Advantages of Distributed Databases

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There are many reasons to consider what kind of database will best serve a person, or companies, needs and different circumstances require different database management systems. Debating between weather to have an onsite database, or to cloud host it, is a tough call for any one or any company, and to have a distributed system just adds an extra layer of complexity to consider.

There are many reasons that a distributed type system are beneficial, and one of those is that it is significantly more reliable and accessible than other types of database systems. This technically is two different advantages, since reliability is the “probability that the system is running at a certain time”, while availability is the “probability that the system is continuously available”, but they are similar enough to be able to consider them as parallel (Akashkumar17). The fact that the database is spread out over multiple locations means, that should one location have technological issues, the database will still be available as it will be running out of the other locations. We will only not have access to the data that is stored at the downed location but provided the distribution of the data is fairly uniform, this may not be an issue. If we need a specific piece of data from that location, we will have to wait, but if we need a generalization of the averages of the information, we can still work with what we have available.

The next advantage is the ability to scale. Distributed databases are significantly more flexible that some of their single host counterparts. They can be grown or shrank to fit the needs of the company and can easily handle fast expansion since it just requires adding storage and processing power. This means that the system can access, store, and move massive amounts of information in a relatively short time.

Lastly, a distributed database system is that it can improve share ability and local autonomy of the data. This again, is two distinct advantages, but the again work together, and compliment each other that one can’t be mentioned without the other. The ability to share the data and transfer the data to the hosting site that is geographically closer to the part of the company, or people who need access to that information, gives them a certain amount of control over what happens to the data. It will provide them with the most control over that data, and by doing this, it gives the local users the ability to apply their local laws and regulations to the data they’re using. This ability is predominantly more important for global institutions that have locations all over the globe, but there can be some more practical advantages for smaller scale corporations too. If a company has locations in different regions of the United States, and one area suffers inclement weather that knocks out power, the other regions could still operate using their information that they need in their local databases to do their work, even if that one section of the company is unable to function.

Overall, there are many reasons to consider a distributed database. All the options have their advantages and disadvantages, but its up for the company or individual to decide if the benefits outweigh the costs.

Resources

Akashkumar17. (2019, April 30). Advantages of Distributed database. Retrieved October 7, 2019, from https://www.geeksforgeeks.org/advantages-of-distributed-database/.

Thakur, D. (n.d.). What are the Advantages and Disadvantages of Distributed Database Management System? Retrieved October 7, 2019, from http://ecomputernotes.com/database-system/adv-database/advantages-and-disadvantages-of-ddbms.