NoSQL Databases:

NoSQL databases term is used to refer to any non-relational database [1]. NoSQL databases are schema-less which makes them different than the relational ones. The name of NoSQL is an abbreviation for “Not Only SQL database” which means that u can also use formats and techniques rather than the known ones for basic relational SQL database. The main types of data insertion into the NoSQL databases are documents [1]. People use the term of “NoSQL” with different meanings. As stated above, some people refer to the term as “Not Only SQL databases” which means that they are non-relational, schema-based databases. Some other people refer to the term as systems that avoid using join operations [2]. The two main reasons people tend to switch from using normal relational databases into NoSQL databases are the flexibility aspect and the performance aspect [3]. Since that NoSQL databases are non-relational, they tend to be more flexible than the normal relational databases since that the programmers do not need to follow the known rigid structure of the relational databases. There are multiple types of NoSQL databases such as key-value pair, graphs based, document oriented and wide column oriented are the main 4 types of NoSQL databases. Since that there are several types of NoSQL databases of course there are different types of DBMS that implement such databases. Some examples of the wide column-oriented databases are “Cassandra”, “Hadoop”. There was a comparison between using Cassandra and Hadoop and normal MySQL DBMS that was made comparing several features according to B George et al [3]. Table (1) demonstrates the comparison details.

Table1. Comparison between Cassandra, Hadoop, and MySQL DBMS.

Features (Feat.)

1. Persistence (1)
2. Replication (2)
3. High Availability (3)
4. Transactions (4)
5. Rack-locality awareness (5)
6. Implementation Language (6)
7. Influences / sponsors (7)
8. License type (8)

Table

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3. M. Stonebraker, “SQL databases V. NoSQL databases,” *Communications of the ACM*, vol. 53, no. 4, pp. 10–11, 2010.