**CelerData**

Side-By-Side Comparison

# ClickHouse vs. StarRocks

| | ClickHouse | StarRocks |
|---|---|---|
| **Architecture** | Scatter-Gather | MPP |
| **SQL Syntax** | Limited support | Full support (SQL-99) |
| **Data Ingestion** | Can't guarantee once and only once ingestion | Ingest once and only once with ACID on ingestion |
| **Distributed Join** | Not supported | Supported |
| **Real-Time Updates** | Asynchronous updates, not real time | Synchronized updates and supports UPDATE/DELETE |
| **Concurrency** | Limited number of concurrent users | High concurrency with 10,000+ queries per second |
| **Count Distinct** | Performance degrades as data volume grows | Supports accurate and approximate count with consistent performance |
| **Query Planning** | No cost based optimizer | Built-in cost based optimizer |
| **Scalability** | Requires manual data rebalancing when scaling | Data rebalacing is automatic when scaling |
| **Data Partitions** | Data partitioned into parts and parts are tied to nodes | Partition + bucketing and not tied to physical servers |
| **Data Lake Queries** | Rudimentary support | Supports queries on Hive, Hudi, Iceberg, and Delta |
| **Federated Queries** | Not supported | Supports queries on Hive, MySQL, ES, and JDBC sources |
| **Operations** | Cumbersome and reliant on Apache Zookeeper | Streamlined architecture with no 3rd party dependencies |

| Materialized Views | Asynchronously updated with tables and doesn't support query rewrites or multi-table | Synchronized with tables, supports query rewrites, and materialized views on multi-table |
|---|---|---|
| Materialized Views: Query Rewrites | Materialized view requires SQL changes | Materialized view seamlessly supports query rewrites |
| Materialized Views: Incremental Updates | No support for incremental updates | Supports incremental updates for real-time scenarios |

## About CelerData

CelerData enables enterprises to quickly and easily grow their business with a unified analytical engine that is 3X the performance/cost of any other solutions on the market. CelerData is the only platform uniquely designed for the next generation real-time Enterprise, unleashing the power of business intelligence to help accelerate Enterprise digital transformation. Used worldwide by market leading brands including Airbnb, Lenovo and Trip.com, CelerData generates critical new insights for these data-driven companies. To learn more, please visit, www.celerdata.com