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Our company can reduce the power consumption of our data center by 40 to 60% each year by implementing a liquid cooling system. On average, a 4,000-server air-cooled data center can cost $1 million per year, while a liquid cooling data center costs $350,000 per year. Liquid cooling is a cooling system that pumps chilled water into our data center equipment and pushes out any heat, thus reducing the chance of overheating our data center.

Liquid cooling solutions can reduce our overall energy consumption by 40 to 60% annually. Liquid cooling uses a liquid like a refrigerant, to keep the data center and equipment at an ideal temperature rather than using traditional, less-energy efficient methods like air-cooled systems. The liquid cooling solution works by pumping chilled liquid through the server and equipment. In turn, it pushes out the hot air reducing risk of overheating. After the heat is then transferred outside to be cooled, and then it is pumped back into the equipment to continue the cooling cycle. By using a liquid cooling solution, our data center will be able to handle larger density servers and remain at the optimal temperature because the liquid is more than 3,000 times more conductive than standard air-cooling.

With the liquid cooling solution we can continue to reduce the cost of energy used in our data center. On average companies using a liquid cooling system can see savings of about 65% per year versus a traditional cooling system. We will see an overall reduction in power consumption of about 40 to 60% annually. The liquid cooling will be a one time investment and we could potentially see the upgrade pay itself off in as little as 12 months.

Sources

http://asetek.com/data-center/calculate-the-savings.aspx

http://asetek.com/press-room/blog/2013/benefits-of-aseteks-data-center-liquid-cooling.aspx

http://www.liquidcoolsolutions.com/datacenter.html

http://my.gartner.com/portal/server.pt?open=512&objID=260&mode=2&PageID=34607 02&resId=2570617&ref=QuickSearch&content=html#h-N76545