

WEBINAR

# Real-Time Fraud Detection for an Improved Customer Experience

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# Today's Agenda



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- New Data Initiatives for Banks
- Fraud Detection Challenges and Opportunities
- Real-Time Fraud Case Study
- MemSQL Overview
- Q&A

Submit questions in the Question Box

# Digital Remains a Priority for Banks

**Digital Transformation 34%**

Revenue/Business Growth 18%

Operational excellence 10%

Customer experience 10%

Cost optimization/reduction 9%

Data and analytics 8%

**Gartner** 2019 CIO Agenda: Banking and Investment Services Industry Insights

# Digital Remains a Priority for Banks

*“... the digital transformation of banks creates new sources of **revenue**, supports new enterprise **operating models** and delivers **digital products and services**”*

**Gartner** 2019 CIO Agenda: Banking and Investment Services Industry Insights

# New Data Initiatives for Banking Applications

## Eliminate Event to Insight Latency

- Continuous data driven actions
- Adaptable insights
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- Customer experience analytics
- Rise in queries with SLAs
- Tiered storage architecture + scale-out

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## Innovate with Existing Operations

- Compatibility with existing tools
- Leverage existing skills, ie. SQL
- Cloud native for flexibility

# Fraud Prevention is Critical and Growing

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Growth in fraud detection and prevention technology market

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**126%** 2017-2018

Increase in stolen PII data



**58%** 2016-2017

Rise in fraud activity  IDOLOGY

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Rise in fraud activity **ID**LOGY

## 600% Increase

Mobile fraud growth past 3 yrs, accounts for 65+% of transactions **RSA** May 2018

# Fraud Impacts Broad Set of User Interactions

Online  
Payments



Insider Trading



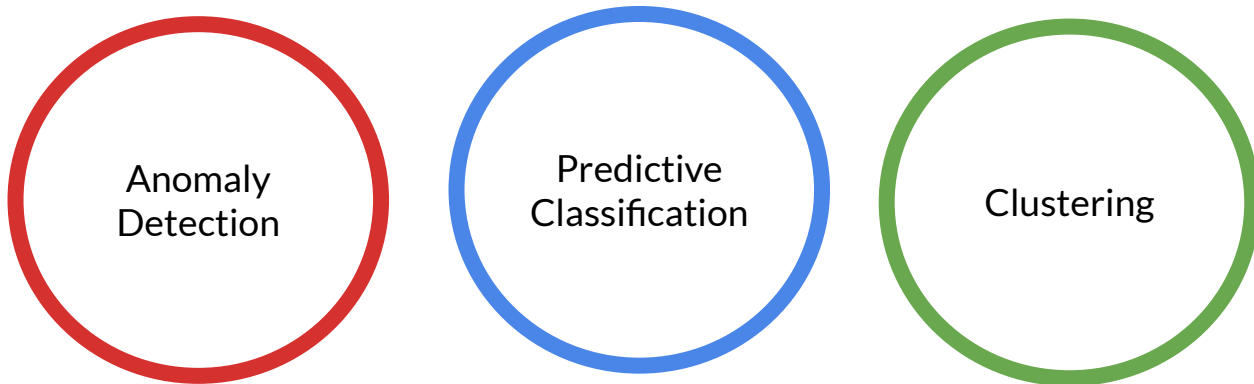
New Accounts



Synthetic  
Identity



# Fraud Detection is Powered by Analytics



- Demands big data processing for best fit, most accurate models
- Continuous model refinement to optimize loss prevention and create better customer experiences

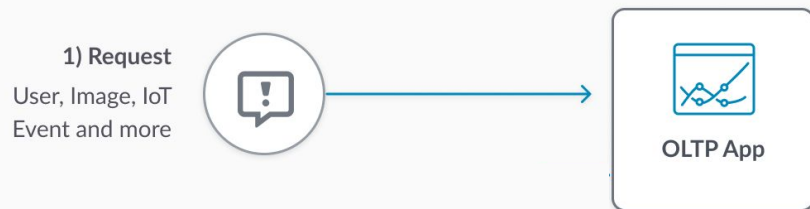
# Real-Time Fraud Detection Case Study

# Real-Time Credit Card Fraud Solution

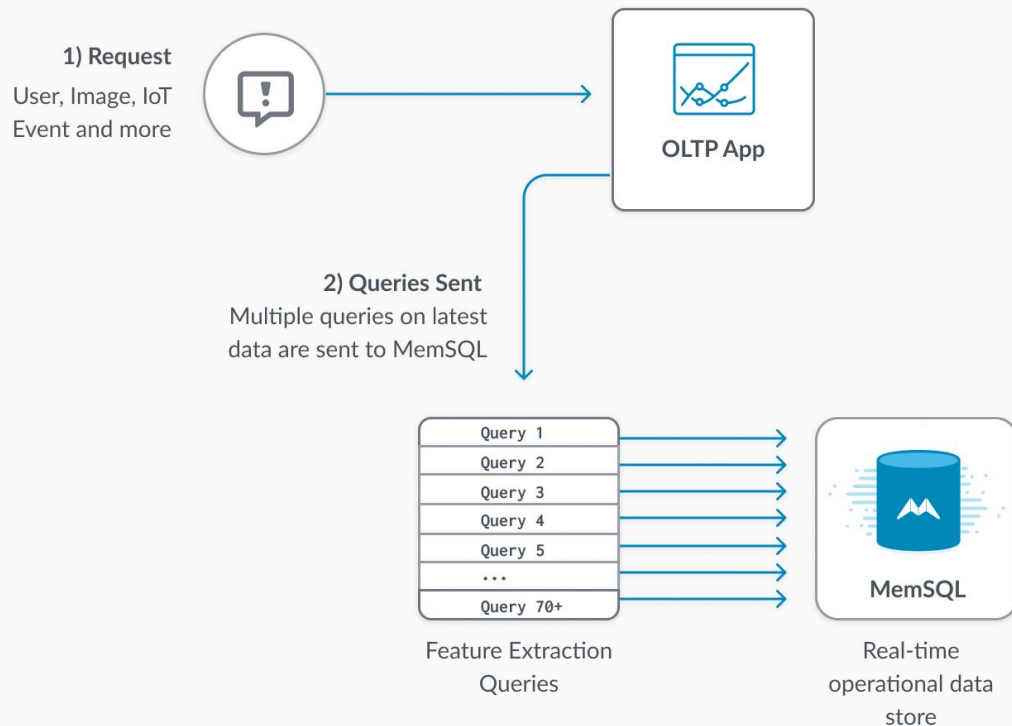
## Application Requirements

- Deliver high performance agile fraud detection with standard SQL
- 1 second budget from card swipe to approval
- Complete fraud detection within 1 second
- 50 msec budget
- 70-value feature record to score

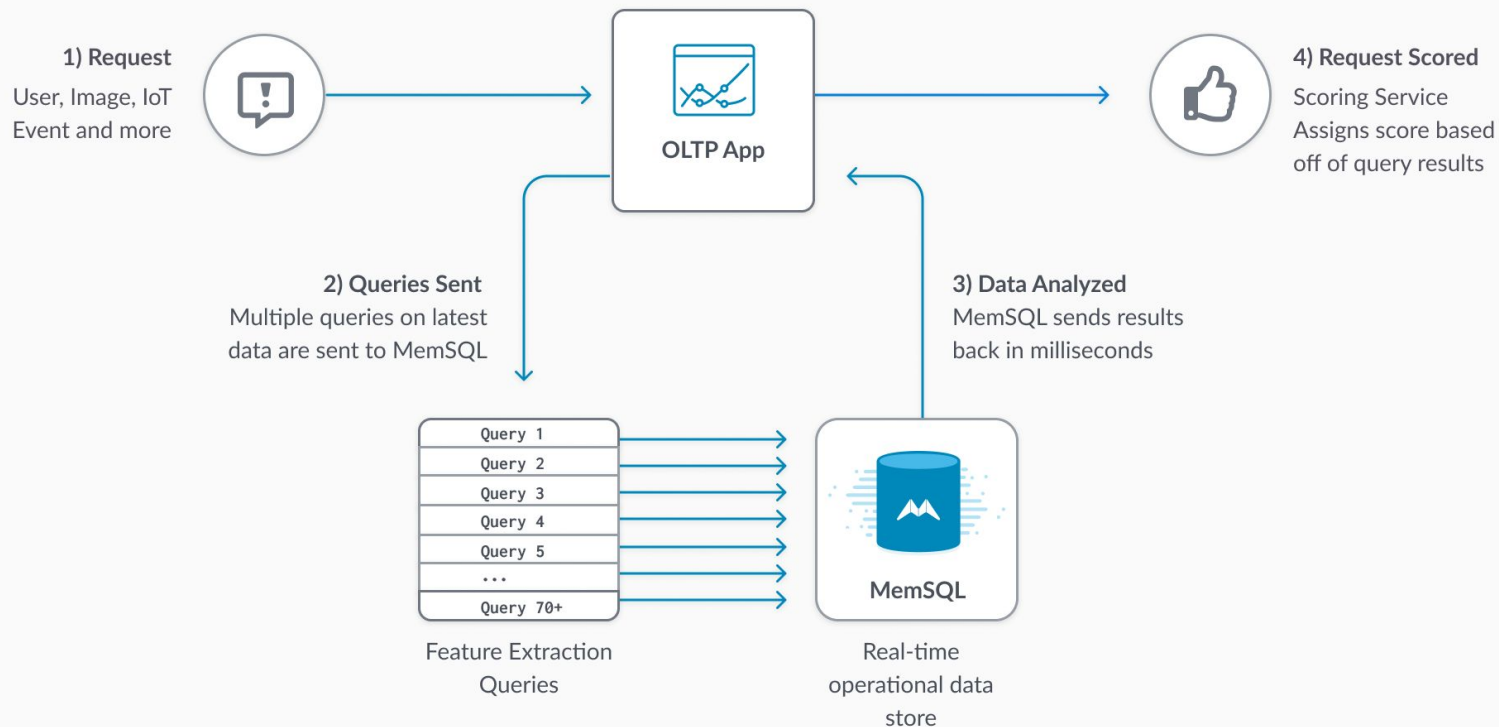
# Real-Time Fraud Detection Architecture



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# Real-Time Fraud Detection Architecture



# MemSQL Advantages for Real-Time Detection

## Previous Approach

- Nightly batch job to accumulate feature record for each customer in traditional "operational data store"; look it up for scoring
- Difficult to iterate features/add new queries for optimization and detection improvement

## MemSQL Approach

- Run up to 70+ queries concurrently on latest data within 50 msec window
- Easy to add new features with standard SQL
- Add fresh features for continuous optimization to catch more fraud cases

# Why MemSQL for Fraud Detection

# MemSQL: The No-Limits Database

*The cloud-native operational database built for speed and scale*

## WHAT WE DO



### Operational Analytics

MemSQL is the ideal database when you *must* deliver “Analytics with an SLA”



### Predictive, ML & AI

MemSQL supports the creation and operation of models at scale across streaming & historical data



### Move to Cloud / Legacy Replace

MemSQL makes it easy to adopt a modern, cloud-native database with superior price/performance efficiency

## WHO WE DO IT FOR



Half of the Top 10 Banks



2 of the Top 3 Telcos



160M Streaming Media Users



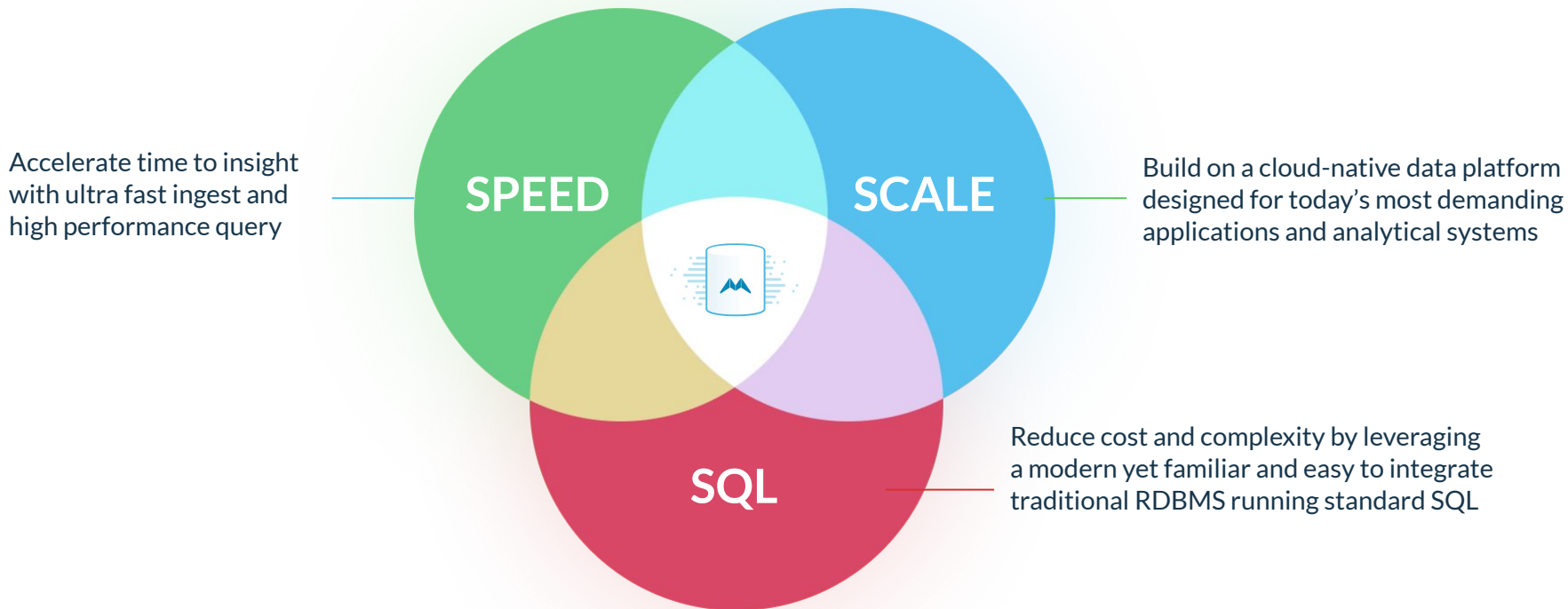
12 of the Fortune 50

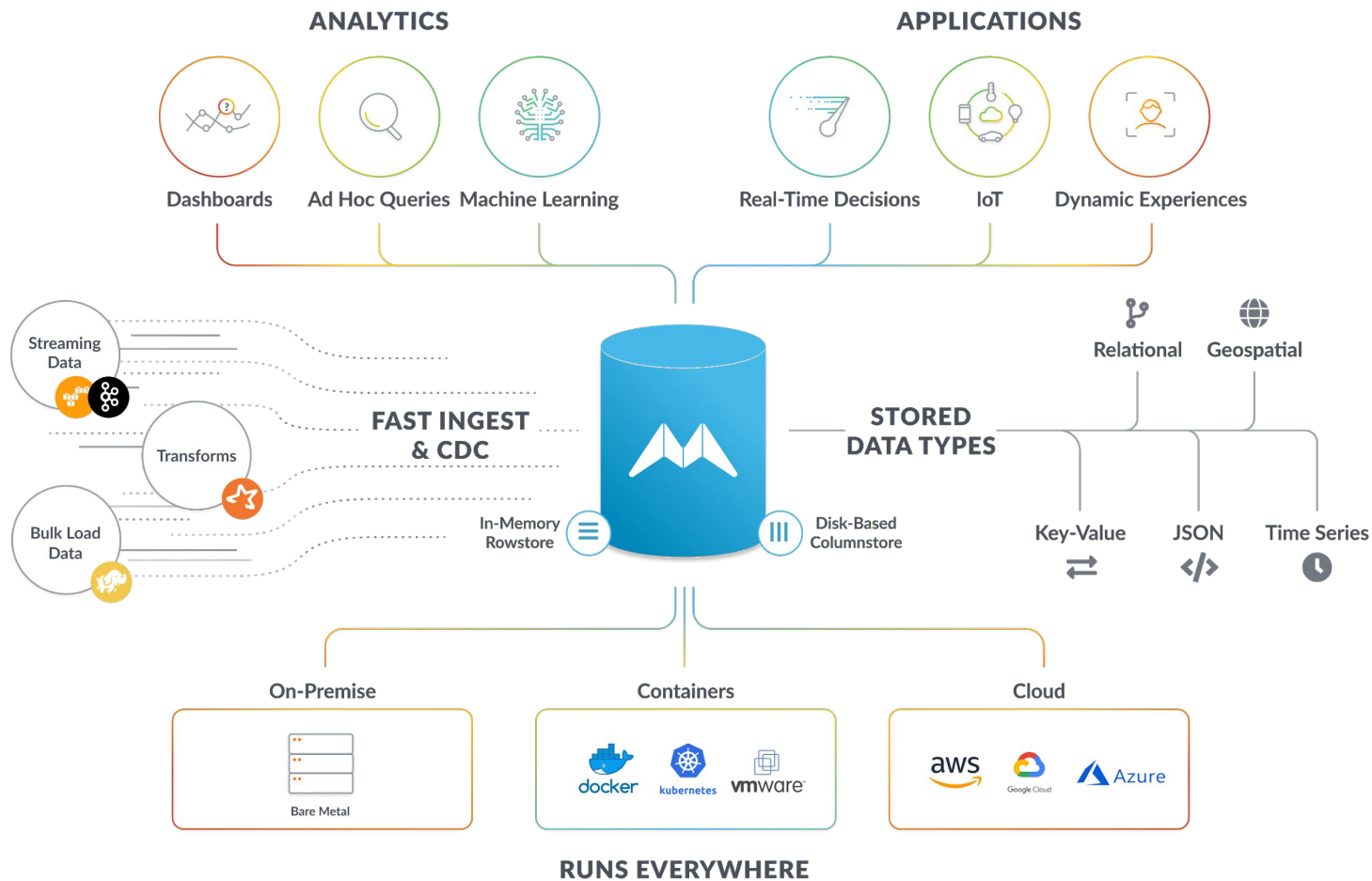


Tech Leaders from Akamai to Uber

# MemSQL: The No-Limits Database

*The cloud-native operational database built for speed and scale*





# MemSQL Architecture for Real-Time

## Scalable SQL



- Full ACID features
- ANSI SQL
- Document/JSON/Geospatial

## Fast Ingest



- Parallel stream ingest
- Lock free OLTP & OLAP
- Stream directly to data nodes

## Distributed



- Shared nothing, massively parallel
- High concurrency with commodity hardware

## Cloud Native

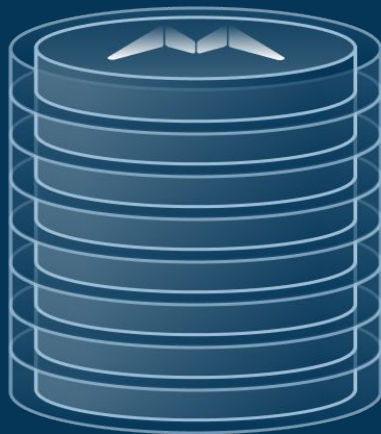


- Deploy on-premises
- Cloud agnostic (AWS, GCP, Azure)
- Container/Kubernetes certified

# Thank You! Questions?

Try at [memsql.com/download](https://memsql.com/download)

- No time limit
- Deploy to production
- Full featured
- Up to 4 nodes and 128GB RAM, unlimited disk
- Get support at [forum.memsql.com](https://forum.memsql.com)



Learn more at [memsql.com/product](https://memsql.com/product)

Questions? Email us at [team@memsql.com](mailto:team@memsql.com)