by introducing a new Tier III data center we will lower that number significantly and save over 13 million dollars in a 3-year span. With the .31% increase in availability that a Tier III offers, which are accredited to power outage protection, redundant power, and multiple distribution paths this company needs to realize the downtime we are experiencing now is limiting us.

By switching to a Tier III datacenter we can save over 13 million dollars due to the increase of .31% availability the Tier III data center offers. The Tier III datacenter has redundant power, which means there are multiple power sources making sure the datacenter will never be without power. If there is a loss of power to one source in the datacenter the Tier III datacenter’s redundant power would allow the machine to continue running due to the backup supply of energy. If a machine crashed we would be able to perform the necessary fixes to the machines while the others continue to run without a problem. These multiple power sources that Tier III offers create a much more functional environment in the datacenter making things run more smoothly and efficiently.

If we choose to invest in this project it will take us one year to complete costing us $35 million dollars, but over the following three years we will have gained over $48 million dollars in revenue. Referring to Tables 1 and 2, we can see that each year this system is in place we will save 24,114,528 dollars due to only have having only 105.12 minutes of downtime compared to the current situation of 1,734 minutes. This investment will bring in a 38% return on investment and save us 13 million dollars in just three years.

Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Minutes/Year | Availability | Downtime (minutes/year) | Downtime Cost |
| Tier I | $525,600 | 99.67% | 1,734.48 | 25,670,304 |
| Tier III | $525,600 | 99.98% | 105.12 | 1,555,776 |
|  | | | Total Net Savings | 24,114,528 |

Table 2

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Year 1 | Year 2 | Year 3 | Total |
| Cost | $35,000,000 | $0 | $0 | $35,000,000 |
| Benefits | $0 | $24,114,528 | $24,114,528 | $48,229,056 |
|  | | | 3 Year Net Profit | $13,229,056 |
| 3 Year ROI | 37.8% |

Works Cited

Colocation America Inc. "Tier Standards Overview | Data Centers | Colocation America." *Colocation America*. Colocation America Inc., 2015. Web. 20 Jan. 2015. <http://www.colocationamerica.com/data-center/tier-standards-overview.htm>.

OVH. "Understanding Tier 3 and Tier 4." *Tier 3/Tier 4: Datacentre Classification*. OVH, 2015. Web. 20 Jan. 2015. <https://www.ovh.com/us/dedicated-servers/understanding-t3-t4.xml>.

Uptime Institute Professsional Services. *Data Center Site Infrastructure Tier Standard: Topology*. New York: Uptime Insitute LLC, 2012. Print.