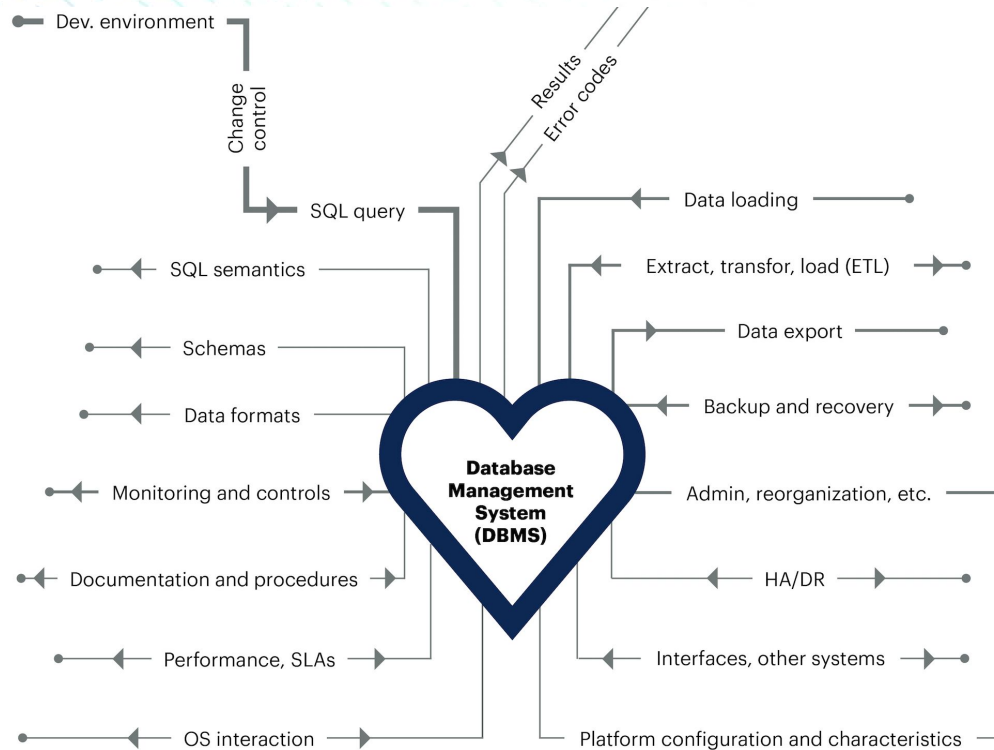# MOLT goes live: migrating to CockroachDB with minimal downtime

CockroachDB

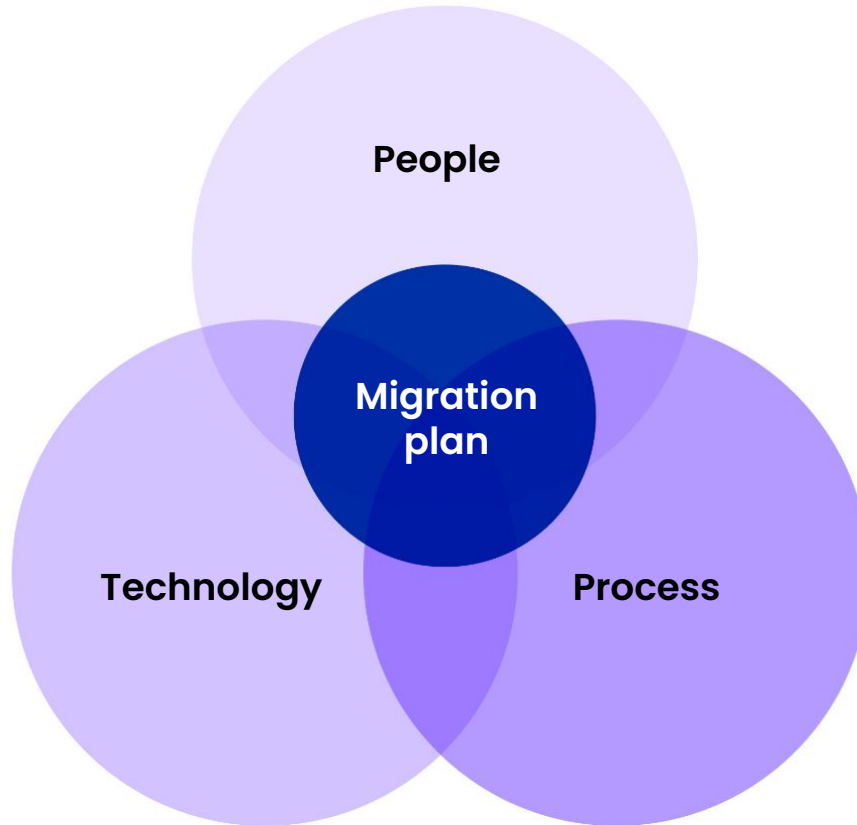Dustin Cote, Senior Product Manager

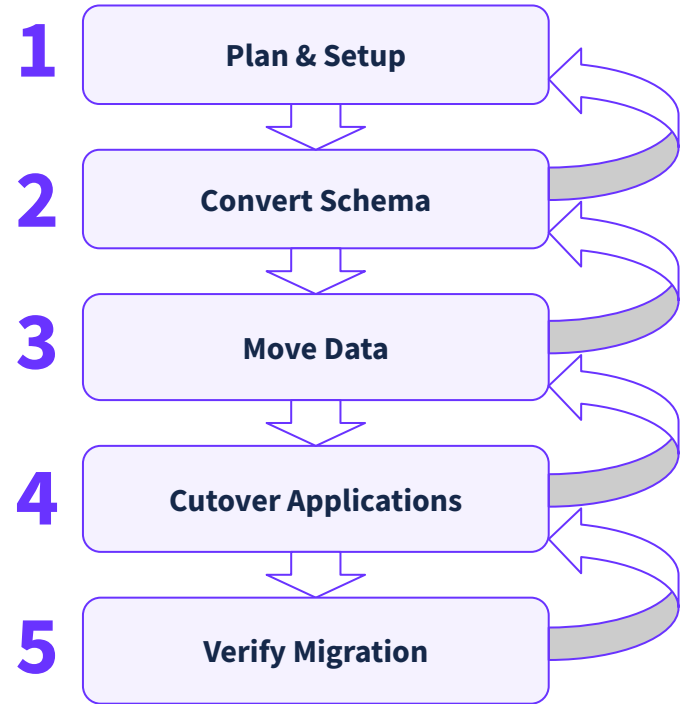# "Changing DBMS is like a heart transplant"

Migration plans: people, process, and technology

Migration functional steps

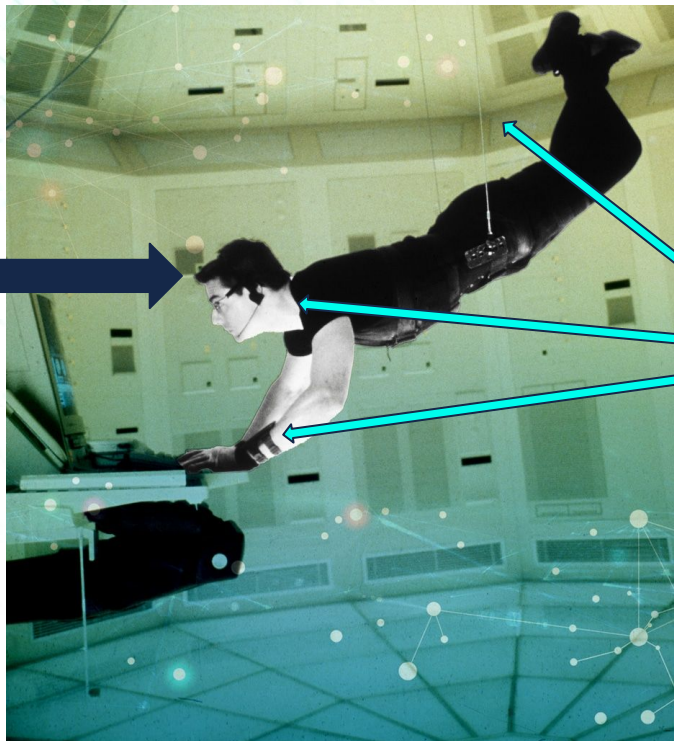Each step in a migration process comes with supported tooling and education materials

1 Plan & Setup

2 Convert Schema

3 Move Data

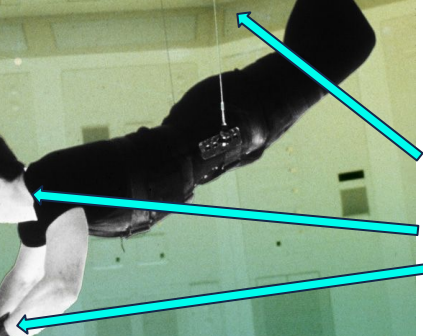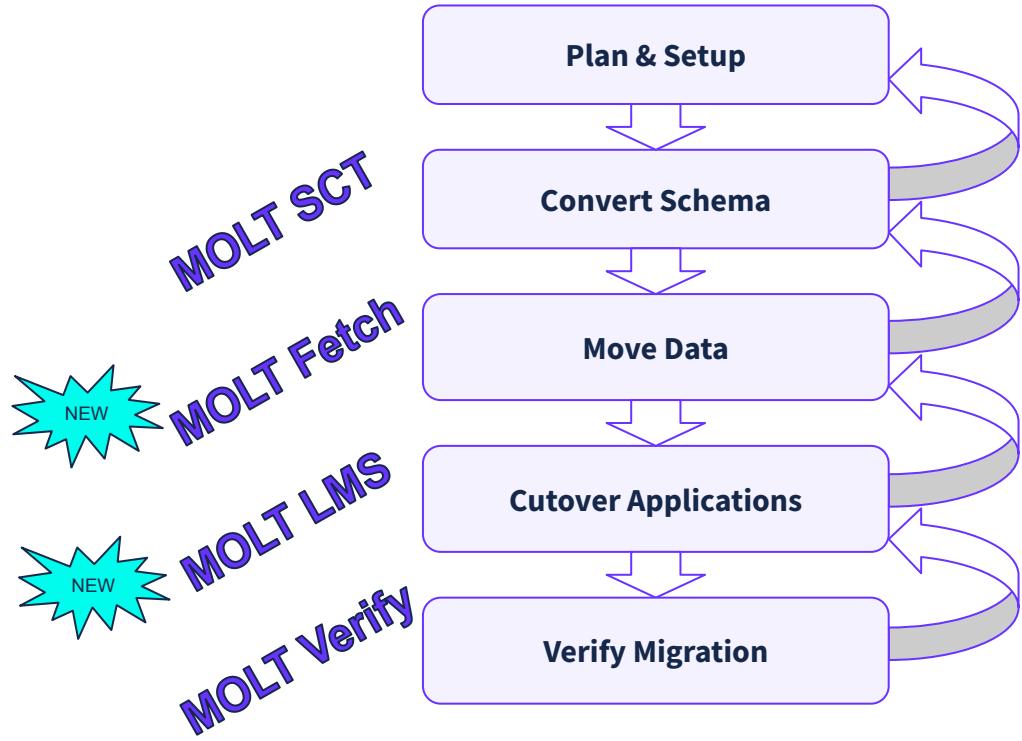4 Cutover Applications

5 Verify Migration

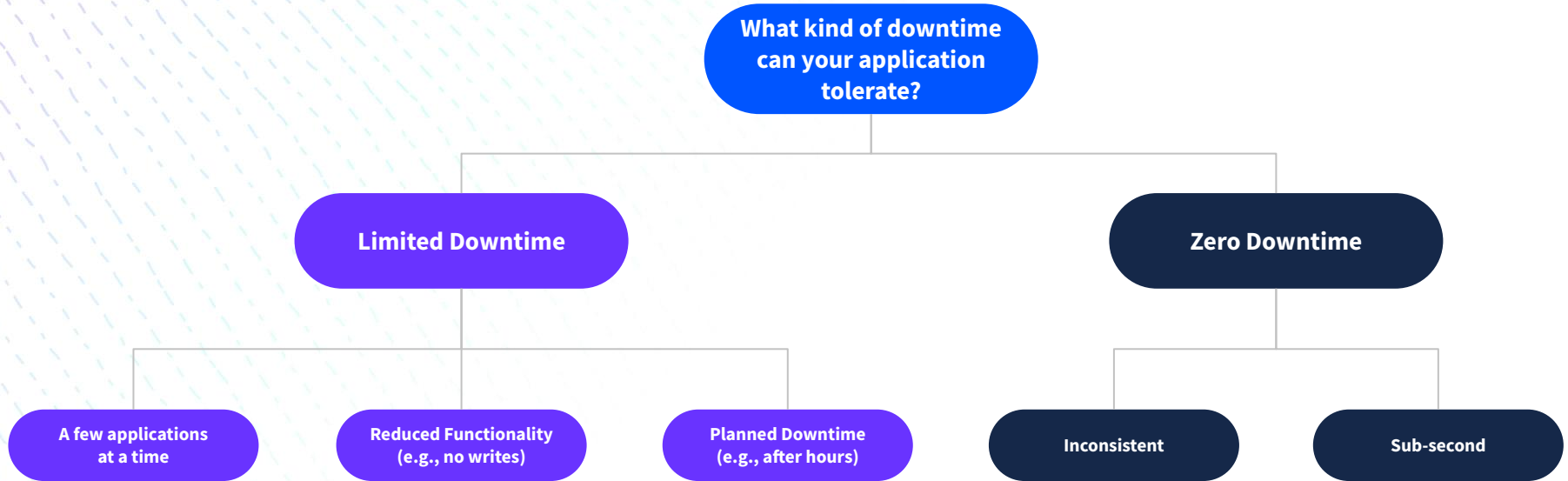# MOLT: Migrate off legacy technology

You in prod

MOLT Tools

MOLT makes migrating better
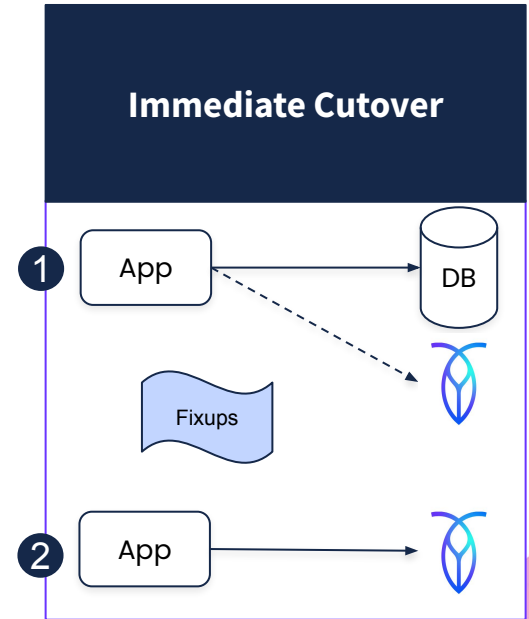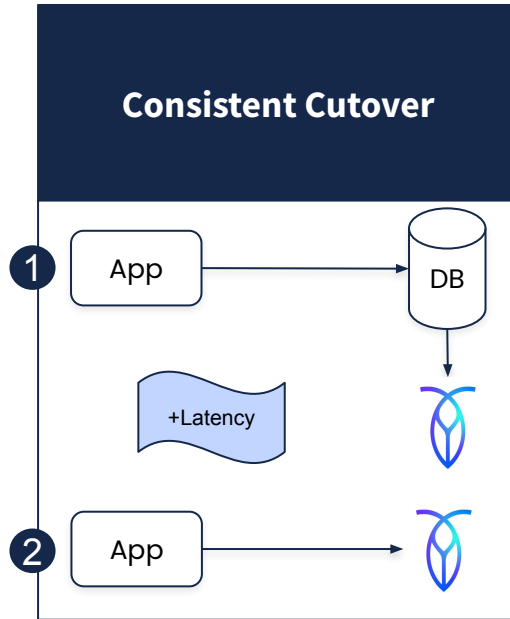
MOLT Tooling guides you through migrating, helping facilitate best practices and reducing custom code needed for the migration process

MOLT SCT

NEW **MOLT Fetch**

NEW **MOLT LMS**

MOLT Verify

```
Plan & Setup
    ↓
Convert Schema
    ↓
Move Data
    ↓
Cutover Applications
    ↓
Verify Migration
```

Migrations plans: approach to downtime

What kind of downtime can your application tolerate?

Limited Downtime

Zero Downtime

A few applications at a time

Reduced Functionality (e.g., no writes)

Planned Downtime (e.g., after hours)

Inconsistent

Sub-second

3 cutover paths we love
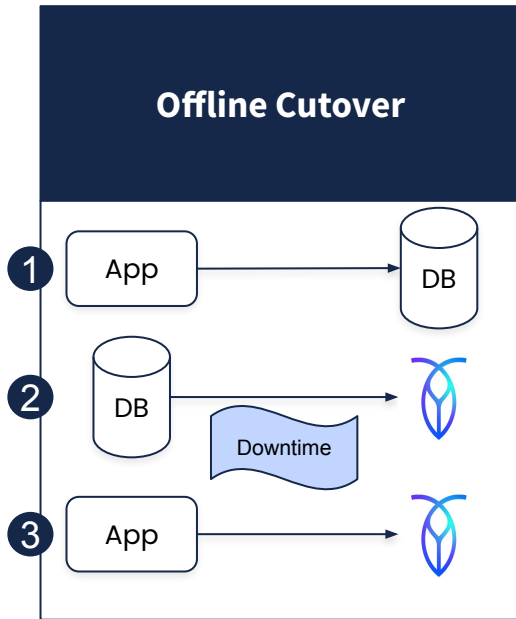
"Offline cutover" for simplest operations

1. Stop all traffic
2. Fetch data from source database
3. Load data into target database
4. Start traffic to target

Pros

+ Easy to communicate

+ Centrally controlled

+ Consistent data

+ Fits into maintenance windows

Cons

– Highest risk of issues

– Must fix forward

– Typically hours of downtime

"Immediate cutover" for availability

1. Load data source to target
2. Applications dual write
3. Fix up inconsistencies
4. Stop writing to source database
5. Fix up inconsistencies again

Pros:

+ Apps always get responses

+ Failback in seconds

+ Dry run to de-risk

Cons:

— Inconsistent data

— Manually fixup data issues

— Hard to detect problems

"Consistent cutover" for data integrity

1. Live replication source to target
2. Stop traffic to source
3. Wait for transactions and replication to complete
4. Start traffic to target

Pros:

+ Consistent data

+ Failback is possible
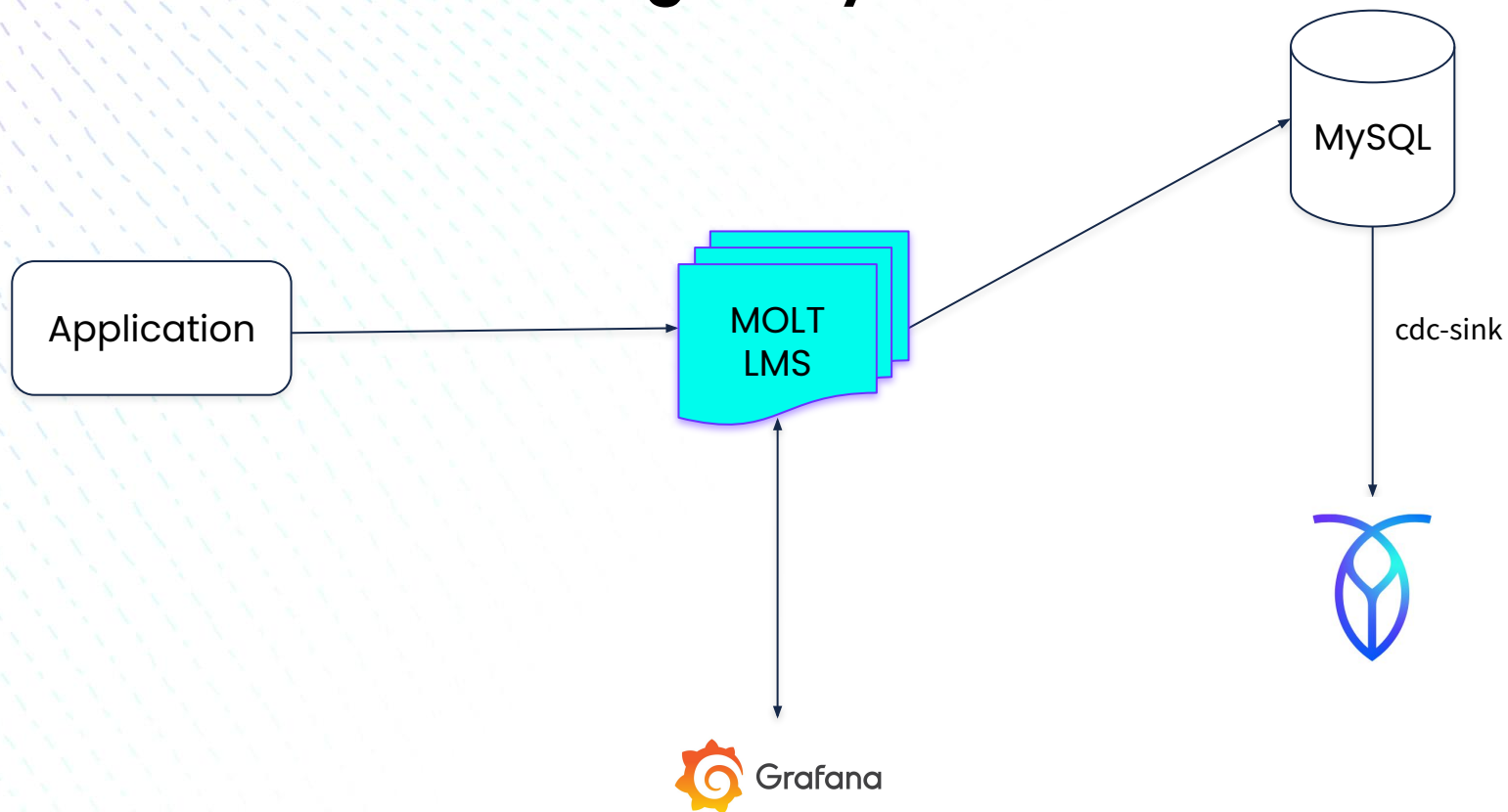
+ Dry run to de-risk

Cons:

— Operationally complex

— Tooling overhead

— Delayed responses

Demo:
consistent cutover

Demo scenario - writing to MySQL

Try out MOLT Live Migration Service

Thank you!