WEBINAR SERIES

Part 3 – 21 August 2025

Ensuring Business Continuity and Compliance with Backup, Restore and Disaster Recovery Strategies with MariaDB Enterprise

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About Speaker

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Celebrating 15 Years of MariaDB !!

The first version of MariaDB, 5.1.38, was released on 29th of October 2009 !

We have come a long way since then!

More information at

https://monty-says.blogspot.com/2024/10/celebrating-15-years-of-mariadb.html

MariaDB

About MariaDB

Created by the original developers of MySQL, MariaDB provides a powerful, open-source core database for enterprises. Now the default in the majority of Linux distributions, it gives businesses the strategic freedom to break from proprietary databases and build modern, scalable applications for the future.

Market Leadership

75%
Of Fortune 500 companies use MariaDB

1B+
Docker Hub downloads

2.5B+
Reach via Linux distros

200K+
Open source contributions

700+ Customers Globally

Amdocs
Deutsche Bank
Development Bank of Singapore (DBS)
Nokia
Samsung
SelectQuote
ServiceNow
Virgin Media O2

200+ Employees

Proven leadership team

World class relational database engineering team, including the original core MySQL team

Dual headquartered

- Europe: Dublin, Ireland
- USA: Silicon Valley, California

Introducing Crest Infosolutions

- ✓ Founded in 2012 in Singapore
- ✓ Serving customers globally with presence in Singapore, Malaysia, Indonesia, USA and Netherlands
- ✓ **MariaDB distributor** and partner since 2015.
- ✓ Strong MariaDB consulting team with experience in setting-up and securing MariaDB at scale.
- ✓ **Migration team to support** customers in their database migration journey from Oracle, MS SQL, MySQL or PostgreSQL to MariaDB.

Crest Infosolutions LLC Joins MariaDB Foundation as Silver Sponsor

Written by Anna Widenius · 2025-06-24 · Leave a comment

Accelerating Digital Transformation Through Open Source Innovation

The MariaDB Foundation is proud to welcome Crest Infosolutions LLC as a Silver Sponsor, marking a significant step forward in fostering enterprise-grade open-source adoption. This partnership underscores Crest's mission to deliver robust, secure, and scalable technologies that empower global organizations to thrive in the era of digital transformation.

Driving Open Source Adoption Across Enterprises

Crest Infosolutions brings over a decade of experience in delivering open-source excellence to its clients. Crest is already a long-standing partner of MariaDB plc and, by joining the MariaDB Foundation's ecosystem of supporters, Crest reinforces its long-standing commitment to open technologies, developer collaboration, and sustainable innovation.

"We are excited to welcome Crest Infosolutions to the MariaDB Foundation sponsor family," said Anna Widenius, CEO of the MariaDB Foundation. "As experts in enterprise content management, BPM, and AI-driven solutions, Crest represents exactly the kind of real-world use case MariaDB Server's vector search capabilities was built for. Their support reflects a shared belief in open source innovation with integrity—where advanced technology like vector search becomes truly enterprise-ready."

A Powerful Technology Stack Built on MariaDB

As part of its open-source enterprise portfolio, Crest integrates **MariaDB** as the backbone of high-performance applications. Their stack includes:


MariaDB
Enterprise Platform

Ensuring Business Continuity and Compliance with Backup, Restore and Disaster Recovery Strategies with MariaDB Enterprise

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The Complete Enterprise-Grade Platform

Delivering Performance, Scalability, Availability, and Security

MariaDB Tools

- Workload Capture & Replay
- Safe Upgrade Testing
- Workload Visualization
- Administrative User Interface
- Enterprise Backup
- MariaDB Monitoring
- Flashback
- Instant Schema Change

MariaDB Application Connectors

C	JDBC	ODBC	Node.js	Python
C++	R2DBC	PowerBI	Kafka	Spark

MariaDB MaxScale

- High Availability
- SQL Aware Read Scaling
- Failover Orchestration
- Replica Rebuild

MariaDB Enterprise Server Core

- Enterprise Replication
- Enterprise Cluster
- Enterprise Audit
- Enterprise Security

Workloads

Transactional (OLTP)
Analytical (OLAP)
Semi-structured
AI and ML
Cloud-native (public, private and hybrid clouds)

MariaDB Integration

- Kubernetes Operator
- Docker Container Images
- Caching: In-Memory, Redis, Memcached
- NoSQL Protocol
- Kafka CDC Router
- Oracle Compatibility Mode

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Why do you need to backup your database?

It is a necessity for any organization that relies on data for its operations.

For the following reasons:-

- Protect against various threats
- Business Continuity
- Regulatory Compliance
- Data Recoverability
- Peace of Mind :)

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Recovery Requirements Determine Backups

Three important questions define backup and recovery systems for organizations:

- Recovery Time Objective (RTO)
- Recovery Point Objective (RPO)
- Risk Mitigation

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Recovery Time Objective (RTO)

- The amount of time that may pass during a disruption before it exceeds the maximum allowable time specified in the Business Continuity Plan
- How long does it take you to get back up?

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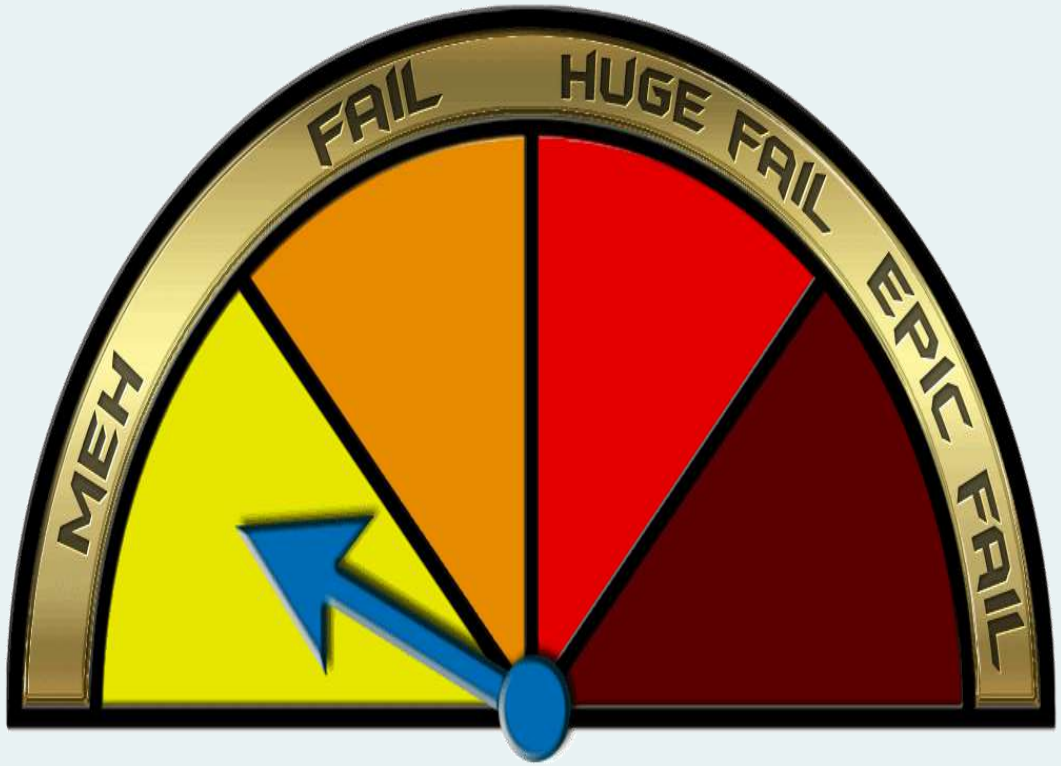
Recovery Point Objective (RPO)



- Duration of time and service level within which a business process must be restored after a disaster
- "How much data can I lose?"
- When was the last backup before failure?

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Risk Mitigation

- What failure scenarios must the data be protected against?

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Risk Mitigation (RPO)

- Can help mitigate failure scenarios
  - (Multiple) Host Failure
  - (Multiple) Data Center Failure
  - Data Corruption or Loss
- Satisfy Legal Regulations
  - Legislation
  - Regulation
- Fulfil Industry Standards
  - PCI DSS
  - HIPAA

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Backup and Recovery - System design

- Based on the RTO, RPO, and address whatever risks are applicable

- Not all data should have the same requirements
  - For example HR database could have a longer RTO than your customer facing product database. Cost of one hour outage for HR is small compared to not accepting orders for one hour.

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Types of backups

Features	***Physical***	***Logical***
Tool/Utility	mariadb-backup	mariadb-dump
Flexibility	Needs compatible MariaDB version and hardware.	Highly Flexibile with different versions and hetrogenous restores
Granularity	Restoring individual tables or databases can be more complex, often requiring a full server restore followed by data extraction.	Allows for granular backups and restores, meaning you can easily back up and restore individual databases or tables.
Performance	Offers significantly faster backup and restore times, especially for large databases, as it copies data blocks directly.	Generally slower for large databases compared to physical backups, as it involves retrieving and converting data into SQL statements.
Best suited for	for larger, production databases due to its speed, online backup capabilities, and support for incremental backups, despite the reduced flexibility in restoration.	smaller databases, when cross-version or cross-platform restoration is a priority

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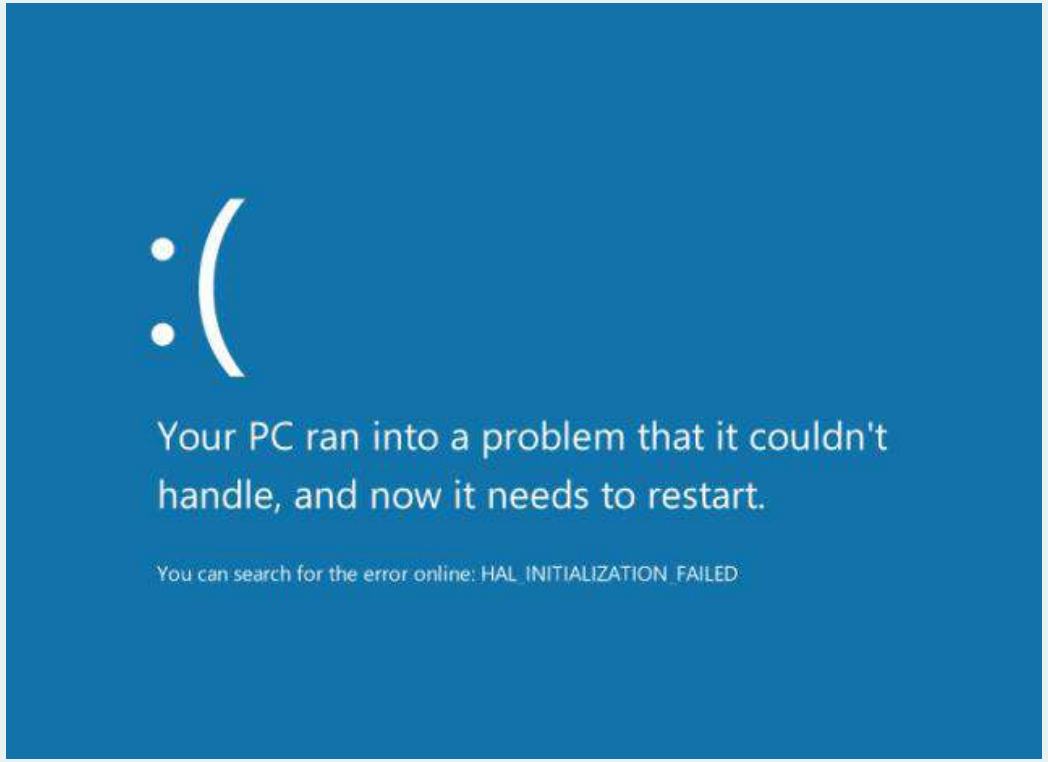
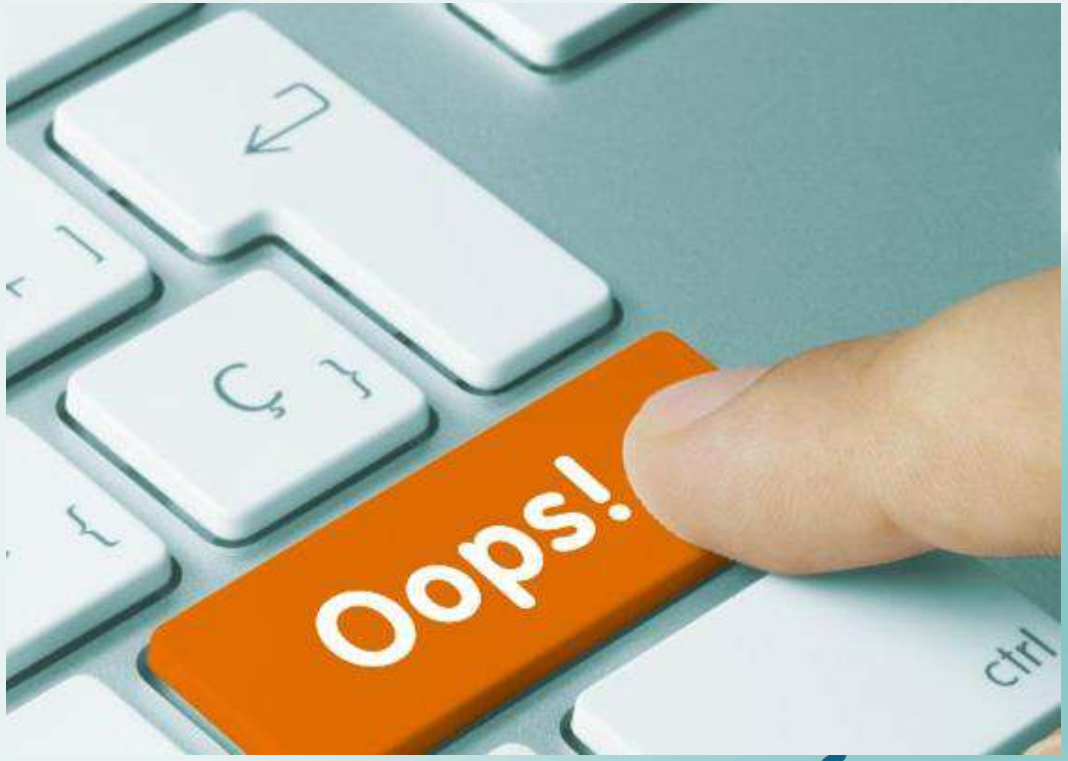
Which is best???

BOTH!!!





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Command Line - Examples

To do logical backup of all databases:-

```
mariadb-dump --user=admin_backup --password --lock-tables --all-databases > /data/backup/dbs_alldatabases.sql
```

To backup the full database server:-

```
mariadb-backup --backup  --target-dir /path/to/backup \
      --user user_name --password user_passwd
```

To backup incremental changes:-

```
mariadb-backup --backup  --target-dir=/var/mariadb/inc1/ \
   --incremental-basedir=/var/mariadb/backup/ \
   --user=mariadb-backup --password=mypassword
```

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Key restoration steps

- Prepare the Backup
- Stop the MariaDB
- Clear Existing Data (Optional but Recommended)
- Copy Backup files
- Start MariaDB
- Verify the restored data

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Binary Logs

- Addresses RPO.
- Logs should be rotated and backed up.
- PITR and RPO are achieved by designing the Binary Backup architecture in the right way including the streaming of the logs as well as '***Flashback***' switch.
- Adding complexity increases recovery time due to more complicated recovery procedures.
- Tool used - MariaDB-binlog

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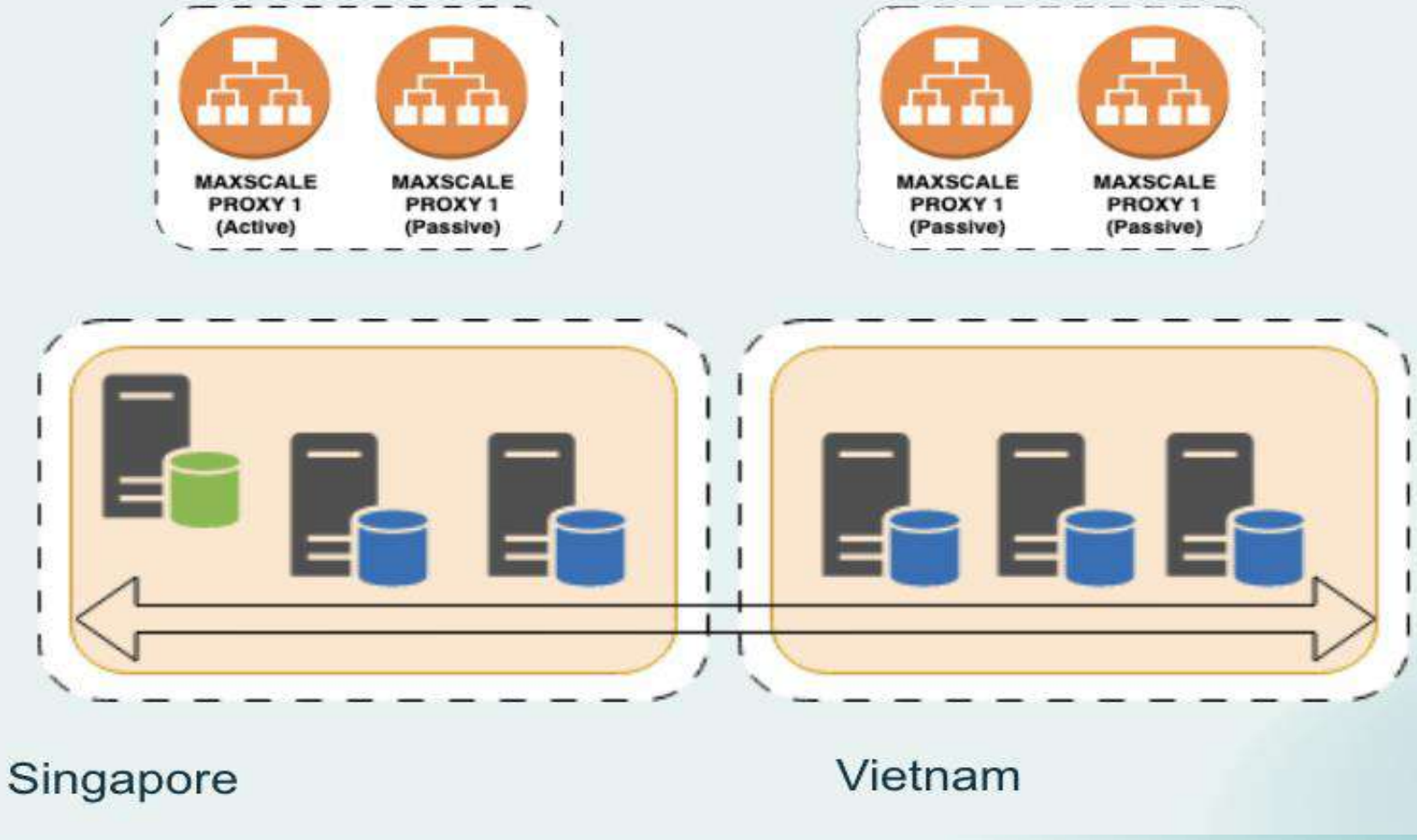
Key Considerations

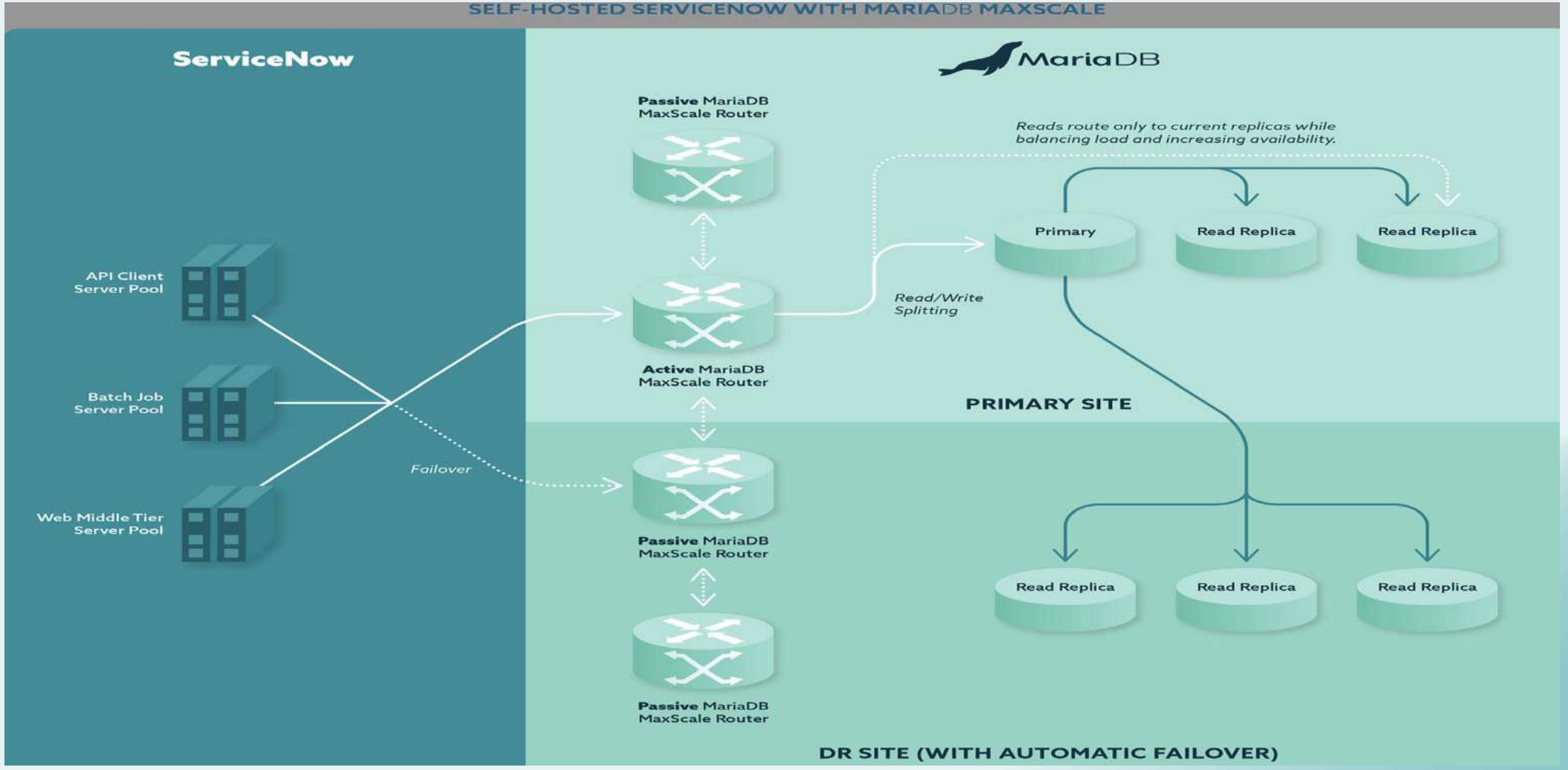
- Retention
- Restoration Testing
- Monitoring
- Security

Other Disaster Recovery Strategies

```
jdbc:mariadb:sequential://10.0.6.1,10.0.6.2,10.0.6.3,10.0.6.4/database
```



Classic architecture implemented in our Customer environment



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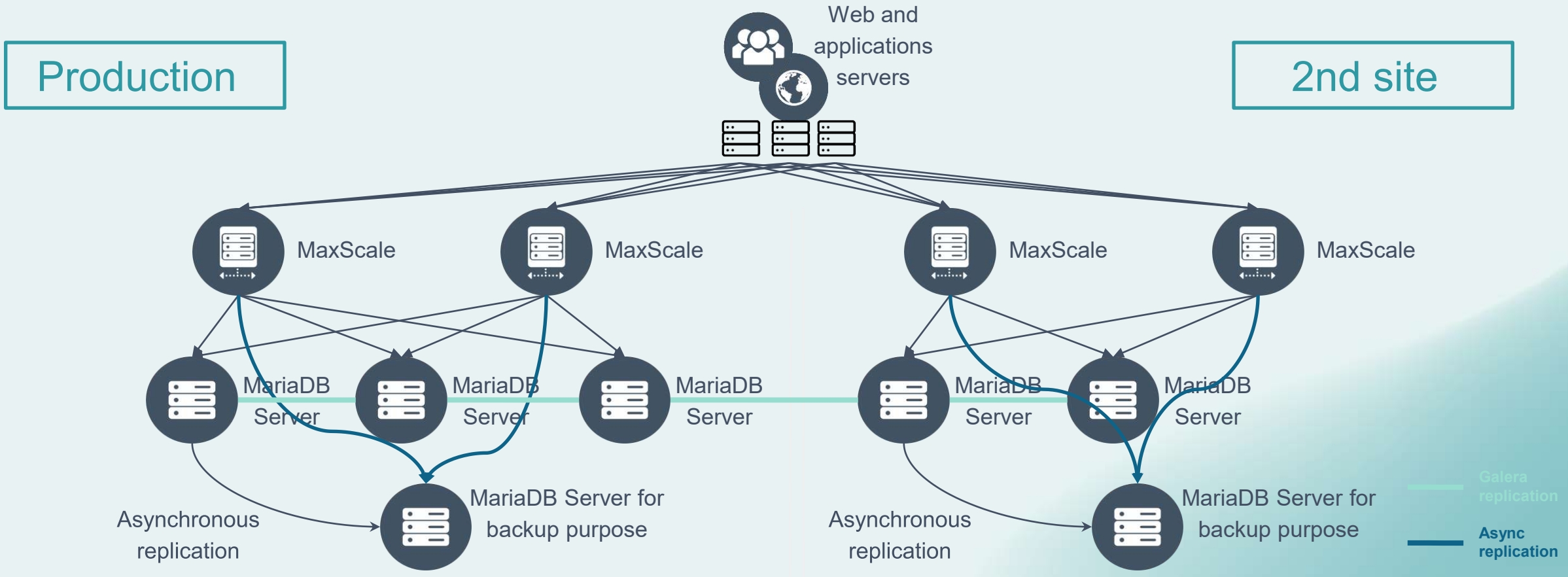
Two Datacenters Geocluster Typical Setup with LOW Latency



Geocluster with Galera replication

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Demo Time

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Thank You

MariaDB | CREST
- Ideate - Innovate - Implement -

Need Assessment of your MySQL / MariaDB environment, or

Looking for a PoC ?

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Avoiding Vendor Lock-In and Lowering cost for Oracle Dependent Applications with MariaDB Enterprise

Kanthimathi Kailasanathan
Database Consultant,
Sales Engineering
at MariaDB

25 September 2025 02:00 pm MYT

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23 Oct I 2pm

Application Modernisation using GenAI capabilities with MariaDB Enterprise Vector Database

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Thank You