MariaDB MaxScale is an advanced database proxy for MariaDB Enterprise Server, and a core component of MariaDB Enterprise – powering its enterprise high availability, scalability, security and integration services. This datasheet describes the role of MariaDB MaxScale, and provides a summary of its enterprise services.

**INFRASTRUCTURE ABSTRACTION**

Simplify development and administration by abstracting away database infrastructure from the applications interacting with it – enabling developers to build applications without having to know what the underlying database topology is, and for operations teams and database administrators (DBAs) to make changes to it without impacting application uptime or requiring application configuration changes. As a result, applications will never know a failover has occurred, a switchover has been performed or a replica has been added.

In addition, MariaDB MaxScale can route different queries to different database instances. For example, when deployed for hybrid transactional/analytical workloads, it can route transactional queries to instances with replicated, row-based storage and analytical queries to instances with distributed, columnar storage.

**ENTERPRISE HIGH AVAILABILITY**

Guarantee database uptime by extending the replication and clustering capabilities of MariaDB Enterprise Server with enterprise high availability services. The automatic failover service, when used with advanced features such as transaction replay, session restore and connection migration provides zero-interruption failover – an automatic failover that is completely transparent and nondisruptive to live applications with production traffic.
ENTERPRISE SCALABILITY
Maximize performance without sacrificing consistency, and simplify application development by taking advantage of enterprise scalability services such as transparent read/write splitting. It enables replicas to be used for read scaling without application code or configuration, and when causal reads are enabled, uses global transaction IDs (GTIDs) to enforce read-your-writes consistency. In addition, it prevents write conflicts and collisions when clustering is used, routing all writes to a single node. And finally, if adaptive load balancing is chosen, it continuously routes reads to the fastest database instance based on current response times.

ENTERPRISE SECURITY
Protect your database, and its data, by stopping denial of service (DoS) attacks and preventing data breaches with a powerful set of enterprise security services. The database firewall service restricts data access and blocks queries based on syntax, type, time and user while the dynamic data masking service prevents information such as social security numbers and credit card numbers from being exposed by queries, accidental or not. The query throttling and result limiting services, together, can be used to stop accidental or malicious queries from flooding the network and database by creating too many connections, sending too many queries or returning too many results.

ENTERPRISE INTEGRATION
Replicate data from MariaDB Enterprise to external systems such as Apache Kafka and Redis. The Kafka change-data-capture (CDC) service streams database changes to Kafka by reading binlog events from the primary MariaDB Enterprise Server instance, transforming them into JSON documents and publishing them to a Kafkatopic. The caching service can store query results in Redis, using external memory to improve the performance of repeat queries, allowing multiple MaxScale instances to share the same cache and reducing the load on MariaDB Enterprise Server read replicas or cluster nodes.