

The End of History?

Convergence of batch and realtime data technologies

Matt Housley — Data Council Austin 2023

Who am I?

Matt Housley

Co-founder of Ternary Data

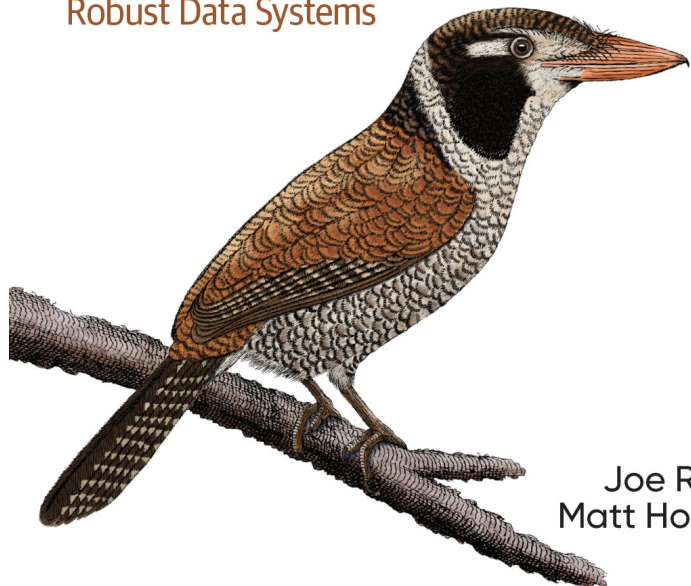
PhD in mathematics



O'REILLY®

Fundamentals of Data Engineering

Plan and Build
Robust Data Systems



Joe Reis &
Matt Housley

DATA
TERNARY

The CAP Theorem

In designing a database, we can choose two of the three:

- Consistency
- Availability
- Partition tolerance

Corollary to the CAP theorem

In designing a database, we can choose one of the following

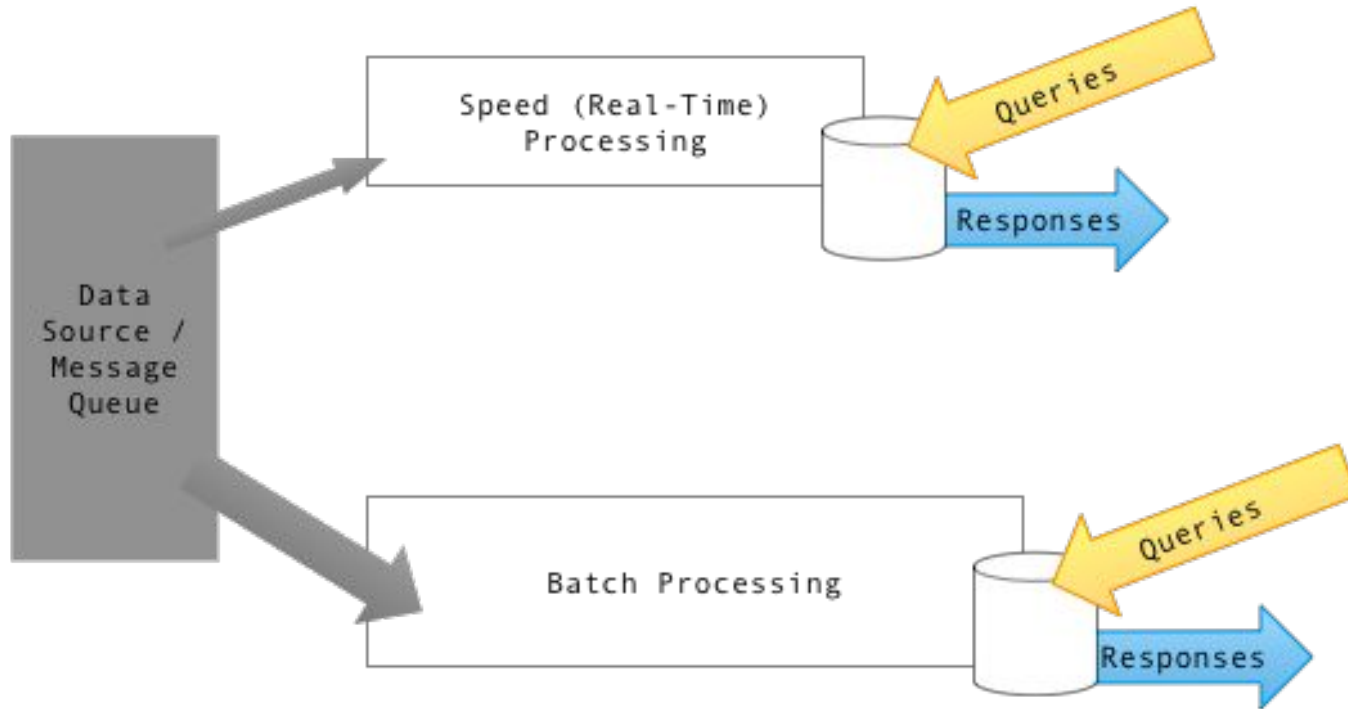
- ACID with high rate asynchronous updates
- Fast analytics scans across large volumes of data

How To Beat the CAP Theorem

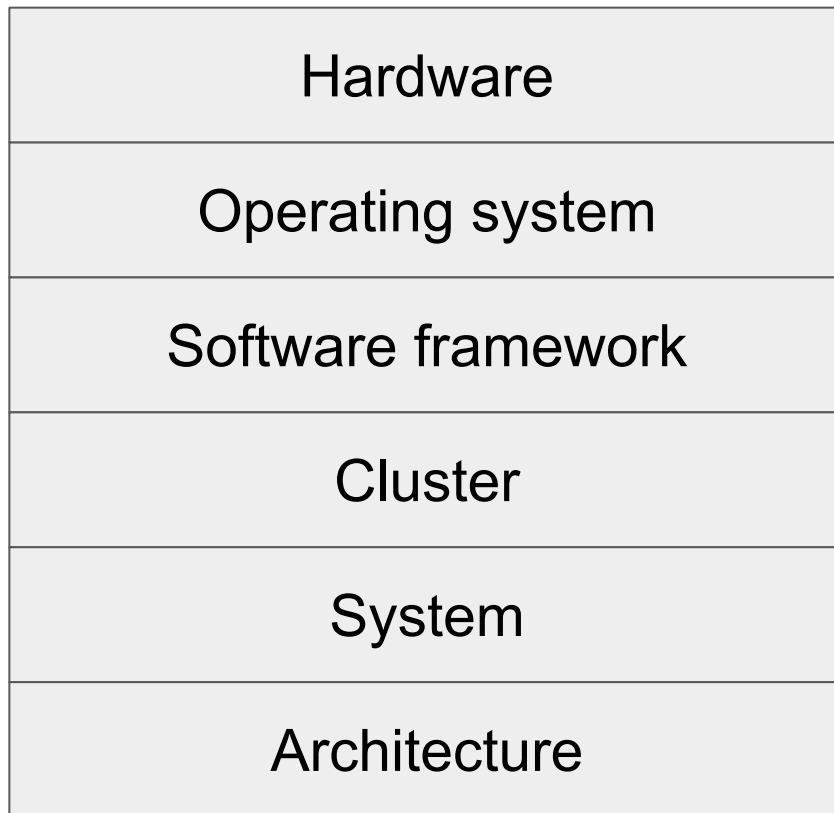
This post is going to challenge your basic assumptions on how data systems should be built.

— Nathan Marz in *How to beat the CAP theorem*

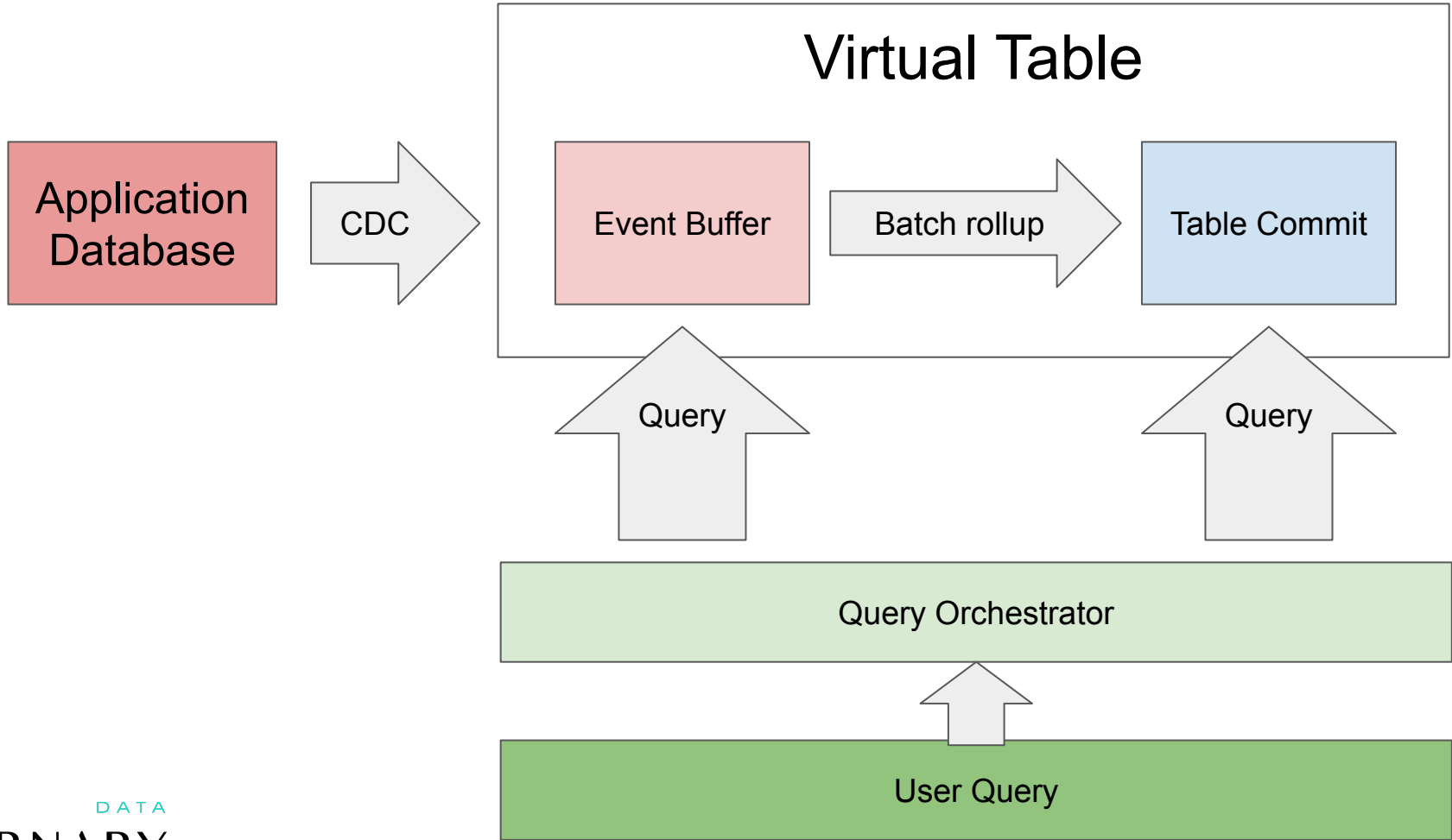
The Lambda Architecture



Abstraction Levels



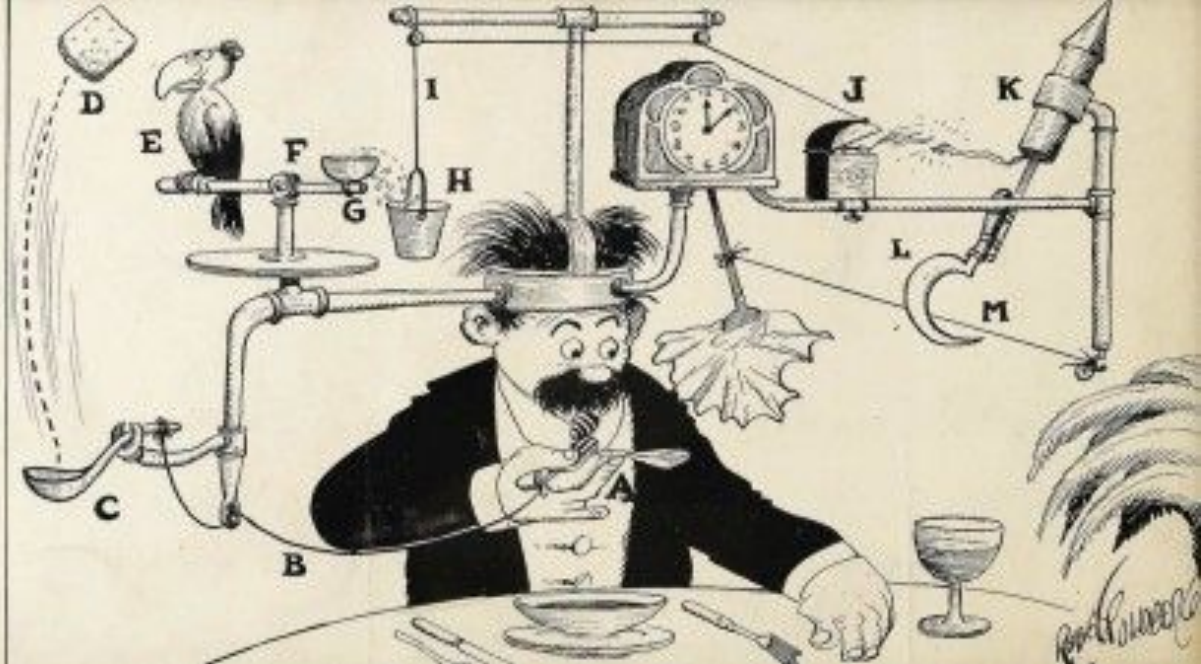
The Cost of Complexity



PROFESSOR BUTTS WALKS IN HIS SLEEP, STROLLS THROUGH A CACTUS FIELD IN HIS BARE FEET, AND SCREAMS OUT AN IDEA FOR A SELF-OPERATING NAPKIN.

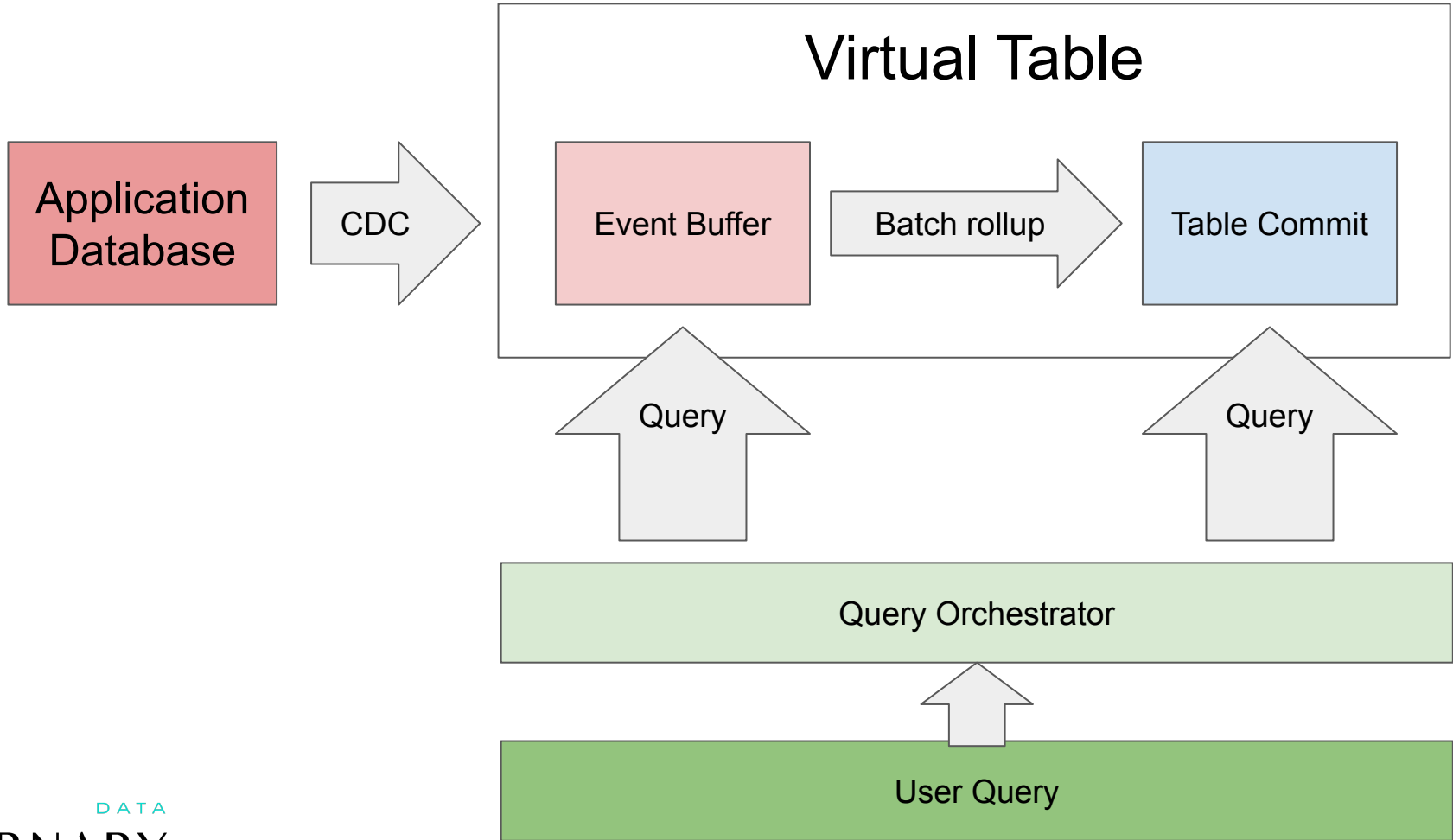
AS YOU RAISE SPOON OF SOUP (A) TO YOUR MOUTH IT PULLS STRING (B), THEREBY JERKING LADLE (C) WHICH THROWS CRACKER (D) PAST PARROT (E). PARROT JUMPS AFTER CRACKER AND PERCH (F) TILTS, UPSETTING SEEDS (G) INTO PAIL (H). EXTRA WEIGHT IN PAIL PULLS CORD (I) WHICH OPENS AND LIGHTS AUTOMATIC CIGAR LIGHTER (J), SETTING OFF SKY-ROCKET (K) WHICH CAUSES SICKLE (L) TO CUT STRING (M) AND ALLOW PENDULUM WITH ATTACHED NAPKIN TO SWING BACK AND FORTH THEREBY WIPING OFF YOUR CHIN.

AFTER THE MEAL, SUBSTITUTE A HARMONICA FOR THE NAPKIN AND YOU'LL BE ABLE TO ENTERTAIN THE GUESTS WITH A LITTLE MUSIC.

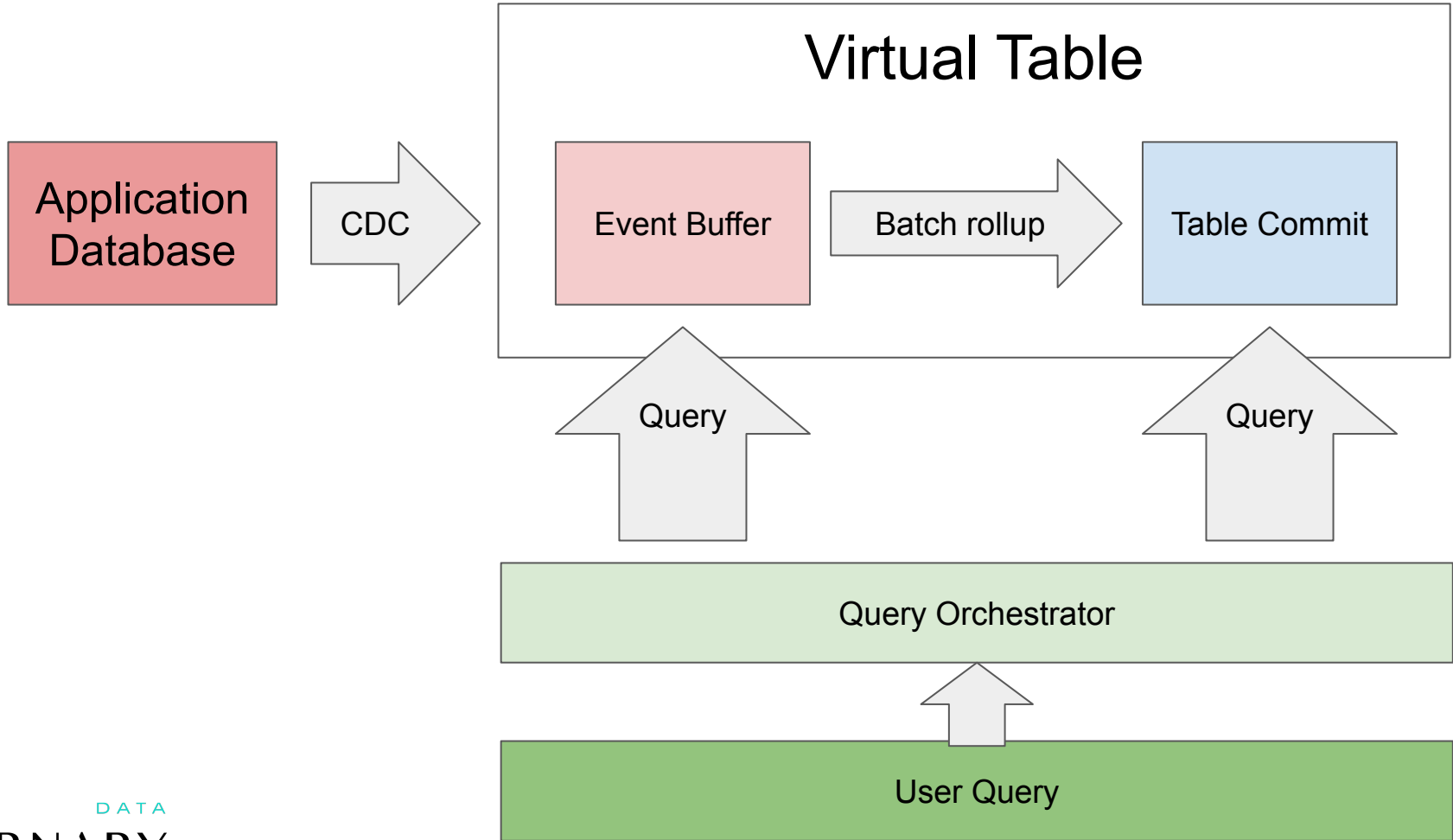


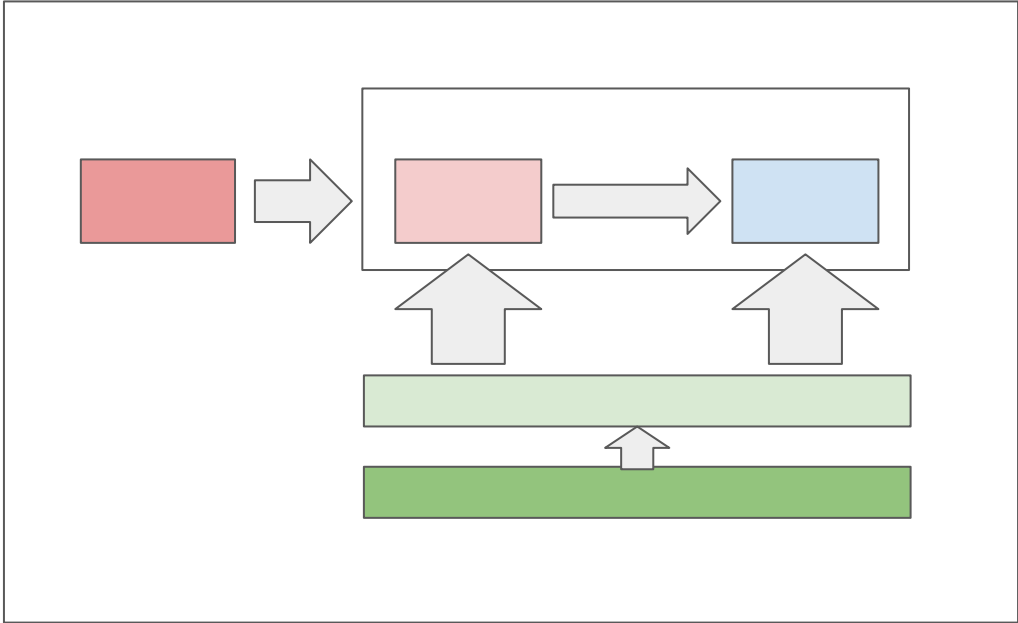
“Self-Operating Napkin”

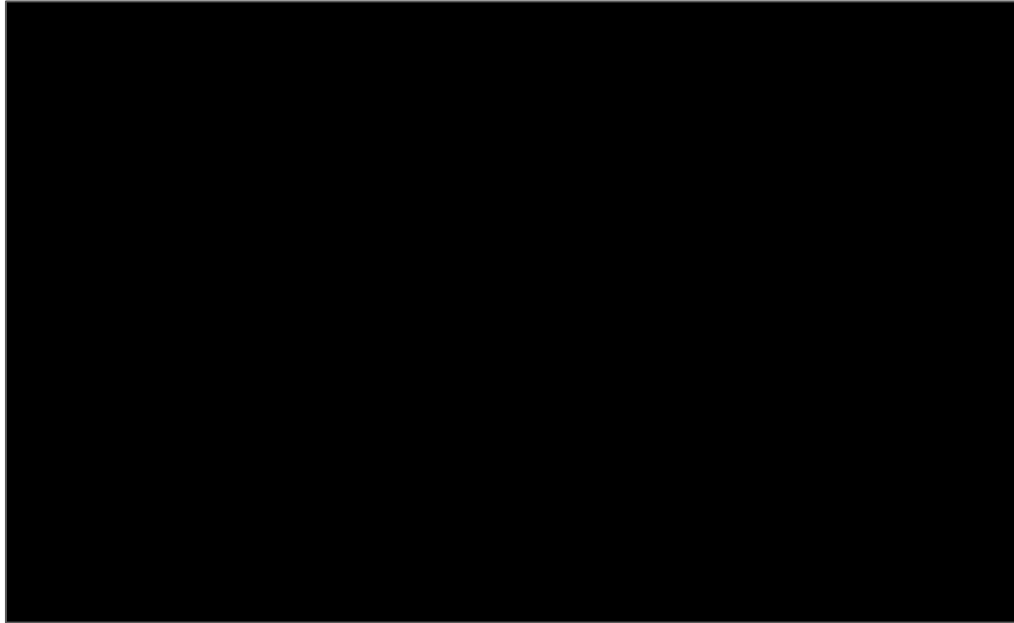
The Consolation of Managed Services



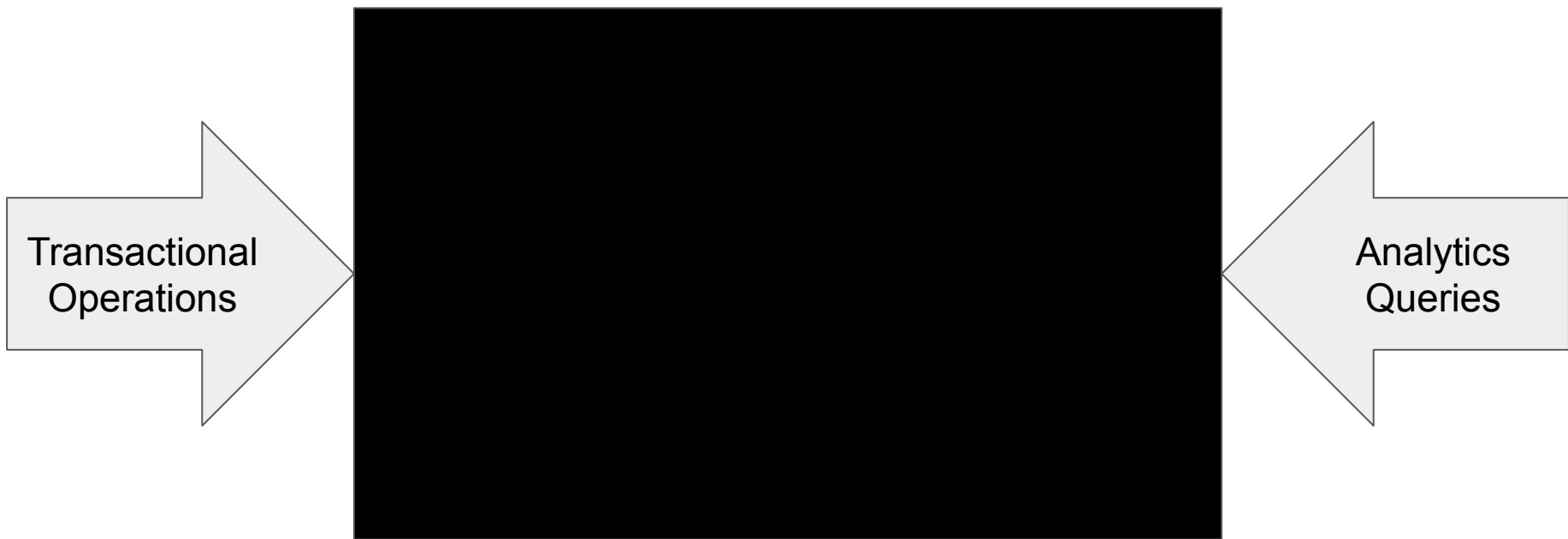
One Database to Rule Them All

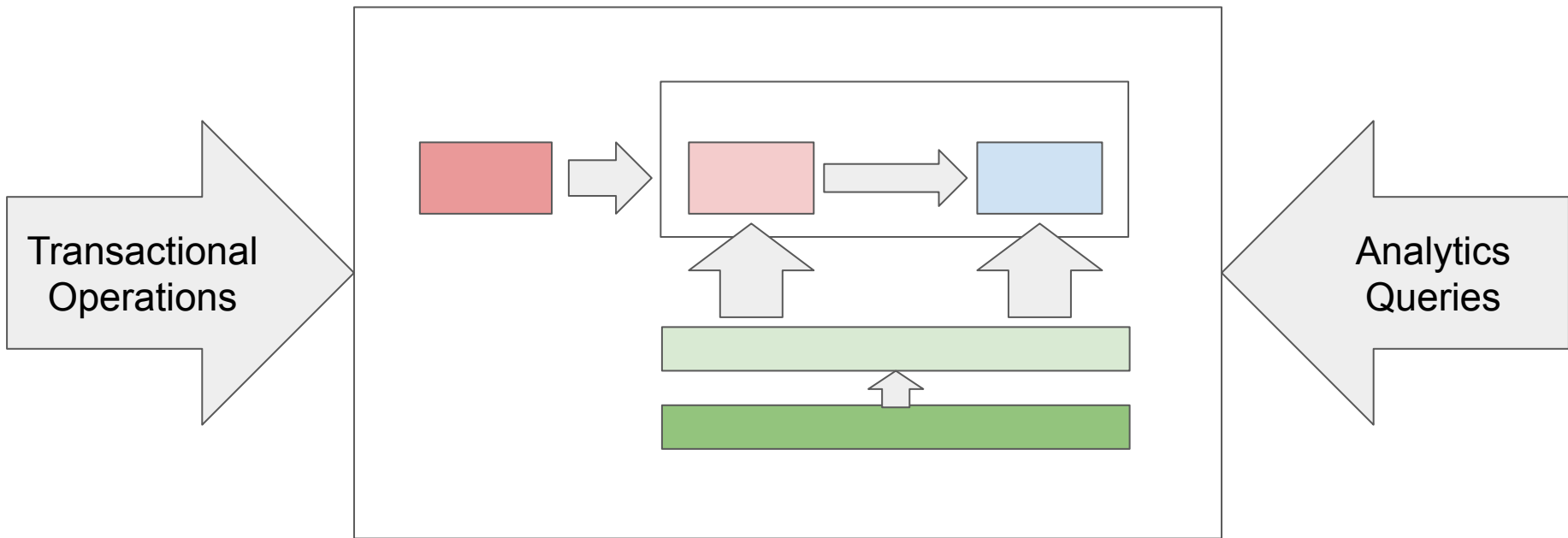






One Database, Two Interfaces





Augmenting the Modern Data Stack

The Live Data Stack

Accountability and Best Practices

Thanks!

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