If we build a Tier III Data Center, we will realize a 3 year net benefit of ~$13,200,000. A Tier III Data Center has multiple redundant parts and is dual powered, so some components can fail and we can repair without interrupting operations.

Tier III Data Centers are considered “Concurrently Maintainable Site Infrastructure” (Uptime, 2012). A Tier III Data Center’s key capability is “redundant and dual-powered servers, storage, network links and other IT components”. In other words, any part of the data center can be replaced without impacting operations, and even power outages are far less likely to impact it. A Tier III Data Center can run up to 72 hours on backup generators (Colocation America, 2017).

A Tier III Data Center would cost $35,000,000, including construction of the site and maintenance of it. We would save ~$24,100,000 each year we use the Tier III Data Center. Looking at the investment over a period of 3 years, that is a net benefit of ~$13,200,000.

|  |  |  |
| --- | --- | --- |
|  | **Percent Availability** | **Downtime in Dollars** |
| Tier I Downtime: | 99.67% | 25,670,304.00 |
| Tier III Downtime: | 99.98% | 1,555,776.00 |
| Savings: |  | 24,114,528.00 |
| Based on downtime costing $14,800 a minute. | |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Year 1** | **Year 2** | **Year 3** | **Net** |
| Savings |  | $24,114,528 | $24,114,528 | $48,229,056 |
| Cost | $35,000,000 | $0 | $0 | $35,000,000 |
| Net |  |  |  | $13,229,056 |

Sources:

Colocation American Staff. “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.

Uptime Institute Professional Services, LLC. *Data Center Site Infrastructure Tier Standard: Topology*. Uptime Institute, LLC, 2012.

“What Is a Tier 3 Data Center?” *Techopedia*, www.techopedia.com/definition/29859/tier-3-data-center.