

# DATABASES FOR AN ENGAGED WORLD: REQUIREMENTS AND DESIGN APPROACH

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# DATABASES

- Store, retrieve and manipulate data.
- Create spheres of control and protection for concurrent operations
- Make the application development easily
- SCALE UP and SCALE OUT

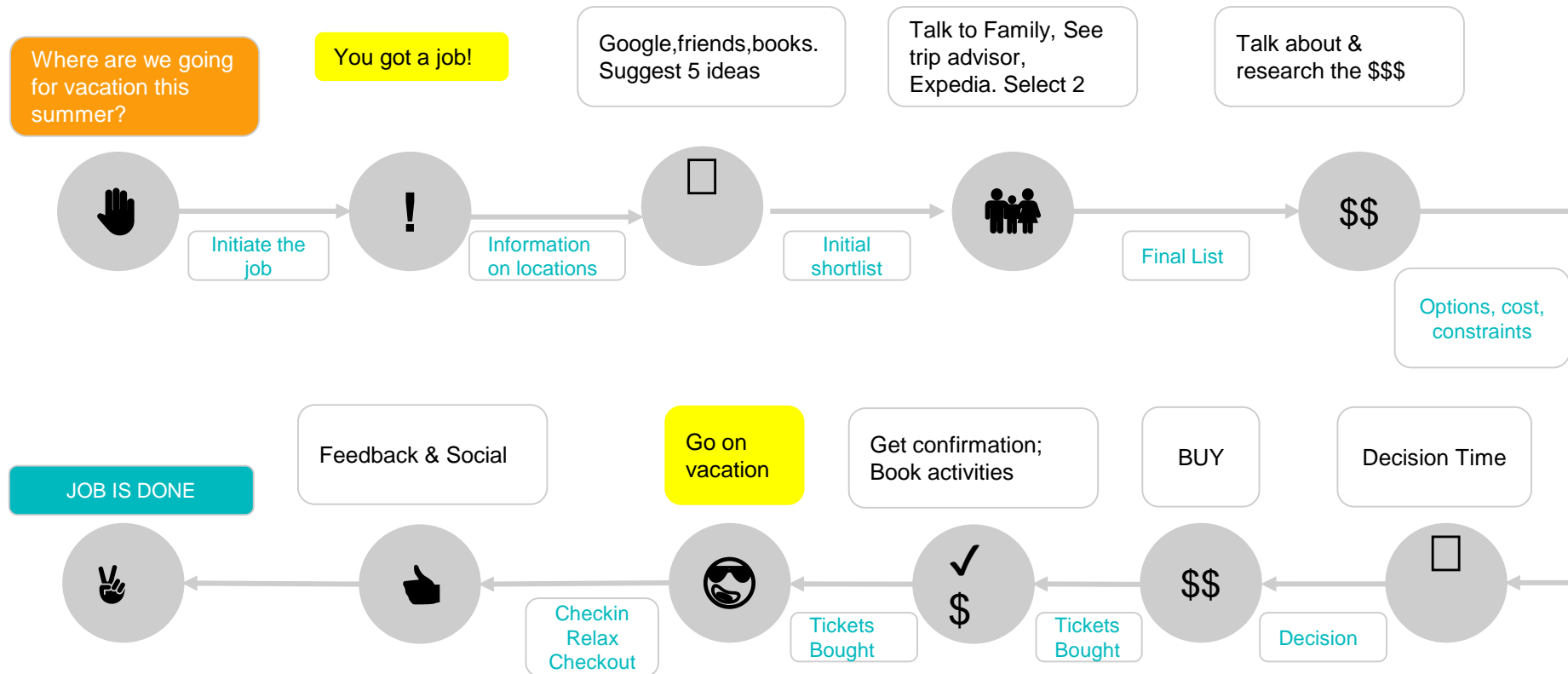
# APPROACH

- Data model
  - Relational or Document or Graph
- Data types
- Query (SQL\*)
- Storage engine
  - Index
  - Data
- Clustering
- Availability
- Scaling

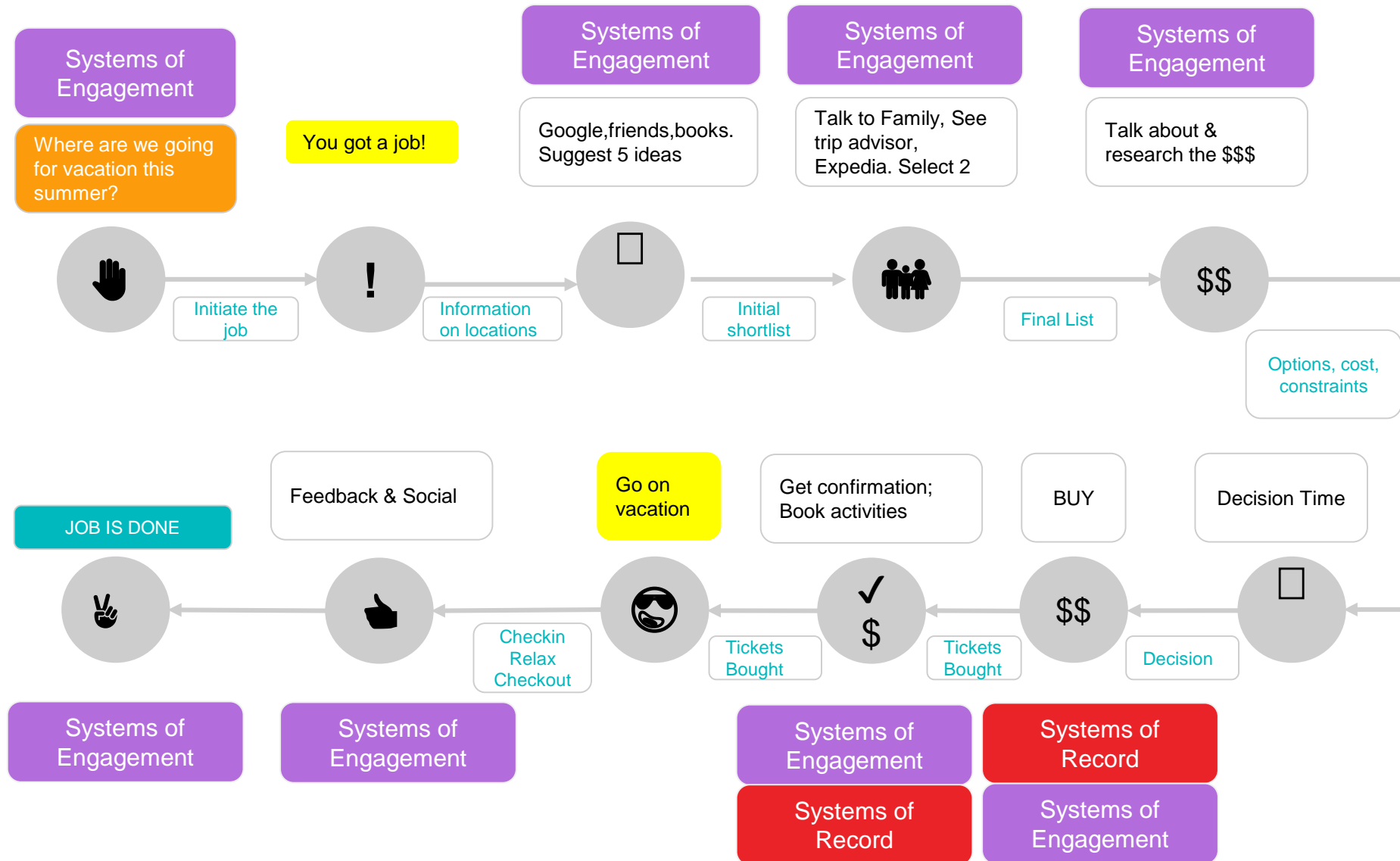
# ENGAGEMENT



# Summer Vacation Job



# Summer Vacation Job



# System of Record vs. System of Engagement



## Systems of Record

- ✓ Contract matters.
- ✓ Guarantees record of action
- ✓ Implement the decisions
- ✓ Reliability is paramount
- ✓ Relatively higher cost is accepted
- ✓ Lower throughput
  - ✓ Except on Black Friday
  - ✓ And TAX DAY

## Systems of Engagement

- ✓ Context Matters
- ✓ Speed is of the essence
- ✓ Lots of questions to help decide
- ✓ Large number of concurrent users
- ✓ High Throughput
- ✓ Low latency
- ✓ Info from multiple sources and services
- ✓ Low TCO

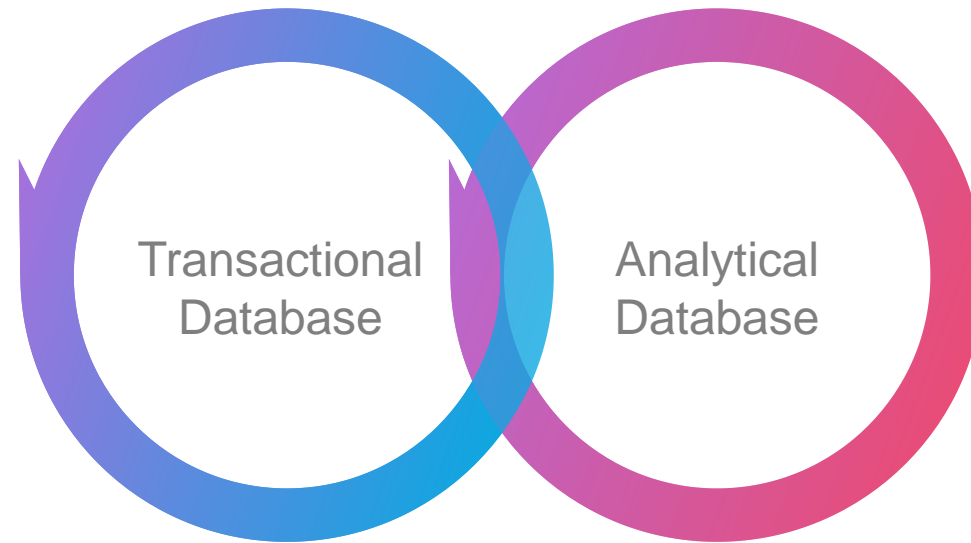


A system of engagement **helps customers** to get the **right information**, in their context, and to **make decisions** and **progress** on their journey to **get a job done**.



# Why today's digital transformation projects fail

## The traditional approach

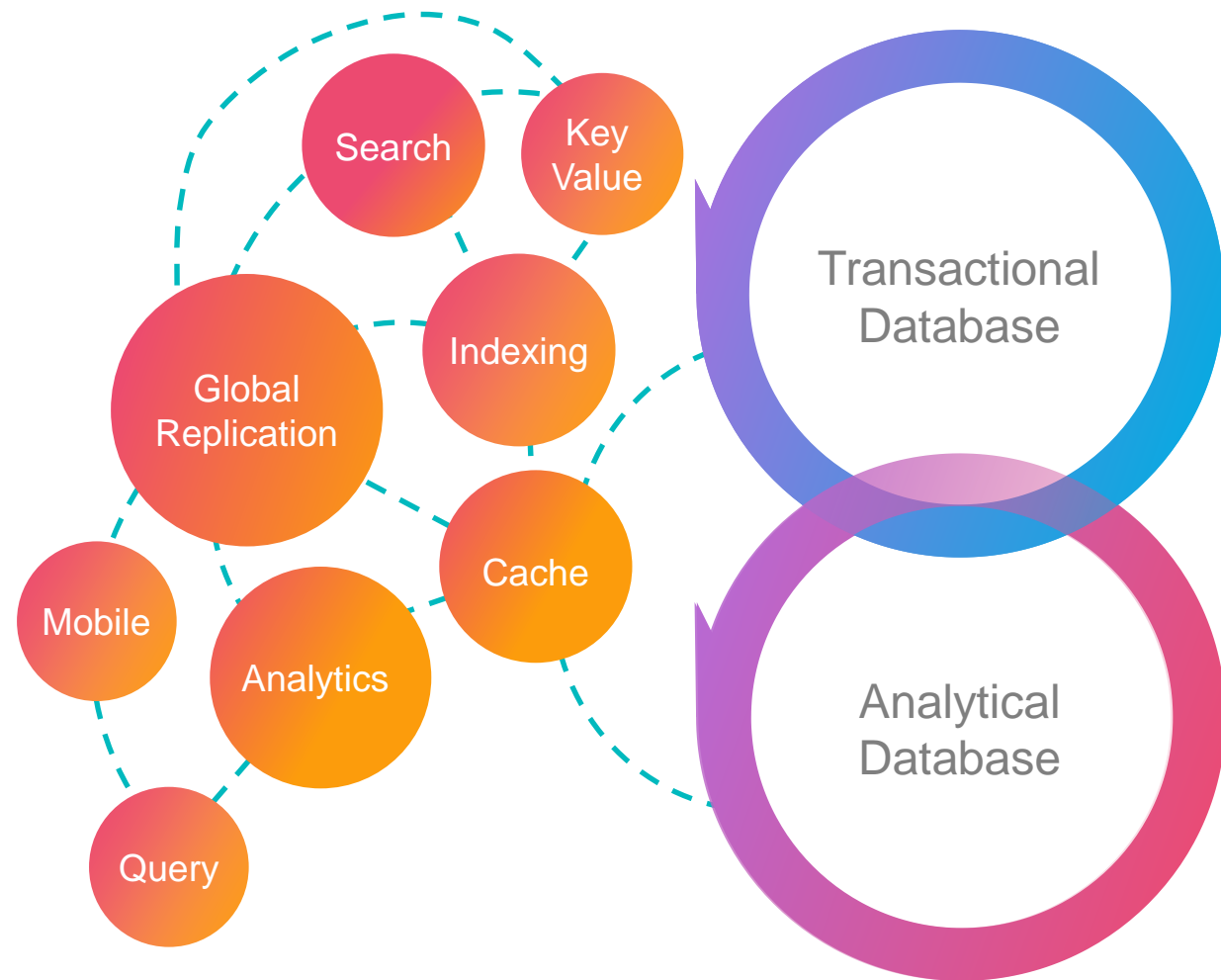






# Why today's digital transformation projects fail

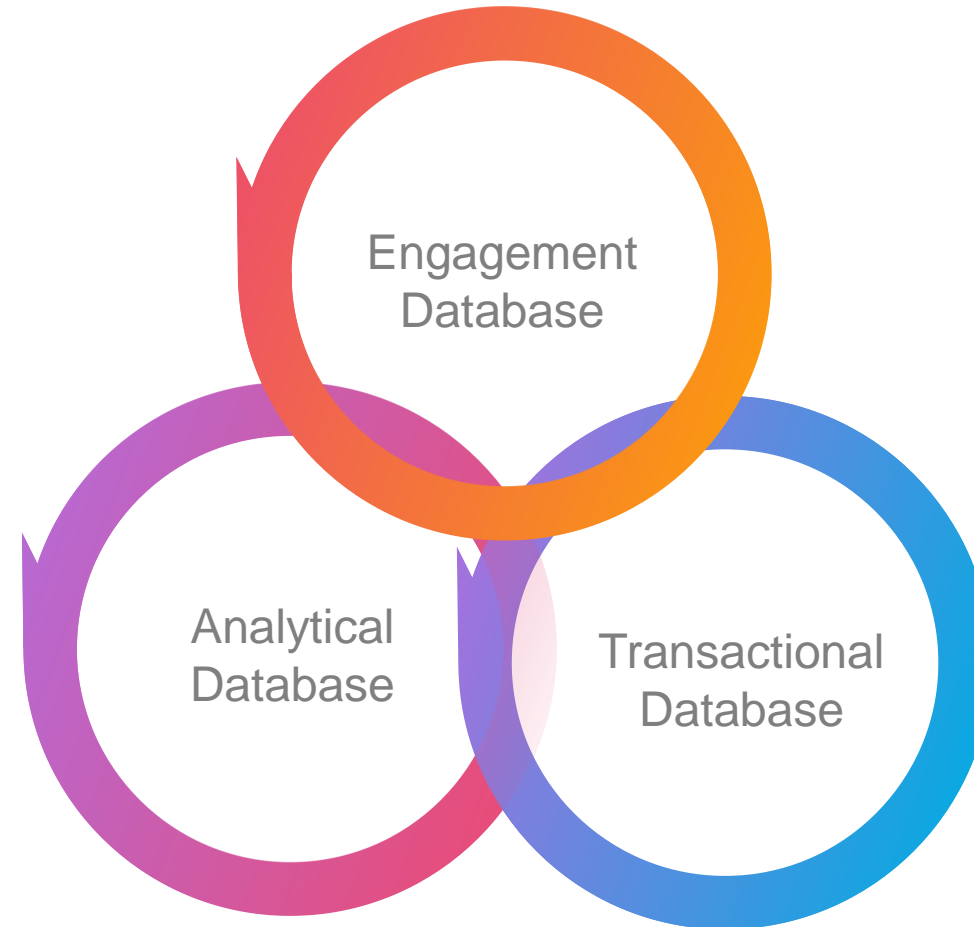
## Point solutions everywhere





Why today's  
digital  
transformation  
projects succeed

## Welcome to the Engagement Database





# ATTRIBUTES OF AN ENGAGEMENT DATABASE



Hello cloud,  
hello world



Built for change -  
at scale



Seamlessly  
mobile



Always on,  
always fast



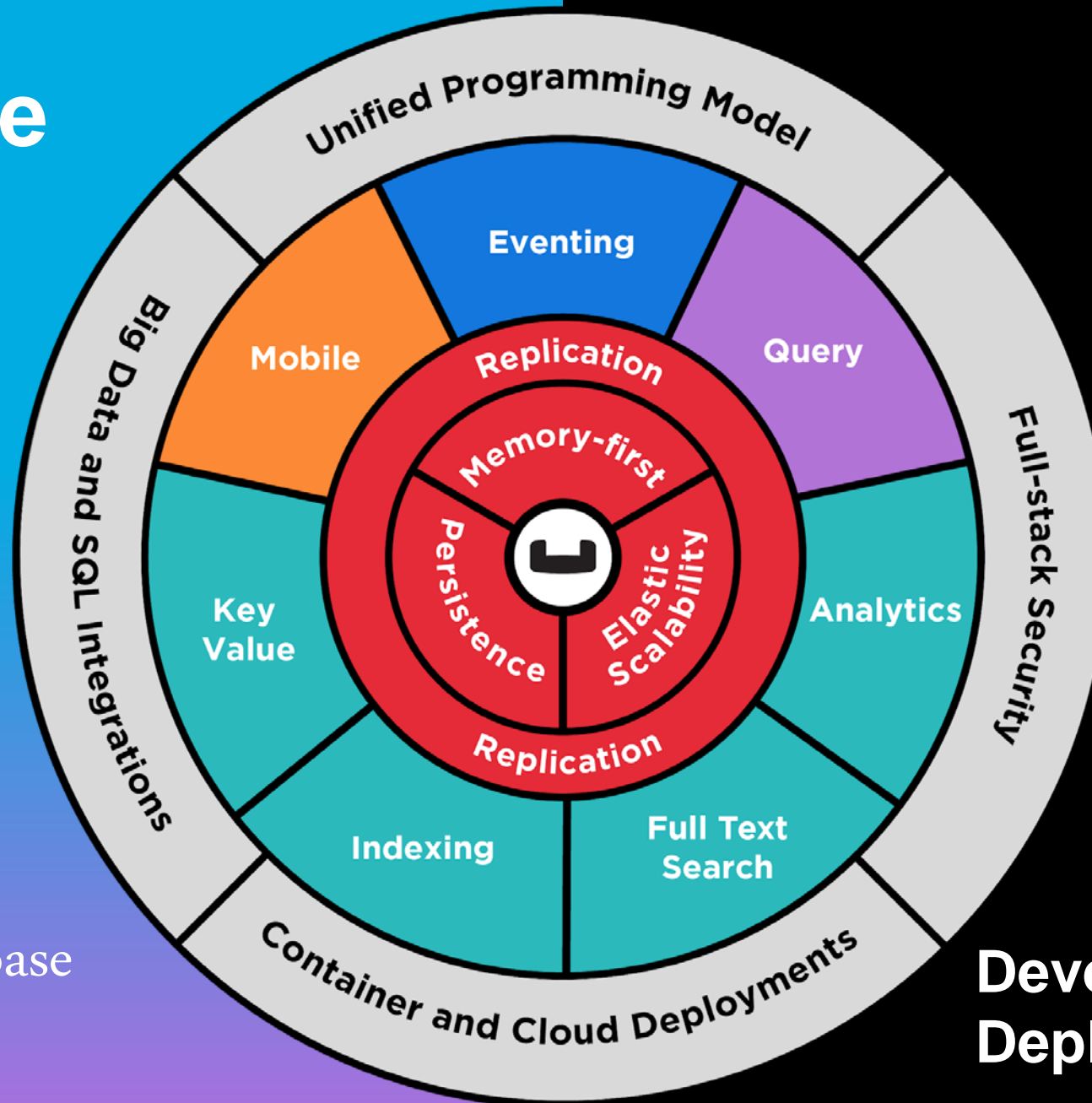
Built-in  
smarts



Secure, secure,  
secure

# Couchbase Data Platform

World's First  
Engagement Database



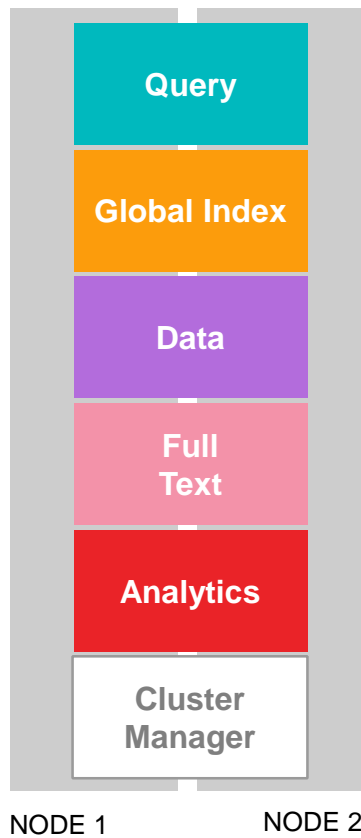
**Develop with Agility.  
Deploy at any scale.**



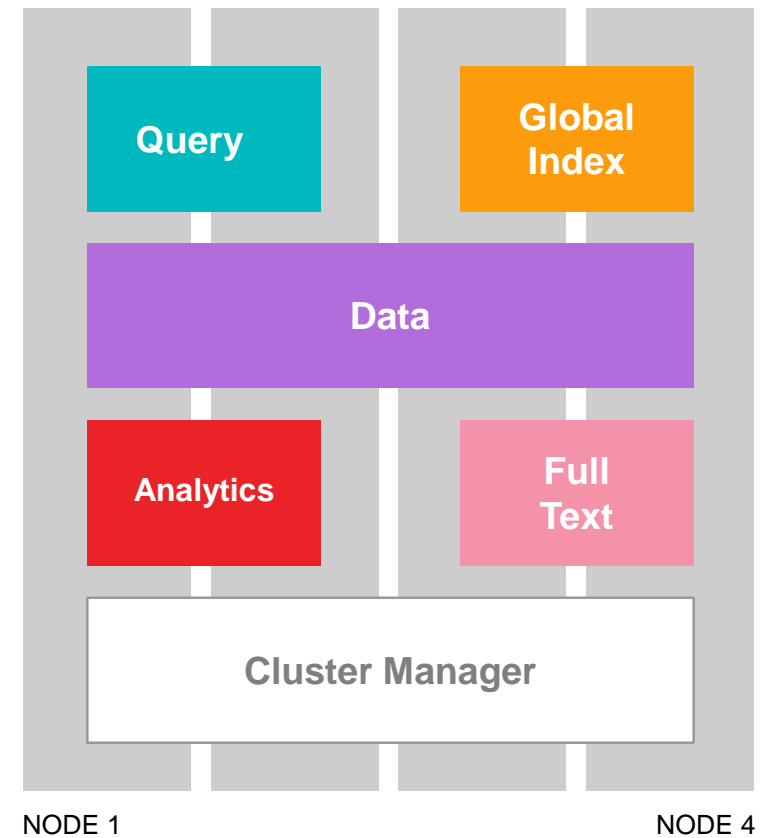
# Built for Change at Scale



Sample Dev Setup



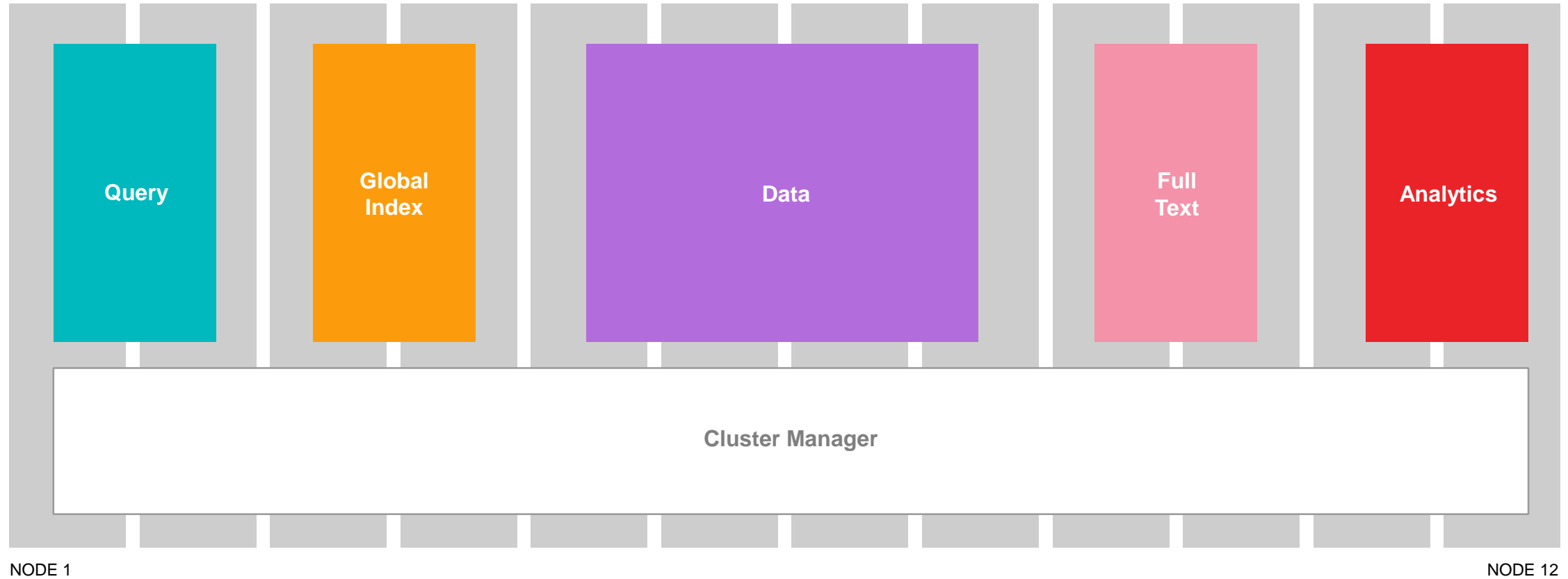
Sample QA Setup



# Built for Change at Scale



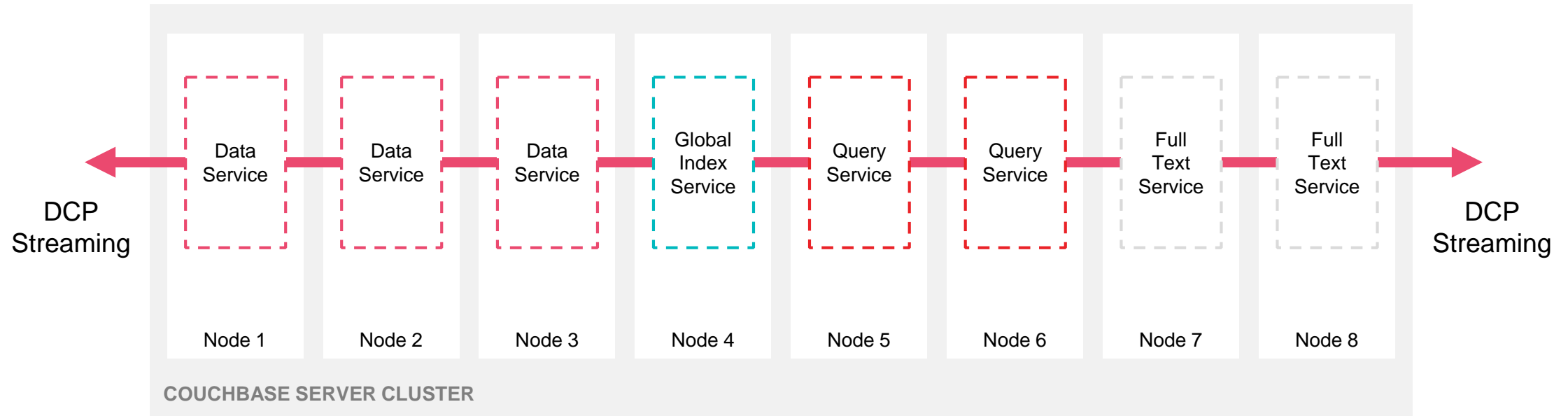
## Sample Production Deployment



# Always On, Always Fast



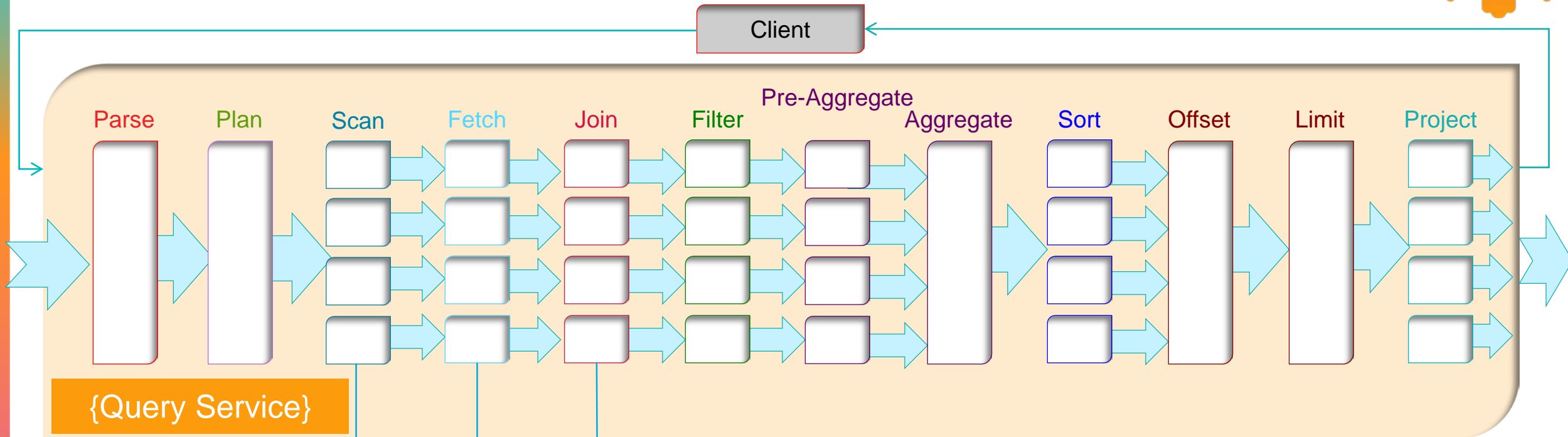
Data movement free from disk bottlenecks



- In-memory streaming of updates to all components
- In-memory cache
- Memory-only data buckets
- Memory-only indexes

- Intra-cluster Replication
- Inter-cluster Replication
- Global secondary Indexing updates
- Full-Text Search update
- Analytics service updates

# Built-in Smarts: N1QL = SQL + JSON

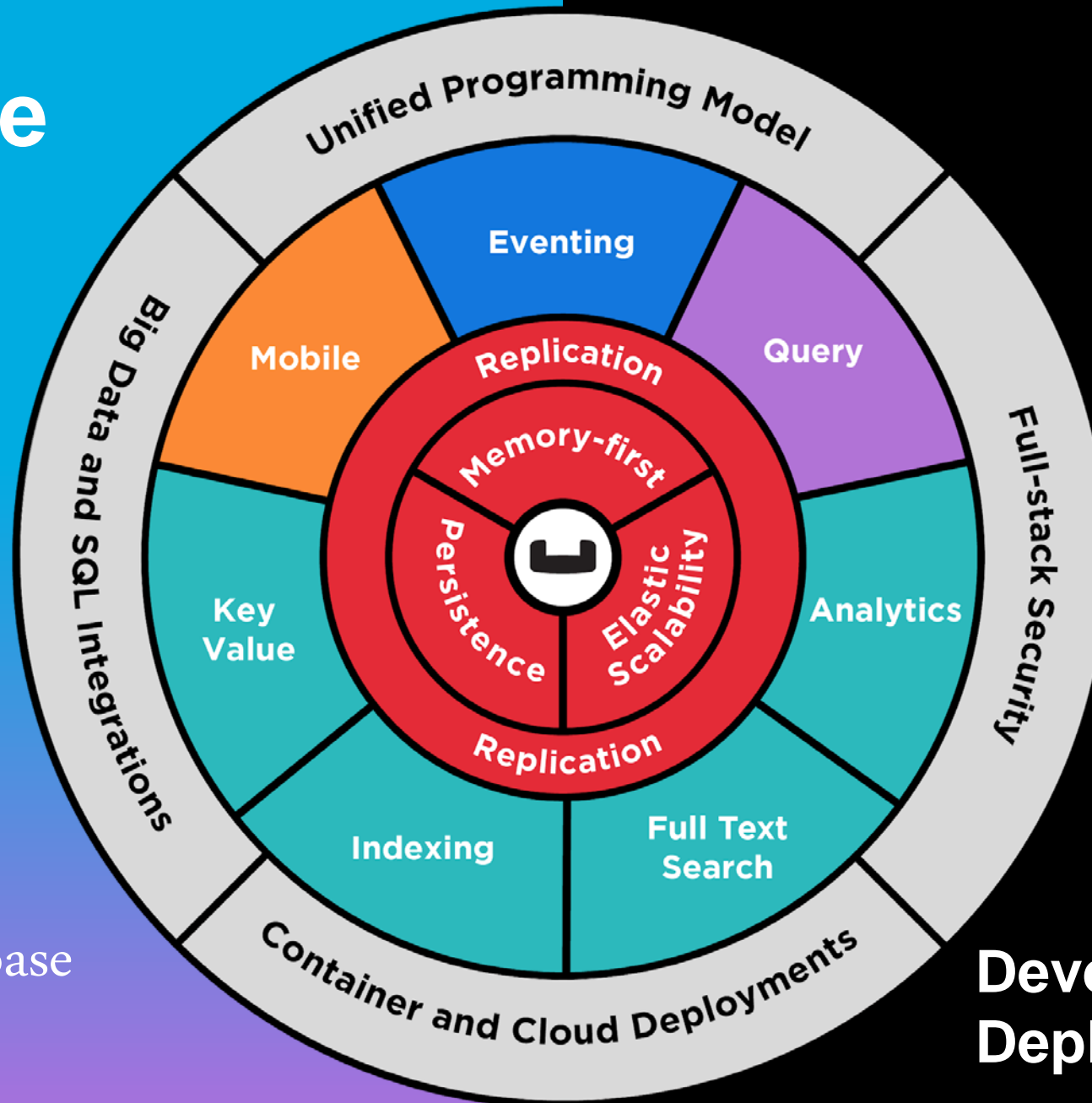


```
SELECT DISTINCT route.destinationairport
FROM `travel-sample` airport
  INNER JOIN `travel-sample` route
    ON (airport.faa = route.sourceairport
        AND route.type = "route" )
WHERE airport.type = "airport"
      AND airport.city = "san francisco"
      AND airport.country = "united states";
```



# Couchbase Data Platform

World's First  
Engagement Database



**Develop with Agility.  
Deploy at any scale.**





[COUCHBASE.COM](https://couchbase.com)