SQL, NoSQL and NewSQL

Data handling of various types

SQL

Structured Query Language

- Record based, structure confirming to relational model i.e. table
- Predefined schema builds metadata
- A row is primary unit of record representation
- Supports CRUD operations
- Must to adhere transaction ACID property (Strong Consistency Level)
- Successful with shared disk architecture and rack style
- Bounded scaling possibility - scaling up (vertically)
- Examples: Oracle RDMS, MySQL, DB2, PostGre SQL, MS Sql Server.

NoSQL

Not Only Structured Query Language (...but also others)

- Categories (Document Oriented, Wide-Column, Key-Value, Graph Model)
- Flexibility with schema and hence distinctly architected metadata design
- Primarily designed to handle schemaless data - V’s of BigData
- Supports analytical operations. Generally ‘Write once, read many times’ approach behaviour is expected
- BASE - Basically Available Soft-state Eventual consistent (Weaker form of consistency). Brewer’s CAP Theorem
- Distributed Computing - Shared Nothing architecture
- Scale Out (Horizontally)

… NoSQL examples

- 150+ vendors in the market
- Document oriented
  - MongoDB, CouchDB
- Columnar
  - HBase, Cassandra, HyperTable
- Key-value Data Store
  - DynamoDB, Riak, Redis, Membase
- Graph
  - Neo4J, InfiniteGraph

NewSQL

A prototype to combine advantage of both Examples - VoltDB, Clustrix, MemSQL, and Translattice.

+ SQL	+ NoSQL
Support ACID	
SQL Interface	
	Horizontal Scaling
	Flexible schema

P.s. It will interest you to learn about HP Vertica and GreenPlum Database.