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Enterprise IT Architecture

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Flash Research Assignment 1 – Data Centers and Networking

To save money in the long-term, we must consider upgrading to a Tier III Data Center. In the past year alone, our organization has experienced ten outages to our ERP System and this is very costly, but a Tier III system would be more dependable and improve operations. Upgrading to Tier III will benefit us over $40 million over the next three years.

The greatest advantage of a Tier III data center site over our Tier I site is the presence of redundant capacity components. This means that different components can be removed for service on a planned basis without a critical impact. Therefore, if a component needs service, we can do so without interrupting the entire data center, meaning less down time. Furthermore, a multi-tier system such as Tier III spreads the work between different computers. The User Interface can run on the computer the user is on while another machine runs Business Logic and another holds the Database. This distribution of functions greatly increases the speed and efficiency of the data center.

Using a Tier III system will cost $35 million dollars as a one-time cost, but with the new system, we will save over $40 million in the next three years in down time compared to our current system. A Tier III system, therefore, will offer a great return on investment in the long run.

**References**

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“What is 3 Tier Architecture and Why Do You Need It?” Simcrest. Web. http://blog.simcrest.com/what-is-3-tier-architecture-and-why-do-you-need-it/

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| **Tier** | **Year 1 Costs** | **Year 2 Cost** | **Year 3 Cost** | **3-Year Cost** |
| **I** | $25,670,304 | $25,670,304 | $25,670,304 | $77,010,912 |
| **III** | $35,000,000 | 0 | 0 | $35,000,000 |
|  |  |  | **3-Year Net Benefit** | **42,010,912** |