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CloudNativeCon

North America 2023



Scale MySQL with Vitess

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@vitessio



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Vitess Overview



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What is Vitess?

Cloud
Native
Database

Massively
Scalable

Highly
Available

MySQL
5.7/8.0
Compatible

Works with

Database
Frameworks

ORMs

Legacy
Code

Third Party
Applications

Logical database (Keyspace)

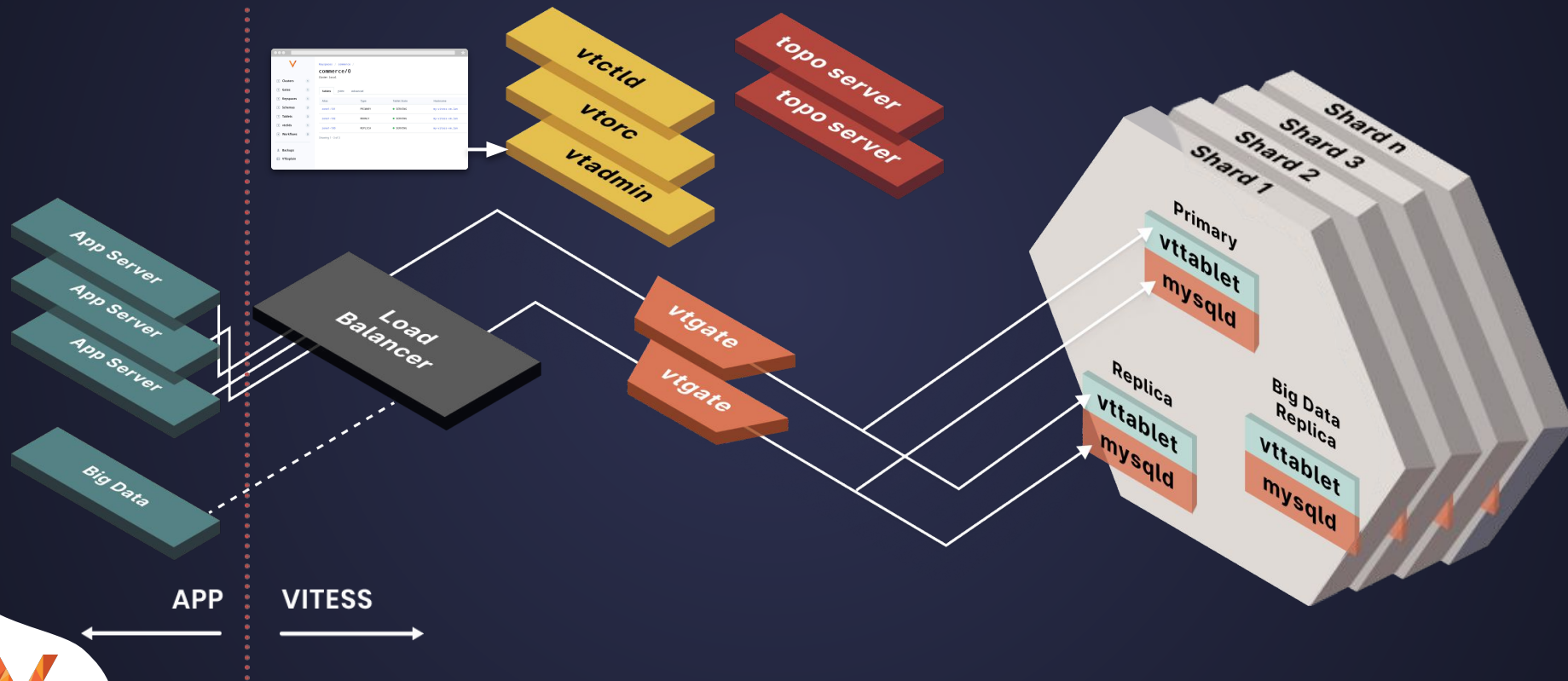
Many
physical
databases

Query
routing

gRPC /
MySQL
clients

Single
connection

Architecture



Vitess in production



Key Adopters

Slack
100% on
Vitess

GitHub

JD.com
10000+
databases

PlanetScale
Database
Service

Community

15
maintainers

448
contributors,
201 PR authors

81
companies

PR authors
from 47
companies



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New Features



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New Features

- **18.0 release GA this week**
- 3 GA releases in the last year
- Incremental Backups and Point-in-Time Recovery
- Experimental Foreign Key support
- Native View support across shards
- Better support for union, derived tables, subqueries
- Support for Prepare/Execute/Deallocate
- Session-aware connection pool
- Query buffering during migration cutovers aka near-zero downtime
- More efficient replication through support for noblob and compression

New Features

- Safe MySQL (minor) version upgrades through k8s operator
- MySQL syntax extensions
 - VEXPLAIN
- Cobra CLI
- Structured gRPC server API
- Viper flags
 - Auto generate flag reference docs
 - Support dynamic config reload (Planned)
- More efficient connection pooling (Coming soon)
- Non-recursive CTE support (Coming soon)
- Cross-shard Foreign Keys (Planned)



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Migrating to Vitess



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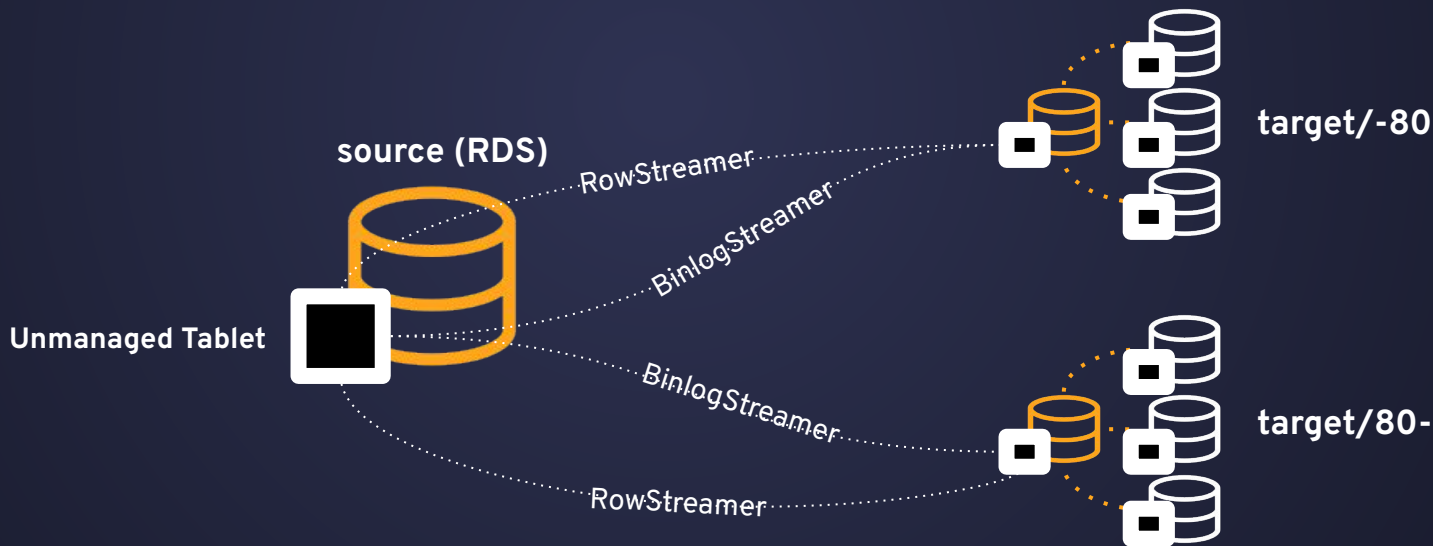
VReplication

Powering Data Migrations and Flows

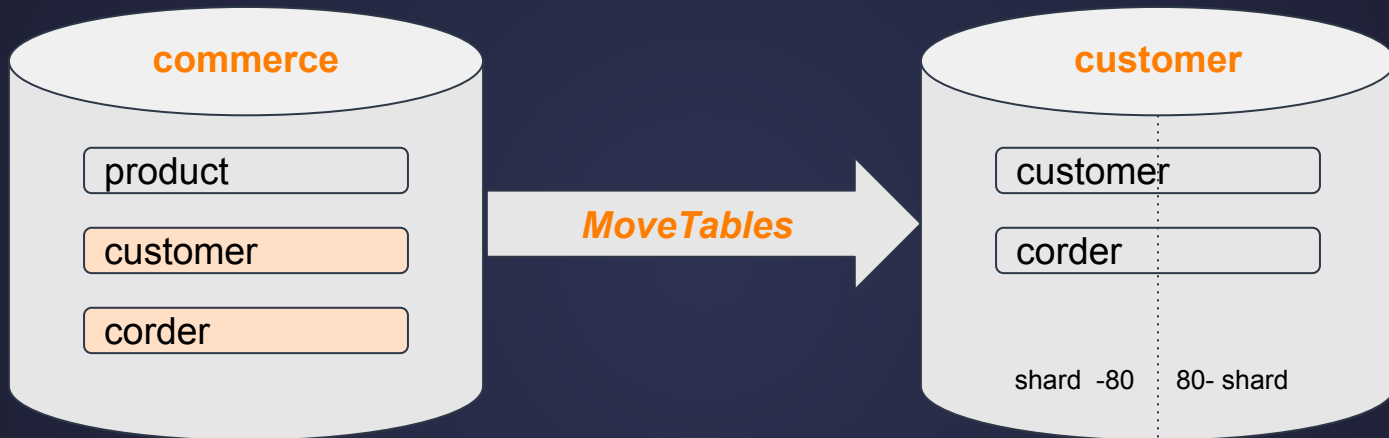
- Migrating into Vitess
- Sharding and Re-Sharding
- Online Schema Changes
- Realtime Materialization
- Event Streams / CDC
- Messaging / Job Queues
- And more

Migrating into Vitess

- Set up the Vitess cluster
- Set up a tablet for the external MySQL instance
- Add this *unmanaged* tablet to Vitess
- Use **MoveTables** to move [and shard] the data into Vitess



MoveTables Demo (Migration)





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Demo

<https://gist.github.com/mattlord/46200df7f7ea56a14d749f49982e8c78>



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Q & A



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Resources

- Website: vitess.io
 - [Docs](#)
 - [Tutorials](#)
 - [Source code](#)
- Slack: vitess.slack.com

Thank you!



scan to provide feedback