Database Management Software

Different categories

DBMS - categories

* DBMS is divided into TWO different categories namely:

  * Desktop DBMS – examples are Microsoft Access, filemaker pro and Base

  * Server DBMS – examples are Blackfish, Microsoft SQL server, MySQL, Oracle and PostgreSQL

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Desktop DBMS

* A Desktop database is normally for single users and is installed on a single personnel desktop PC.

* This desktop database programs can however support up to 10 multi users if required to.

* This is a single application, which means that all the tools to work with the database is included in one software program.

Server DBMS

* As the name indicated this program will run on a server and will not be accessed by any user directly.
* The way this database will be accessed is via other application software packages.
* The software that will access the data in the server DBMS can run on different computers from different locations.
* A lot of people can access the same data and try to execute statements that are in conflict with each other, that is why server DBMS is so much more robust than the desktop counter part.

Server DBMS

* The access of data on the server DBMS will be gain via instructions from the client software.

* These instructions are in the form of SQL statements that will inform the database what needs to happen with data.

* The server will attempt to execute the SQL statement and if possible send back the result or an error message if the statement could not execute.

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Distributed DBMS

* This is when the data from the database is spread over several servers in different locations.

* This is done in such a manner that the user of the database do not even realise that the data is being distributed over several servers.

* Then user do not even realise that the servers might not even be in the same location.

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Why use distributed DBMS

* Distributed databases is being used in the following instances:
  * As soon as the number of clients connecting to the database are very large the network traffic will be high thus slowing down data transfer.
  * Working with sensitive data that you can not afford to loose if the one server breaks down.

Characteristics of a distributed DBMS

* Synchronizing data: it is very important to make sure that the data on the different servers are always up to date.
    * This is accomplish via duplication (having a second fully updated database, which takes up a lot of space) and partitioning (each site manage and upload the changes)
* Very large databases make use of hybrids – you can read up on this on the Techopedia website.

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Different careers in databases

* Database analysts: do the changes to the structure of the database, look at the design activities and look at the efficiency of the database.

* Database administrator: manages and maintains the database. Also controls the user of the database.

* Database programmers: they code the user interface that will be used to access the data in the database.

* Project managers: Overseas projects in database development.