

**Spanner Vs BigQuery**: https://hevodata.com/learn/spanner-vs-bigquery/#1

Main points:

- BigQuery is better for data analysis

- Cloud spanner supports transactions

- Cloud spanner offers TrueTime, a very realiable global clock

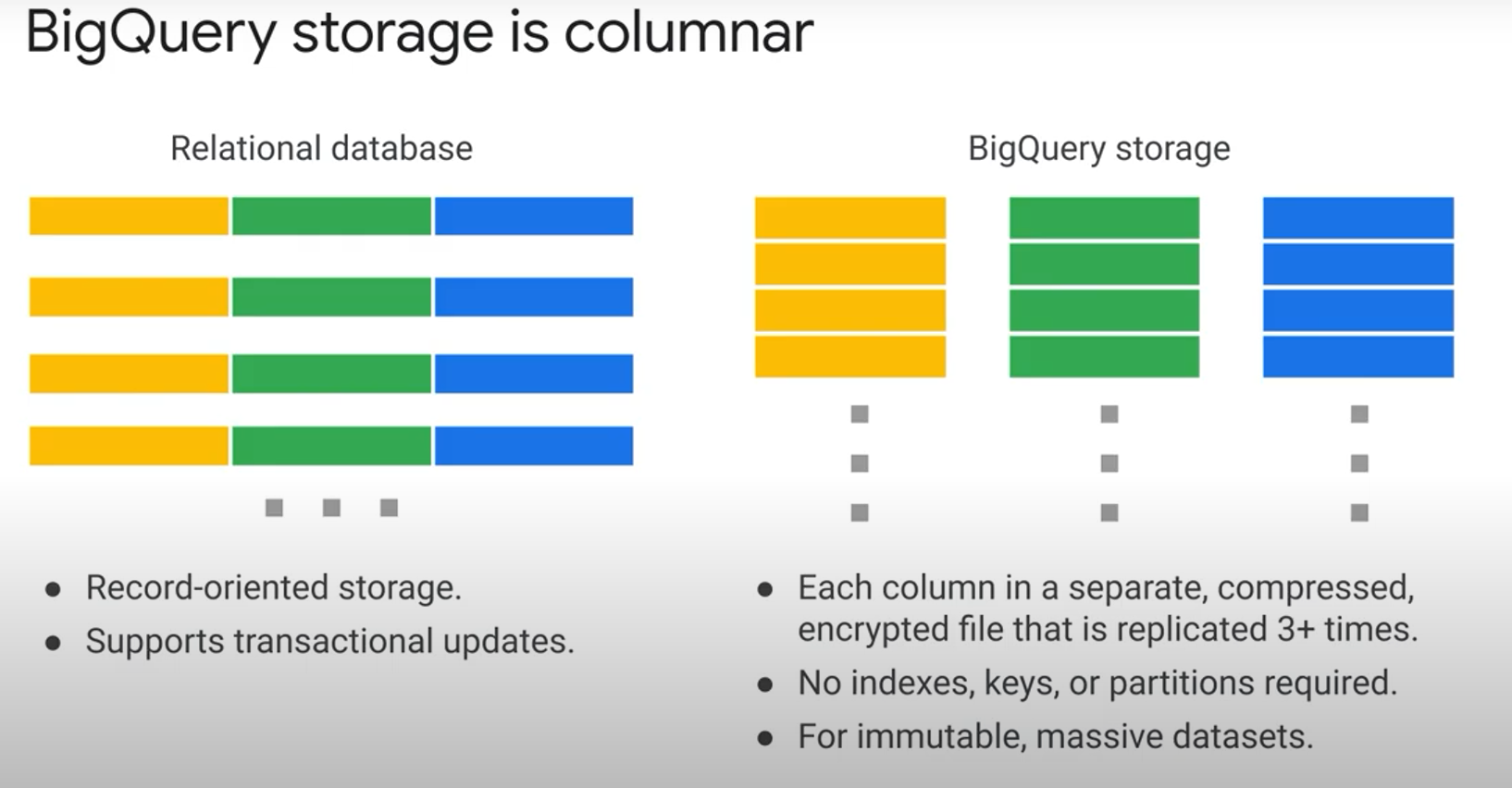
- Cloud Spanner is ACID compliant

- BQ mainly charges you for queries (and storage, but mainly for the queries). Spanner

charges you for storage and computing.

- BQ has more integration with data studio, BI engine, Apache, etc...

- Spanner has more integration with Cloud Storage, Cloud Run, Terraforms Liquibase, etc...



=> BQ is very good at reading and appending, but bad at updating/deleting. Good for immutable datasets.

Note for costs calculus:

1000 processing units = 1 node. For cloud spanner, you are charged by:

(number of nodes \* total hours of use), with number of nodes= num processing units/1000

Note 2: **«AVRO»** is a technology, mainly used in Hadoop, for **serialization/deserialization**