Cost of Operations

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Cost Estimates

Unfortunately, I chose a very difficult topic in my week 3. WindyGrid is a brand new, custom built system that really doesn’t give much information about how much storage and processing power it uses to gather the data from over 30 different sites into the single user interface that is the WindyGrid software.

With this in mind. I did make some guesses into what the minimum possible costs could be so that we could have rough, rough numbers to work with. I guessed that this system will take a minimum of 3 virtual machines working together to process all the information that gets gathered together, similarly, it will need a lot of storage to be able to store all the information that it gathers from all the different systems. I estimated that there would need to be at least 3 virtual databases and 2 backup storage systems to keep all the data stored safely. This, plus the electricity costs, the IT Labor costs, and hardware and software costs all add up to quite a lot.

**Category**

Compute

Hardware

Software

Electricity

Virtualization

Database

Data Center

Networking

Storage

IT Labor

Total **Cost** $60,090.89

$9,853.20

$3,368.75

$643.44

$18,348.00

$27,877.50

$7,470.54

$4,566.59

$51,792.00

$1,356.50

**125,277.00**

These totals were calculated for a 1 year period.

I was most surprised by the overall costs for processing or compute power. Almost half of the overall cost is spent just on computing power. With the next biggest chunk going to storage. I don’t know why I didn’t think these would be this expensive, I suppose I always assumed that the manpower would be the most expensive part. Since people are the ones who must create the system, and maintain everything, I always guessed that staffing the system would cost the most. I decided to see what just one virtual computer, one database and one storage system would do to the costs and I was surprised to see that the difference in cost between in house, and cloud storage changes drastically. In the previous set up, the cloud based total cost was nearly triple the in-house cost. But to only use a single machine, and one database, the cost for using a cloud system is one fifth of the cost of an in-house system. It drops dramatically from $56,000 to just $11,000 annually.

I’m sure there are plenty of reasons for companies to not use a cloud-based system, that are not just based on cost. The cloud-based system may not be more secure than an in-house system. Particularly for companies that store extremely sensitive, or protected data, like the healthcare industry. Security of the information is the most important thing. Cost doesn’t matter as much as keeping patient information protected and private. Similarly, if a business doesn’t need additional storage solutions, then the in-house system is probably perfectly fine. Of course cost will be a deciding factor, but if there is not real need to move to a cloud system, then there is no point spending the money to switch to the cloud server, which wont save the company any money over all.

Cloud computing solutions are incredibly useful, and can do amazing things for companies, but they have to make sense for the company to make the switch in the first place. Eventually, cloud computing will be

Resources

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Total Cost of Ownership (TCO) Calculator. (n.d.). Retrieved November 3, 2019, from https://azure.microsoft.com/en-us/pricing/tco/calculator/.