Distributed Database Management

# Module 03 Assignment



Distributed database systems are helping companies of all sizes scale their operations to the size of corporate giants in the tech industry. Each business requires something different to give it an advantage, and that is where multiple and distributed database types come into play. These different databases can serve diverse needs such as in the case of MongoDB helping EBay scale its data infrastructure to provide predictive search features.

One of the main problems that EBay faced was that it needed to provide search recommendations to users at a very high rate of speed, ie. when the user was typing in search criteria. Because MongoDB utilizes indexed databases, these keywords are already mapped out and therefore can be queried much faster than traditional SQL databases which often take more time. The search recommendations that could be made to the user, allowed the EBay site user the ability to find what they were looking for much faster than before. This was one of the keys to success with EBay over other websites and it was made possible by a distributed database!

They system that MongoDB and EBay created was an index of search keywords. These lists could be indexed within the memory of the system. Then, the engineers were able to create prefixes for the search terms, massive lists of prefixes. While these lists were loaded into memory, they were retrievable within less than 50 milliseconds’. So as soon as the user entered a prefix for a search term, MongoDB was able to retrieve the database table that correlated with that prefix. This made search suggestions almost instantaneous for EBay site users.

This is just one example of a way that a distributed database system helped a company provide a complete advantage over the current status quo. The ability for a company to implement a predicative search suggestion is something that can mean the difference between that company selling a product or service and not selling that product or service. In addition, as the data storage that MongoDB utilizes is far less complex than its predecessor MySQL, aggregation and analytics can be run much faster, giving the client access to cleaner, more up to date information much faster than the competition.

Because of the technical features that a NoSQL database can provide, more and more companies are moving over to leverage the power that this type of distributed database can provide. Some of these companies include The Weather Channel, City of Chicago, Bosch Software Innovations, and Chico’s FAS, Inc. This means that as startups begin adopt the same technologies, they will be able to directly compete with larger businesses at a fraction of the cost. Because of this, more companies are able to offer revolutionary technologies and products that would have never become actualized if distributed technologies like MongoDB never came to fruition.

**Resources:**

<https://docs.mongodb.com/ecosystem/use-cases/>

<https://en.wikipedia.org/wiki/Distributed_database>

<https://www.datavail.com/blog/whos-using-mongodb-and-why/>

<https://www.brainvire.com/blog/why-business-are-moving-ahead-with-mongodb/>