Teradata: Introduction, need, features and architecture

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Abstract: *In these days need of data and its need to store both are high. Many traditional database management systems are available like database management software systems like database management system, relational database management system and so on. But the fact is that these traditional management systems have their own limitations that's why they are not adequate to fulfilling all the needs that are required to handle modern huge databases. on the other hand, parallel processing is also required to handle the multiple queries of client and retrieval of the data. All such kind of needs can be fulfilled with the help of teradata. Teradata is a relational database management system that can handle the huge database and multiple queries of the clients simultaneously. This research paper focuses on the all the important aspects related to the teradata including introduction, working, need and features of the teradata.*

Key Words: *Simultaneously, Queries, Database , Relational, Existence*

1. INTRODUCTION:

Teradata is a powerful database management system that helps to manage the huge database and also provide the facility of parallel processing to handle the multiple queries.[1] Such kind relational database management system is used in many areas like to handle large number of queries from the clients and handling them, after that this management systems responds with the retrieval of the data from the huge database simultaneously[2]. Teradata is helpful for massive high level parallel processing.[3] Teradata uses the concept of parallelism for handling the client's queries on same time.[4] Thus, teradata is useful for achieving the high level of parallel processing which was not possible with the traditional relational database management systems. Teradata also used in many areas like data warehousing and parallel processing and so on. Teradata can handle the applications of the multiple clients at same time by working as an single data store. Teradata also allows to add the more components in the system depending upon the requirement of the system. So, teradata is single data store and scalable.

2. NEED:

Huge database is difficult to handle and complex task. This is not possible to handle complex and large database with the help of traditional database management systems. So, a modern relational database management system was needed to fulfill all the needs of database including management of the database, handling of large number of client queries ,retrieval of the data and parallel processing. Teradata came with all of such features and made the process of handling large database simple and easy. That's why teradata needed to achieve the high level parallelism.

3. FEATURES: There are number of features of the teradata exist. Some of them are given below-:

- **Scalable :** Teradata's main data is scalability. Depending upon the need of the system new components can be added to the system. In this way teradata system is scalable and useful. This is main feature of teradata that make it a useful database management system.

- **Parallelism:** Teradata is able to handle multiple queries and can respond to all of them at same time. In this way teradata allows various processes to run in parallel. In this way high level of parallelism can be achieved with the help of the parallelism.

- **Concurrency:** In traditional database management systems it was not possible to handle multiple clients and their queries at same time. Because this is very complex and difficult task. But, with the help of teradata all of this can be possible. Teradata allows multiple clients and multiple queries to handle at same time. In this way teradata helps to achieve the high degree of concurrency.

- **Business Modeling:** Teradata has capacity to model the business. Teradata can be used to model the various type of business. Data warehouse need multiple type of data. This is not possible to achieve using traditional

database management systems. But, with the help of teradata this is possible, because it allows multiple type of data to be located at centre.

- **Flexible:** To handle large database and multiple queries of the clients, a greater degree of flexibility is needed. This is possible to achieve using the concept of teradata relational database management system.

WORKING: Teradata is very powerful relational database management system to handle huge database. Working of teradata is given below :

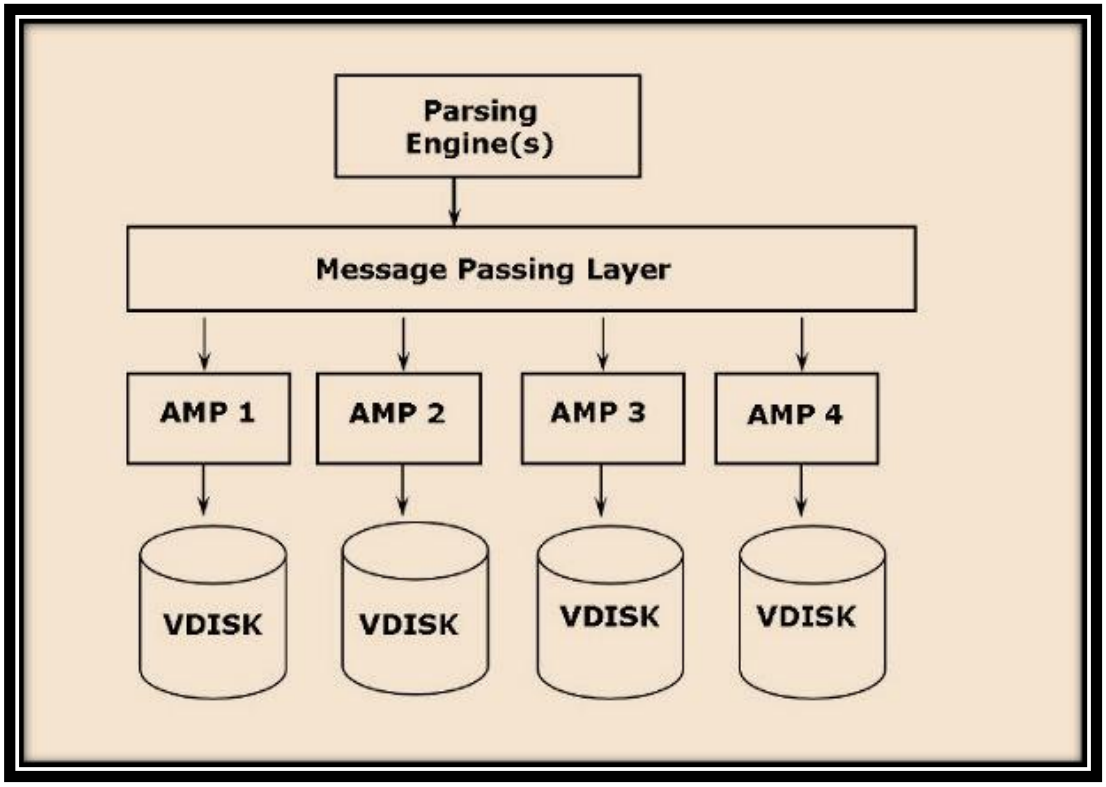

Fig.1- Teradata node's high level architecture

- **Parsing Engine:** Agent is a user of the game who will play the game. Game should be understandable so that user of the game can easily play the game. All the actions performed by the agent or user of the game who play the game.

- **Message Passing Layer:** The work of networking is performed with the help of message passing layer. This layer acts as network layer. This layer helps to make the communication between these three things including nodes, parsing engine and access module processor. This layer send the execution plan to access module processor which is received by the parsing engine. After that resulting output to parsing engine which is received from the access module processor.

- **Access Module Processor:** Access Module processor is used for storage purpose. This module store the data and whenever any part of data is needed, it uses the data that is stored by it. The another name of this module is virtual processor. This module take receive the execution plan from parsing engine via message passing layer. After that it perform the various actions on it including filtering, sorting, type conversion and aggregation. After that this module stores the data in the form of table in various set of disks associated with it.

- **Node:** Teradata's each server which is individual is known as node which are building blocks of the teradata. Every node of the teradata system have own computing power, storage capacity, operating system, memory and teradata RDBMS.

4. CONCLUSION:

To manage the data and database is not easy. The difficulty level to handle database increases with increase in its size. On the other hand, to handle the large number of queries and to respond all of the client queries is very complex and difficult task. There is no doubt that teradata relational database management system helped a lot to solve all such kind of complex problems, but in future there will be more powerful database management system will be needed. In the future lot new changes and developments will occur in the field of relational database management system and in the database based various software industries.

5. ACKNOWLEDMENT:

While making this research paper, I have put all of my best and possible efforts for making this research paper. I hope this research paper will be useful and helpful for the authors who want to do further research Related to basics of teradata including its architecture, working and need.

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