Jung Kim

Enterprise IT Architecture

Mart Doyle

Flash Research Assignment

Data Centers and Networking

 By utilizing a Tier III data center instead of the current Tier I data center, our company could save $13.23 million over three years. Our organization is facing hefty costs due to our Tier I data center; however, a Tier III can reduce these costs because of its minimal downtime.

As a rapidly growing manufacturing company, our organization needs a Tier III data center to continue operations without incurring numerous outages to the ERP system. A Tier III data center’s key capability is its long uptime due to redundancy compared to a Tier I data center’s lack of redundancy (“Data Center Tier Rating Breakdown”). This main ability allows a Tier III system to operate during maintenance, the time period when downtime costs significantly accumulate (Gage). Tier III data centers are able to perform for much longer periods of time compared to the Tier I data center because it is dual-powered while a Tier I data center uses a single power source (“What is Data Centre Tiering”). Because of the key capability, a Tier III data center has a 99.98% availability versus a Tier I data center’s lower 99.67% availability.

We can save $48.23 million at the end of three years by investing $35 million into a Tier III data center. By switching to a Tier III data center, our company will realize a net benefit of $13.23 million at the end of the three years.

Resources

“Data Center Tier Rating Breakdown - Tier 1, 2, 3, 4 - CLA.” *Colocation America*, Colocation American Staff, 19 Apr. 2017, www.colocationamerica.com/data-center/tier-standards-overview.htm.

Gage, Clinton. “Tier Classification System.” Uptime Institute LLC, uptimeinstitute.com/tiers.

“What Is Data Centre Tiering And Why Should I Consider A Tier III Data Centre?” COREIX, [www.coreix.net/resources/data-centre-faqs/data-centre-tiering/](http://www.coreix.net/resources/data-centre-faqs/data-centre-tiering/).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Minutes in a year | Availability | Downtime (min/year) | Downtime Cost |
| Tier 1 | 525600 | 0.9967 | 1734.48 | $25,670,304.00 |
| Tier 3 | 525600 | 0.9998 | 105.12 | $1,555,776.00 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Year 1 | Year 2 | Year 3 | Total |
| Costs | -$35,000,000.00 | $0.00 | $0.00 | -$35,000,000.00 |
| Benefits | $0.00 | $24,114,528.00 | $24,114,528.00 | $48,229,056.00 |
| Net Benefits |  |  |  | $13,229,056.00 |