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MIS 2501

Flash Research Paper #1

Data Centers and Networking

Our company will gain over $13M net benefit over three-year period with the installation of a “Tier III” data center. The new data center will help us avoid the unscheduled system disruption and keep the business under regular operations when system requires maintenance. A $35M investment on this powerful data center will enhance our business operation efficiency and mitigate the risk of system downtime.

“Tier III” data center is an infrastructure that contains redundant capacity components and multiple independent distribution paths, which allows concurrent maintenance (Uptime Institute 2012). In contrast to “Tier I”, the current data center infrastructure we have, “Tier III” allows us remove any capacity component in distribution paths from service on a planned basis, allowing maintenance of the system without interruptions. In case of unexpected system failure, our business will regularly operate, having enough time to fix the issue.

With the $35M initial implementation cost, our company will gain $48M benefit over three years, that is $13M net benefit (Appendix a). Overall, we will gain financial benefits from installing “Tier III” data center and mitigate potential system outages.

References

*Data Center Site Infrastructure Tier Standard: Topology* (October, 2012), Uptime Institute, LLC.

Martin Perlin (September,2012). *Downtime, Outages and Failures - Understanding Their True Costs*, Retrieved from http://www.evolven.com/blog/downtime-outages-and-failures-understanding-their-true-costs.html

*Understanding Tier 3 and Tier 4,* OVH. Retrieved from https://www.ovh.com/us/dedicated-servers/understanding-t3-t4.xml

Appendix a

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Minutes/Year | Availability | Downtime | Cost/Minute | Cost |
| Tier I | 526600 | 99.67% | 1737.78 | $14,800 | $25,719,144 |
| Tier III | 526600 | 99.98% | 105.32 | $14,800 | $ 1,558,736 |
|  |  |  |  | Saving | $24,160,408 |
|  |  |  |  |  |  |
| Year | 1 | 2 | 3 | Total |  |
| Cost | $35,000,000 | 0 | 0 | $ 35,000,000 |  |
| Benefits | 0 | $ 24,160,408 | $ 24,160,408 | $ 48,320,816 |  |
|  |  |  | Net benefits | $ 13,320,816 |  |