

6 Things to Consider When Choosing a Database

A QUICK GUIDE FOR IT DECISION MAKERS

There are many databases out there on the market and making the right choice can make a big difference in terms of speed of development and operating costs.

This quick guide summarizes **6 key factors** to carefully consider when selecting a new database technology.

1 Flexibility

Consider a database that can accommodate most, if not all, types of data you need for your different projects. This includes time series, relational, document, geospatial, vector, full-text, and binaries. For advanced flexibility, the database needs to adjust to changing data formats with a dynamic schema and easily integrate with existing workflows. Also make sure that it offers the right deployment model tailored to your IT governance model.

2 Functionality

Start considering how easily you can query and analyze your data, regardless of their type, format and complexity. Have a look at the range of built-in functions and how to create your own. Anticipate further needs with native full-text and vector search capabilities. Make sure the infrastructure offers scalability, high-availability and self-healing mechanisms.

3 Usability

Ensure that the database offers an easy query language and the right drivers and API for your existing stack. Leveraging common standards such as SQL and the PostgreSQL Wire Protocol is a plus. Storing and manipulating different types of data into the same table along with JOINS fosters adoption for many different use cases.

4 Performance

Check both vertical and horizontal scalability. To manage high-volume concurrent reads and writes and run instant aggregations, consider architectures with a distributed query engine and efficient data storage, leveraging advanced mechanisms such as partitioning, sharding, replication, indexing, and columnar storage

5 Security

Security is non-negotiable. Check advanced security mechanisms such as data encryption, authentication, authorization and auditing. Achievement of the ISO 27001 Certification guarantees the highest standards in operational and information security.

6 Cost

Consider how much infrastructure you need to run the database and its environmental footprint; your team should be capable of managing the whole system and its connectivity. Also consider carefully the complexity level for synchronizing data with other systems, how frequently you need to do upgrades, and whether you need to purchase additional tools to operate the system properly.

CrateDB is an open source, multi-model, and distributed database that offers high performance, scalability, and flexibility.

Leverage the simplicity of SQL, combine multiple data types, handle high ingest rates, and store years of historical data.

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