
MariaDB
OPEN WORKS
BE UNSTOPPABLE


MariaDB
OPENWORKS
WHAT'S NEW IN MARIADB ENTERPRISE SERVER
MAX METHER, VICE PRESIDENT, MARIADB

Disclaimer

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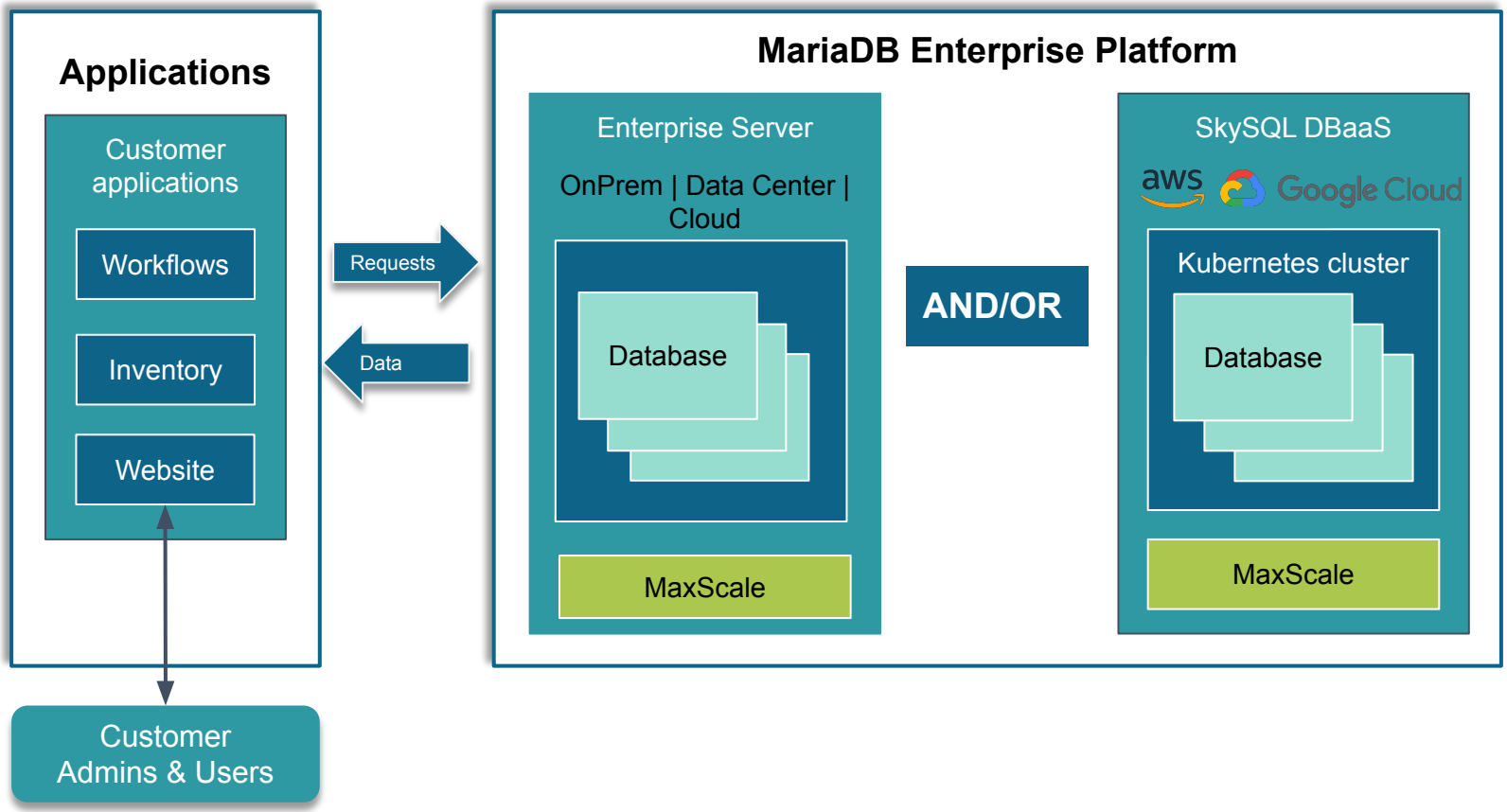
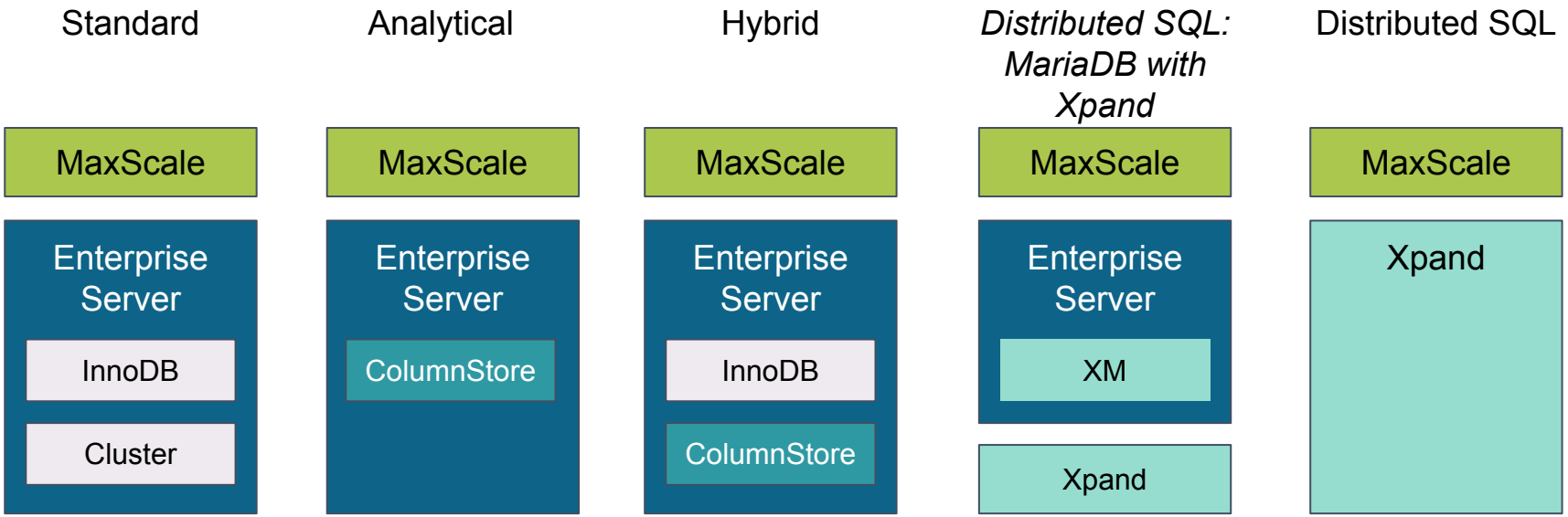
We Build the Database For All. Any Workload. Any Cloud. Any Scale.

MariaDB



Any Workload



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MariaDB Enterprise Server

MariaDB

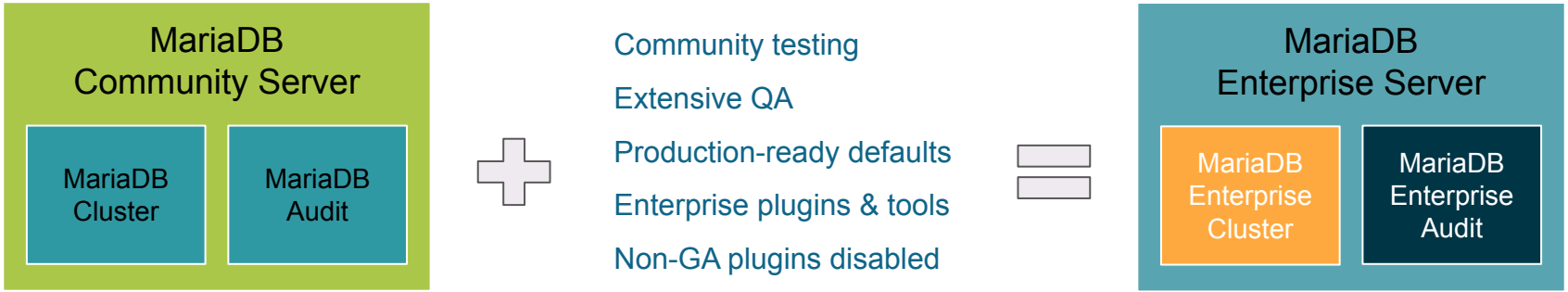
MARIADB **ENTERPRISE SERVER**

- Launched in 2019
- Geared towards Enterprise grade customers
  - Maintenance releases on predictable schedule
  - Focus on robustness, stability and predictability
  - Enterprise specific features
  - Joint efforts with key customers

RELEASE **MODEL**

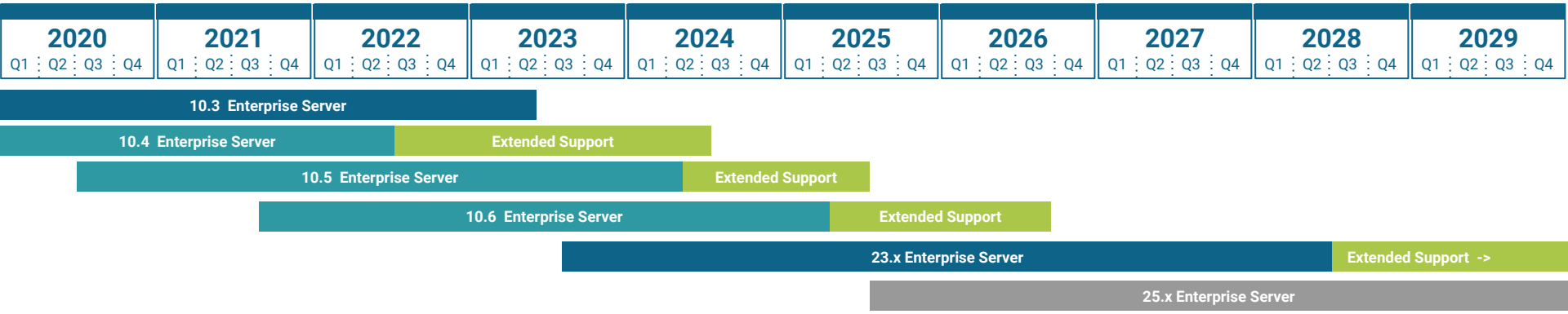
- MariaDB Community Server geared towards innovations and rapid development
  - New release series with new features every quarter
- MariaDB Enterprise Server geared towards Enterprise grade customers, stability and robustness
  - New release series about every 2 years
  - Long maintenance cycle
  - New features backported from community server

MARIADB COMMUNITY SERVER VS **ENTERPRISE**



MARIADB ENTERPRISE SERVER **TIMELINES**

	Version	Stable (GA) Date	End of Standard Support	End Of Life Date
5 Years	10.3	25 May 2018	-	25 May 2023
3 + 2 Years	10.4	02 July 2019	02 July 2022	02 July 2024
	10.5	16 July 2020	16 July 2024	16 July 2025
	10.6	23 August 2021	23 August 2025	23 August 2026
5 + 3 Years	*23.x*	*Fall 2023*	*Fall 2028*	*Fall 2031*
	…	…	…	…



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KEY RECENTLY **ADDED FEATURES**

- Analytics
  - Window Functions - Combine aggregate results with a current rows data
  - Common Table Expressions (CTE) with recursive option
  - New columnar storage engine MariaDB ColumnStore
- JavaScript Object Notation (JSON)
  - JSON and GeoJSON functions to store, query, change and convert JSON formatted strings
- Bi-Temporal modelling to store historical data
  - System Versioned tables
  - Application-time period tables
  - combined Bi-Temporal
- Optimized schema changes
  - Instant ALTER operations for InnoDB
  - Atomic schema changes

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KEY RECENTLY **ADDED FEATURES**

- Database Compatibility
  - With Oracle mode
    - SQL/PL Oracle compatible Stored Procedures
    - Data types
  - Sybase Syntax
    - Non-standard SQL Alias handling
  - Schema wide Sequences
- Enhanced Authentication and Privilege System
  - Password expiration
  - Disabled user accounts
  - SSL enforcement
  - Resource limitations per user
- MariaDB Enterprise Audit
  - Filter templates per user
  - Object filter for databases and tables

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MARIADB ENTERPRISE SERVER RELEASE **BACKPORTS**

Feature	**from**	**10.4**	**10.5**	**10.6**
Hashicorp Encryption plugin	ES 10.5	+	√	√
slow master shutdown default variable	ES 10.5	+	√	√
Spider ODBC wrapper	ES 10.5	+	√	√
Object filter for MariaDB Enterprise Audit	ES 10.6	+	+	√
Time-invalidated cache for hashicorp plugin	ES 10.6	+	+	√
Sybase SQL mode for extended aliases	ES 10.6		+	√
S3 Storage Engine	CS 10.5	+	√	√
GTID support for Galera	CS 10.5	+	√	√
Crash recovery for semi-synchronous replication	CS 10.6	+	+	√

+ Backported
√ Included

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MARIADB ENTERPRISE SERVER RELEASE **BACKPORTS**

Feature	**from**	**10.4**	**10.5**	**10.6**
mariadb-dump option --as-of (June 2022)	CS 10.7	+	+	+
New functions JSON_EQUALS, JSON_NORMALIZE	CS 10.7	+	+	+
Password validation Plugin	CS 10.7	+	+	+
Option for SQL thread to limit maximum execution time per query	CS 10.10		+	+
Allow innodb_undo_tablespaces to be changed after database creation	CS 10.11		+	+

+ Backported
√ Included

MariaDB Enterprise Server Release Series 23.x

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KEY **NEW FEATURES**

Development

- New JSON functions
- Enhancements to JSON Path
- New functions
  - Custom formatting of strings via SFORMAT()
  - Natural sort via new function NATURAL_SORT_KEY()
- UUID data type
- INET4 data type
- Oracle Compatibility
  - IN, OUT, INOUT parameters in CREATE FUNCTION

Schema Maintenance

- Partitioning Improvements
  - Convert partition to table
  - Convert table to partition
  - Auto-creation of history partitions
- Support for descending index
- Storage engine agnostic Online Schema Change
- Optimistic ALTER TABLE for replicas

Operations

- Logical backup and restore for system versioning
- Security
  - Password reuse prevention
  - DENY
  - Support of PUBLIC as grantee
- Galera Enhancements
  - JSON based Galera status file including node eviction
  - Wsrep_provider_options string splitted in several options

JSON **Enhancements**

- JSON_EQUALS
  to check for equality between JSON objects
- JSON_NORMALIZE
  sorts keys and removes spaces
- JSON_OVERLAPS
  compares JSON documents
- JSON_SCHEMA_VALID
  does schema validation

Added to JSON Path

- negative index
- range notation

JSON_ARRAY	JSON_INSERT	JSON_QUOTE
JSON_ARRAYAGG	JSON_KEYS	JSON_REMOVE
JSON_ARRAY_APPEND	JSON_LENGTH	JSONE_REPLACE
JSON_ARRAY_INSERT	JSON_LOOSE	JSON_SERCH
JSON_COMPACT	JSON_MERGE	JSON_SET
JSON_CONTAINS	JSON_MERGE_PATCH	JSON_TABLE
JSON_CONTAINS_PATH	JSON_MERGE_PRESERVE	JSON_TYPE
JSON_DEPTH	JSON_OBJECT	JSON_UNQUOTE
JSON_DETAILED	JSON_OBJECTAGG	JSON_VALUE
JSON_EXISTS	JSON_PRETTY	ST_AsGeoJSON
JSON_EXTRACT	JSON_QUERY	ST_GemFromGeoJSON

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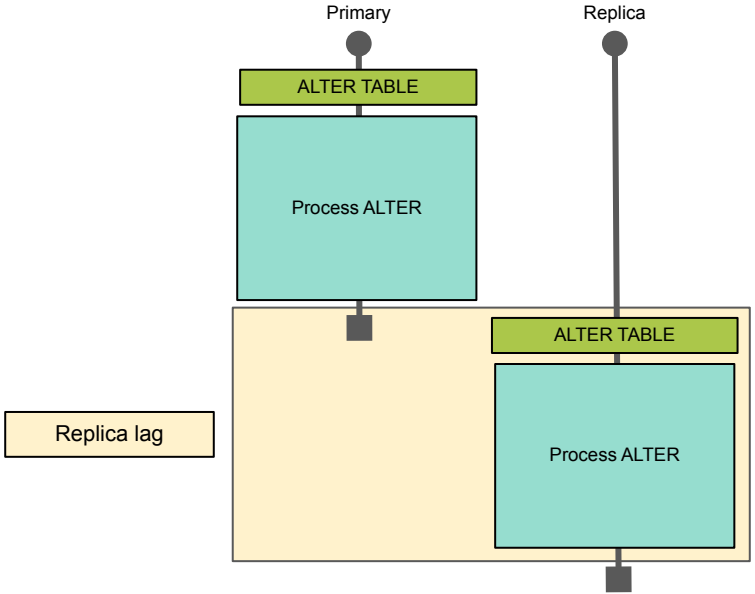
OPTIMISTIC **ALTER TABLE FOR REPLICAS**

Traditional ALTER TABLE



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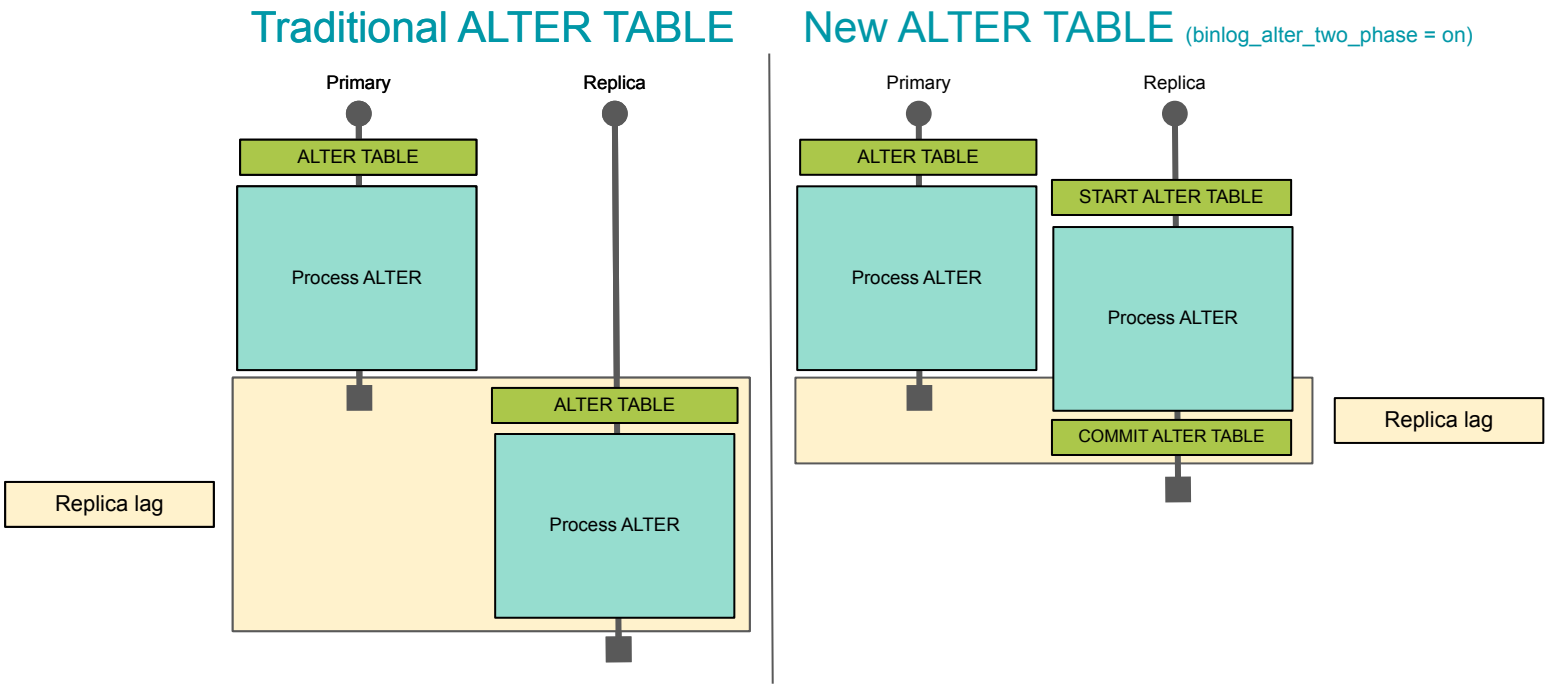

ONLINE **SCHEMA CHANGE**

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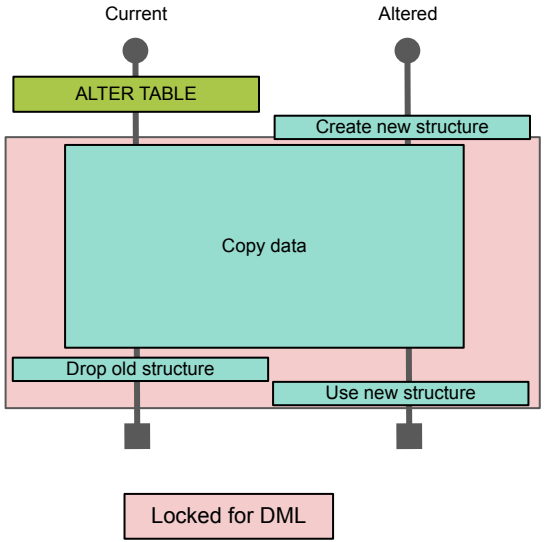

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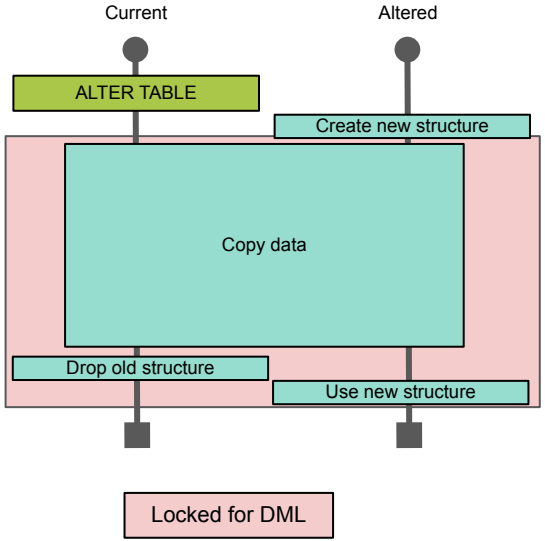
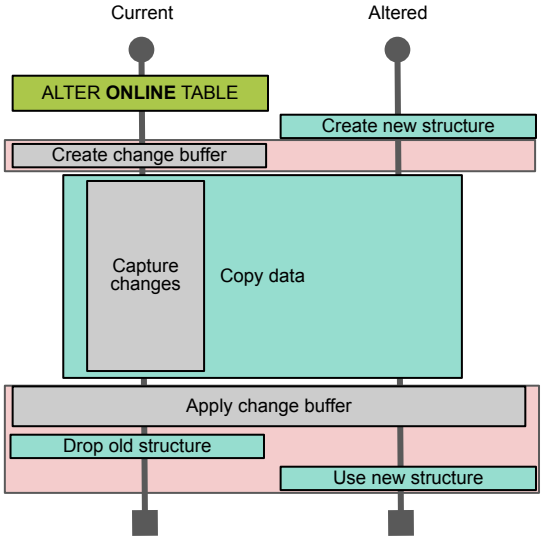


New ALTER **ONLINE** TABLE



NEXT STEPS

Check out these sources to learn more about MariaDB

- **Are there other sessions downstream of yours that you would like to your attendees to go to as well?**
  - Roundtable: MariaDB Xpand – the Database for Enterprise Computing
- **Are there sessions that have already run - tell your attendees to watch them later OnDemand**
  - Tips and Tricks for Migrating from Oracle to MariaDB
  - Switching from MySQL/Percona to MariaDB
  - SkySQL Observability Services
  - MariaDB Shell: An Upgraded Admin Tool
- **What assets do you want your attendees to read?**
  - Enterprise Server documentation
  - Blog: Preventing Regressions with MariaDB ES
  - Blog: Delivering Faster Innovation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THANK YOU


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