**Google BigQuery**

Google BigQuery was launched in 2011 for general availability and is the corporate data warehouse for business agility developed by Google Cloud. BigQuery is a serverless, petabyte-scale, and cost-effective analytics data warehouse from Google Cloud that operates super-fast SQL queries near real-time over massive data volumes. With BigQuery, there is no framework to set up or maintain, and using regular SQL helps users generate useful insights. With on-demand and flat-rate solutions, BigQuery has customizable pricing models.

**Features:** Some significant features for the Google BigQuerry are:

1. There is no cluster implementation, no virtual machines, no indexes or registry keys, no applications. Import the data and run SQL.
2. It is deployed by default across several data centers, with multiple replication factors to maximize optimum data longevity and operation uptime.
3. There is no need for several clusters to be distributed, and data duplicated into each one. Access control lists can manage permissions for projects and datasets.
4. For real-time analytics, streams millions of rows per second.
5. Separate compute and storage, compute scales based on usage, no need for cluster resizing.

**Data Storage:** BigQuery uses columnar storage, where each column contains a different block of data. Data can be conveniently appended to BigQuery tables, and current values changed or removed. Without restrictions, BigQuery supports mutations (INSERT, DELETE, UPDATE, MERGE). BigQuery uses a proprietary format. The storage engine will develop in parallel with the query engine to maximize query execution, which takes advantage of extensive knowledge of the data structure.

**Moving and Querying Data:** BigQuery can directly ingest datasets into its native storage from various formats. Google handles the native storage of BigQuery entirely, including backups, replication, scaling, and much more. One way for querying external data sources directly without being loaded into BigQuery storage is to use a federated query.

**Security:** The security paradigm of BigQuery firmly integrates with the rest of Google's Cloud Infrastructure. BigQuery uses Identity and Access Management (IAM) access control framework to grant special permissions to individual users or groups of users. BigQuery is also strongly linked to the Virtual Private Cloud (VPC) policy controls of Google, which defends against users seeking to access data from outside the company or distribute it to third parties.

**Pricing:** To satisfy both the technical requirements and budget constraints, BigQuery offers flexible, competitive pricing options. The cost of storage is dependent on the amount of data contained in BigQuery. Storage charges can also vary based on the frequency of use of the data. There are two pricing models for the query costs, one is on the amount of data processed by each query, and the other is a flat rate option.