

# Introducing YugabyteDB Voyager

Accelerate cloud adoption with simple migration.

**YFTT**  
YUGABYTEDB  
FRIDAY  
TECH TALKS

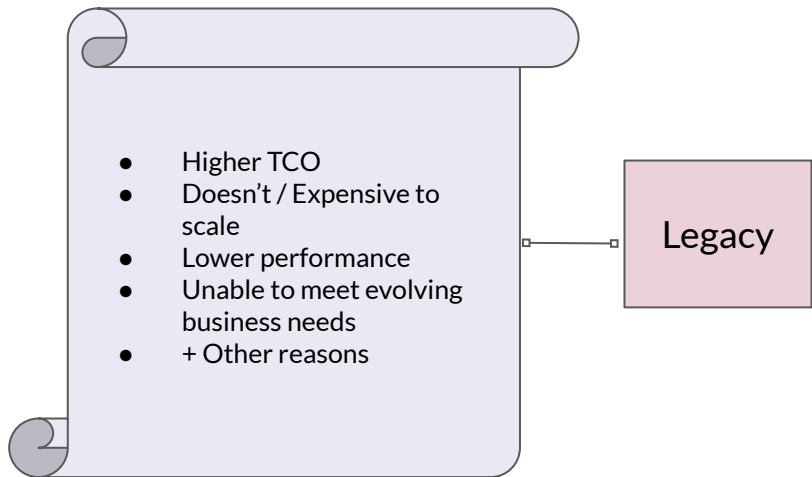


# YB Voyager

## Motivation

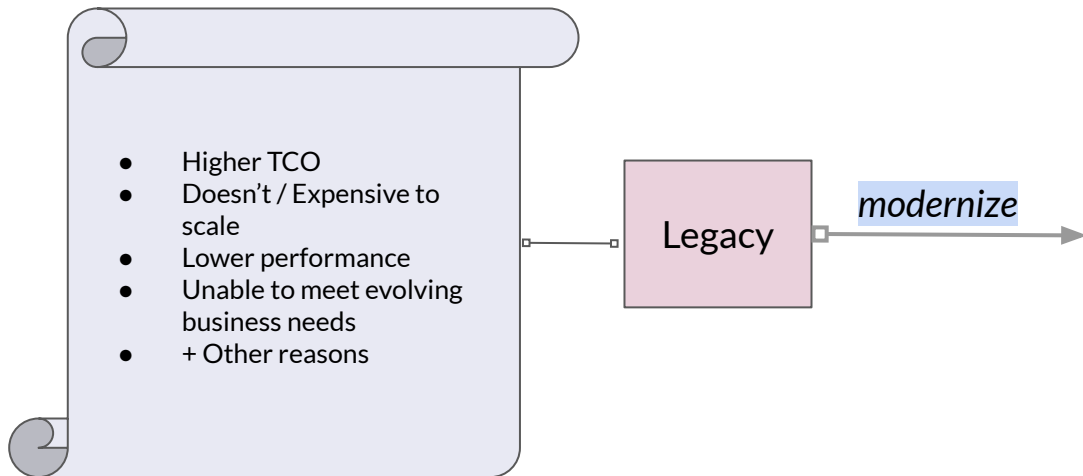
# Motivation: Modernize

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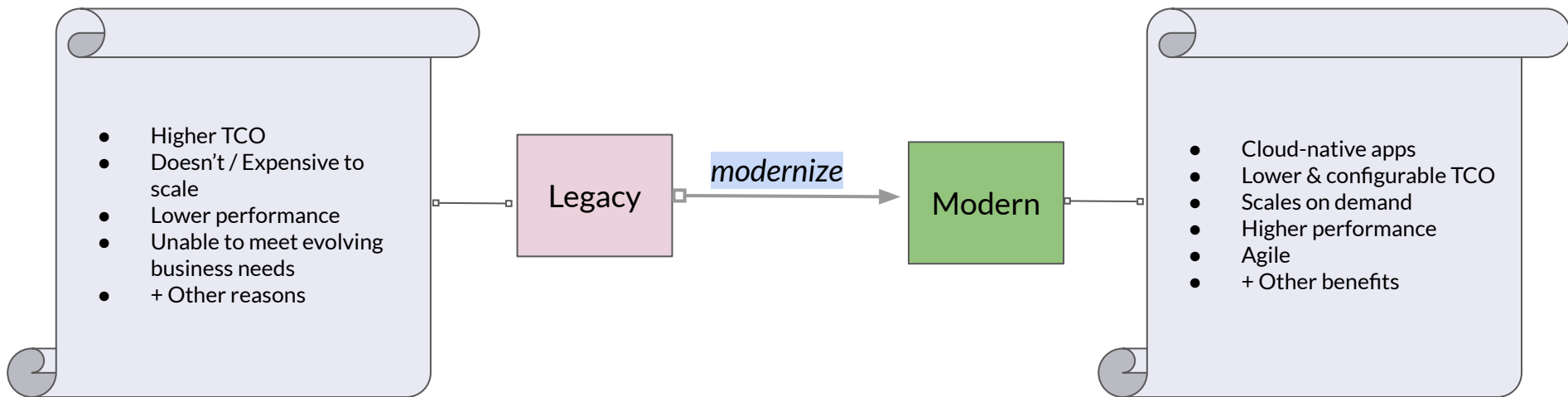


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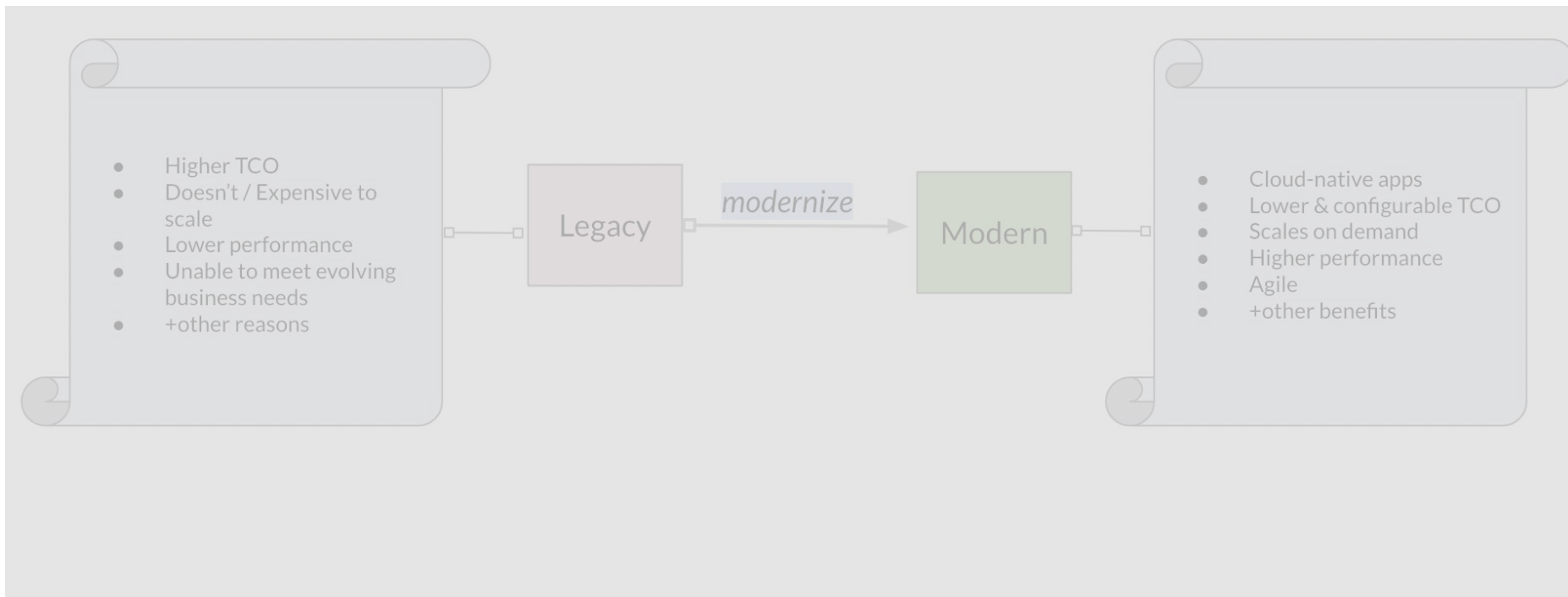
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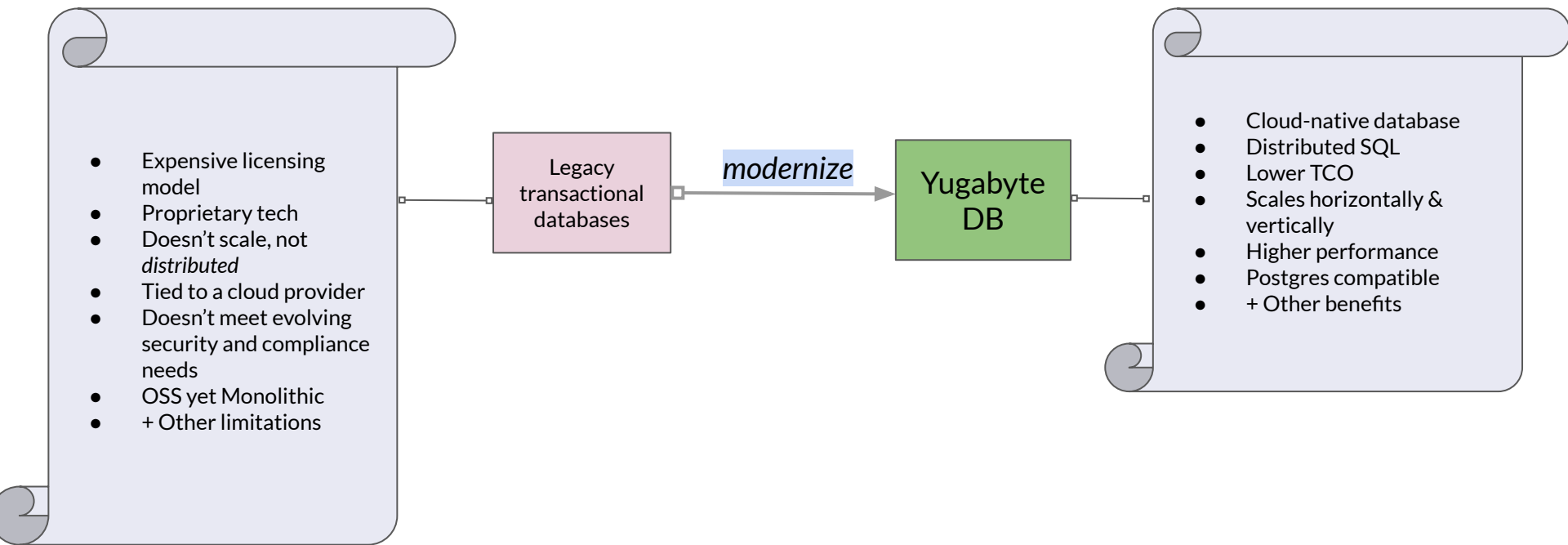
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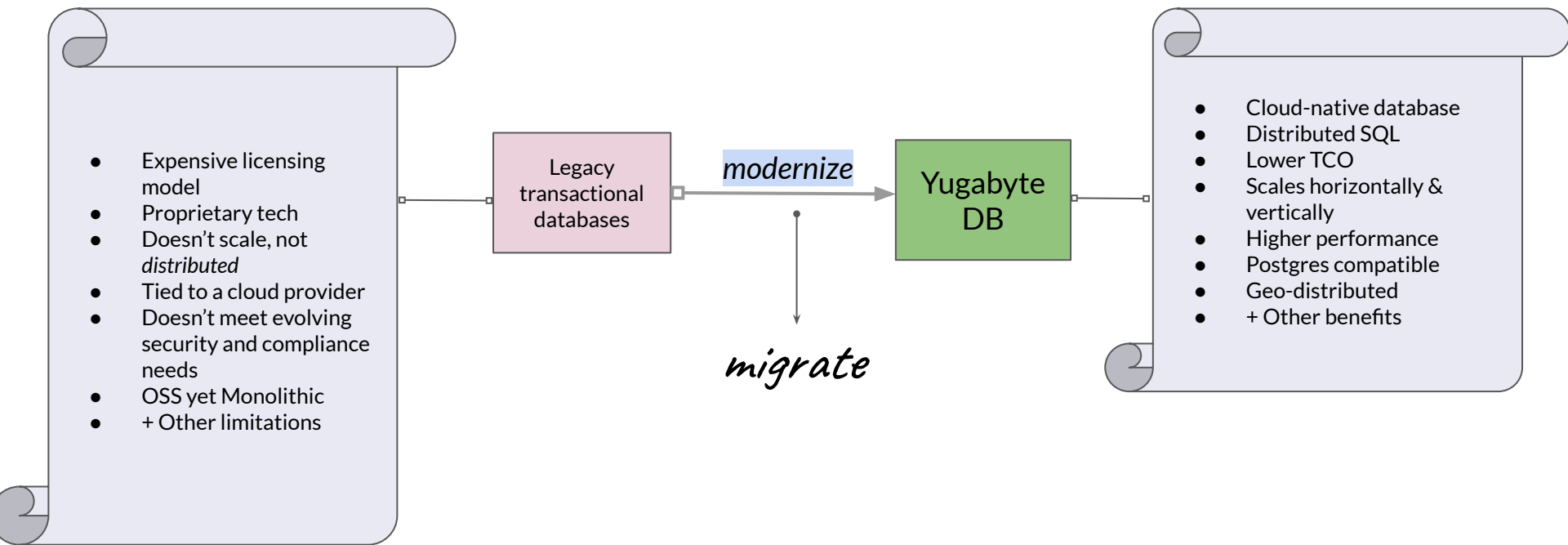
# Motivation: Modernize your *data*



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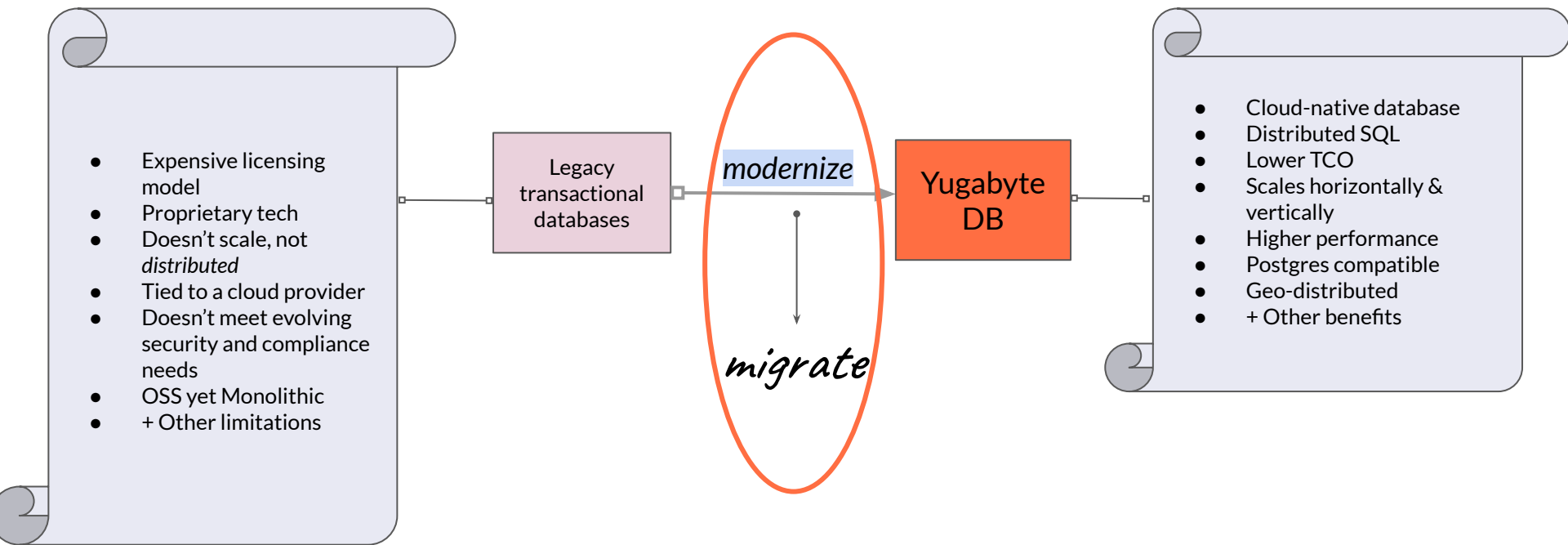


# Motivation: Modernize your *data*





## Motivation: *Migrate to a CN database to modernize your data*

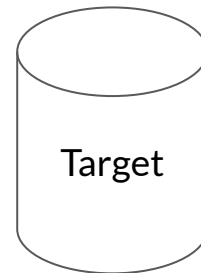
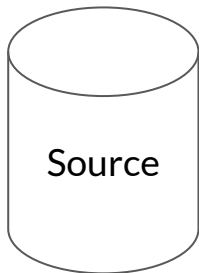


# Data Migration

## Challenges

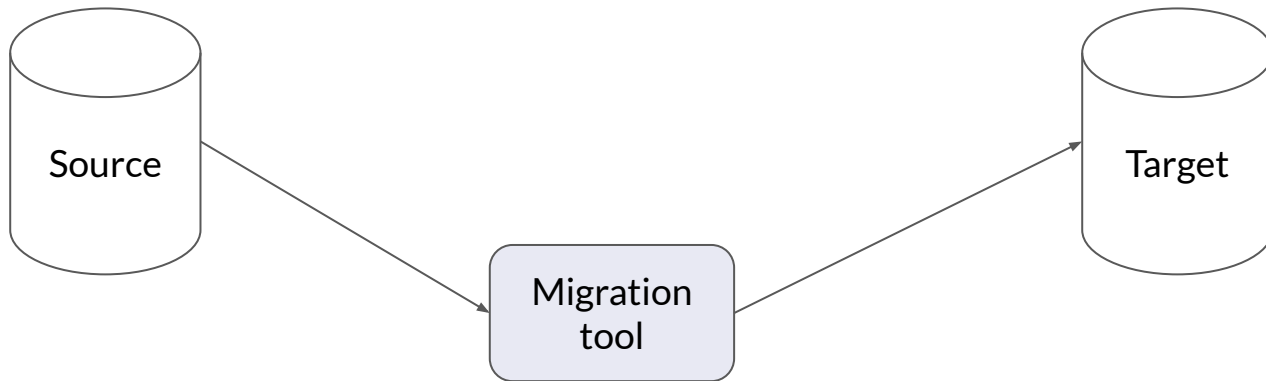
# Typical *Migration* process

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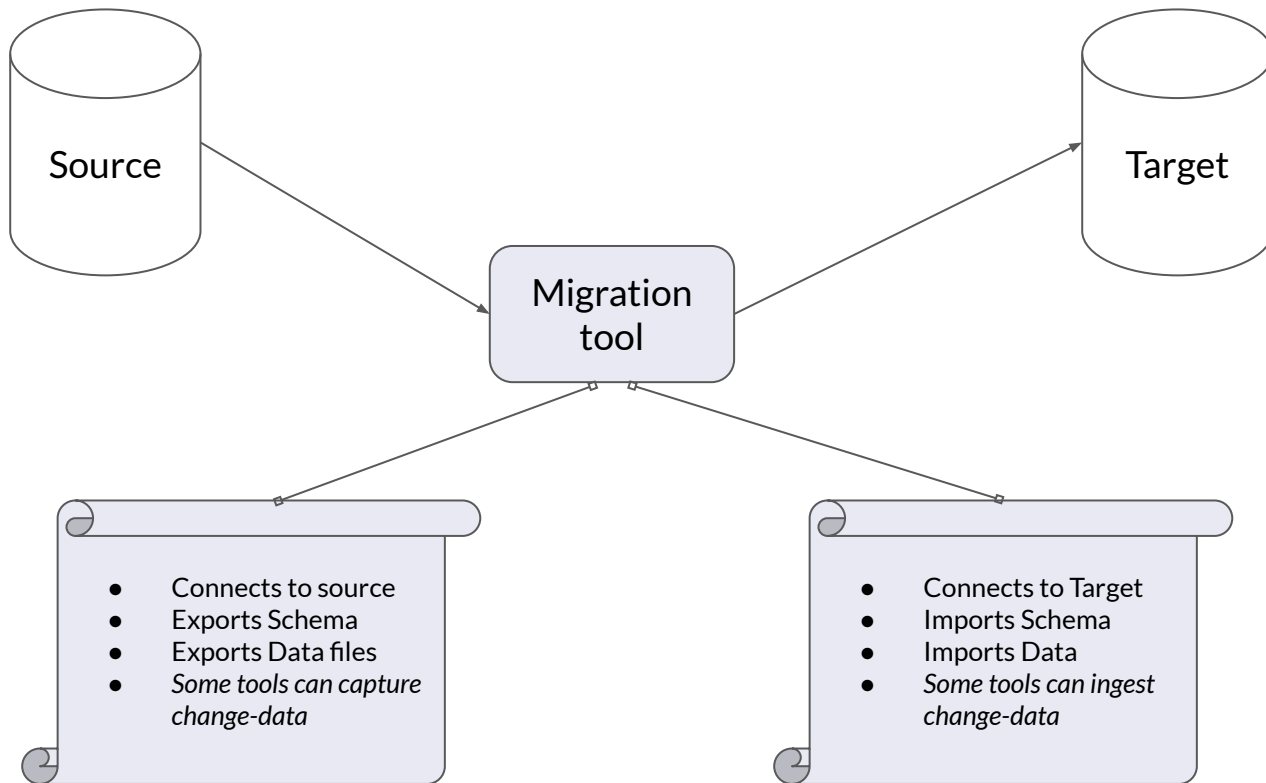


# Typical Migration process

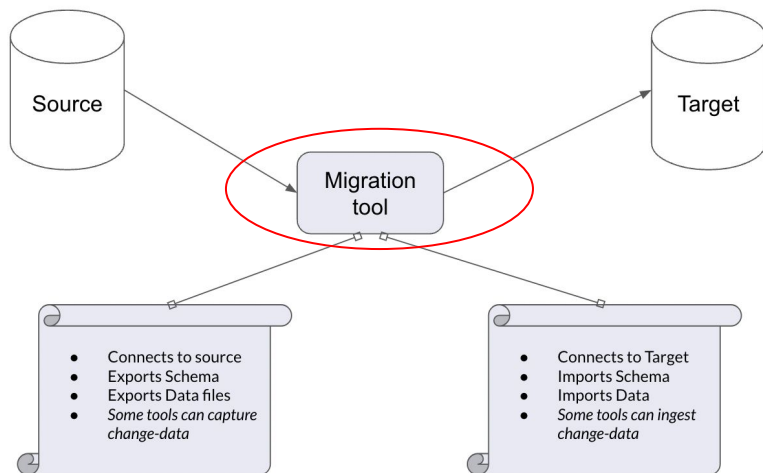
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# Typical Migration process



# Typical Migration tools - *Atypical* for Distributed SQL



Works just fine when the Target is also a monolithic/single-node database.

Unaware of the strengths of a distributed database and doesn't scale.

Some tools depend on computational clusters to prep data sets to be ingested into a distributed database.

# YB Voyager

## Requirements: When Migrating to Distributed SQL

# YB Voyager: Goals & requirements

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OFFLINE  
Migration

ONLINE  
Migration



# YB Voyager: Goals & requirements

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OFFLINE Migration	<ul style="list-style-type: none"><li>❑ Export source database schema/objects</li><li>❑ Generate a report for users to verify</li><li>❑ Create schema objects on YB</li><li>❑ Bulk load data</li><li>❑ Do validation and generate a final report</li></ul>
ONLINE Migration	<ul style="list-style-type: none"><li>❑ All from above (OFFLINE mode)</li><li>❑ Stream change-data to YB</li></ul>
FAILBACK	<ul style="list-style-type: none"><li>❑ Replicate changes from YB to original source DB</li><li>❑ Mitigates risk of migrating to cloud</li></ul>

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- User friendly CLI
- Chunk the source files
- Parallel data ingestion based on Target YB cluster config
- Migrate data to YB from flat files & popular databases like Oracle, MySQL etc
- Same UX/steps for all supported source systems
- Safe defaults (with override):
  - ◆ #of connections based on target DB config
  - ◆ Ingest batch size
  - ◆ Disable transaction mode
  - ◆ Upsert mode
- Idempotent & should restart/resume from failed step

# YB Voyager: OFFLINE Migration process flow

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1

Prepare
Install Voyager
Prepare source DB
Prepare target DB

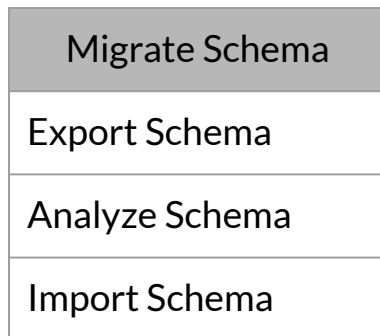
Voyager is installed on a VM with sufficient disk space

Verify connectivity and right level of access to source DB

Verify connectivity and right level of access to target Yugabyte DB

# YB Voyager: OFFLINE Migration process flow

2



Use CLI commands to export schema and objects. Tables, Views, SPs, Functions, Triggers, Indexes, Sequence are all (DDLs) exported. SPs/Functions are translated to Postgres compatible syntax.

Optional step for the User to manually inspect, verify and make tweaks to the DDLs if necessary.

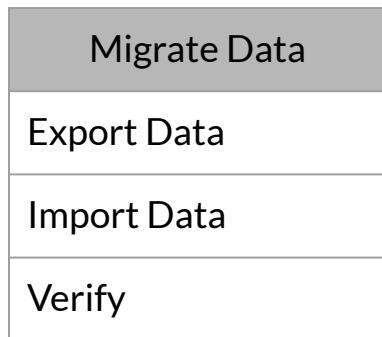
In this step, the appropriate objects are created on the target YB database.

**Safe defaults:** Indexes are deferred & created only after data load, foreign key check are disabled, triggers are created but disabled.

\*Safe defaults can be overridden

# YB Voyager: OFFLINE Migration process flow

3



A flat file per source table is generated.

**Safe defaults:** These files are broken to chunks of 100K rows per file, named appropriately & stored in a specific folder structure.

**Safe defaults:** 1 connection per data node, transaction mode is OFF, upsert is enabled, FK check disabled etc.

Each file is bulk loaded, tracks progress within and across all the connections & data loading jobs. If any failures, processed files are ignored and resumes from the point of failure.

Verify completion of migration.

\*Safe defaults can be overridden



# Thank You

YB Voyager Docs/Getting Started:

<https://docs.yugabyte.com/preview/migrate/yb-voyager/>

Join us on Slack: [yugabyte.com/slack](https://yugabyte.com/slack) (#yftt channel)

Star us on Github: [github.com/yugabyte/yugabyte-db](https://github.com/yugabyte/yugabyte-db)

