**Flash Research Draft: Datacenters and Networking**

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Right now our company stands to save $13.2 million dollars over the next three years through a 94% reduction in downtime costs. This can be achieved by upgrading our datacenter to a Tier III datacenter that provides 99.98% uptime over the course of a year. It will provide more reliability than the current system, and save $24.1 million per year in reduced downtime costs.

A Tier III datacenter provides financial and technological benefits beyond our current capabilities. This model adds backup computer and power systems in the event of a failure, decreasing the number of outages the network experiences. Each component is redundant, so that any piece can be removed from the system without affecting overall performance. In addition, it will provide on-site emergency power generation with 12 hours of reserve fuel in the case of a catastrophic power failure. This allows planned maintenance without affecting the datacenter’s performance, and provides a safety net in the case of emergencies.

Without this system, we are dependent on external systems that will inevitably fail, and cost the company millions in downtime costs. Implementing the new datacenter will take a year to construct and cost $35 million, but reduce the yearly downtime costs by $24,114,528. Over the next three years the company will gain a net savings of $13,229,056 by investing in this new datacenter.

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| --- | --- | --- | --- |
|  | Downtime min./Year | Minutes/Year | Availability |
| Tier I | 1,629 | 525,600 | 99.67% |
| Tier III | 105 | 525,600 | 99.98% |

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

# References

Colocation America. (n.d.). *Data Center Tier Rating Breakdown*. Retrieved from colocationamerica.com: https://www.colocationamerica.com/data-center/tier-standards-overview.htm

OVH . (n.d.). *Tier 3/Tier 4: Datacentre classification - OVH*. Retrieved from ovh.com: https://www.ovh.com/world/dedicated-servers/understanding-t3-t4.xml

Uptime Institute, LLC. (2012). Data Center Site Infrastructure Tier Standard: Topology. New York, NY, United States.