

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
- Leverage real-time and historical data

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SLA Driven Analytics

- 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

\$14B 2018 > **\$34B** 2024

Growth in fraud detection and prevention technology market

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Growth in fraud detection and prevention technology market

 **126%** 2017-2018
Increase in stolen PII data

 **58%** 2016-2017
Rise in fraud activity 

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Growth in fraud detection and prevention technology market

 **126%** 2017-2018
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 **58%** 2016-2017
Rise in fraud activity 

600% Increase

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

Fraud Impacts Broad Set of User Interactions

Online
Payments



Insider Trading



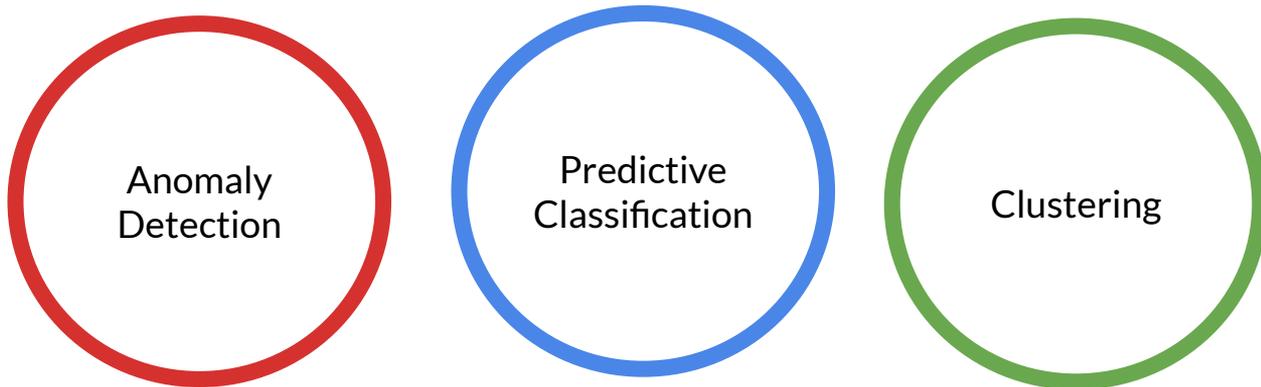
New Accounts



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

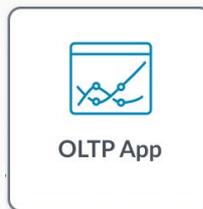
Real-Time Credit Card Fraud Solution

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

1) Request
User, Image, IoT
Event and more

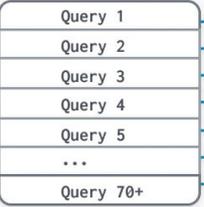


Real-Time Fraud Detection Architecture

1) Request
User, Image, IoT
Event and more



2) Queries Sent
Multiple queries on latest
data are sent to MemSQL

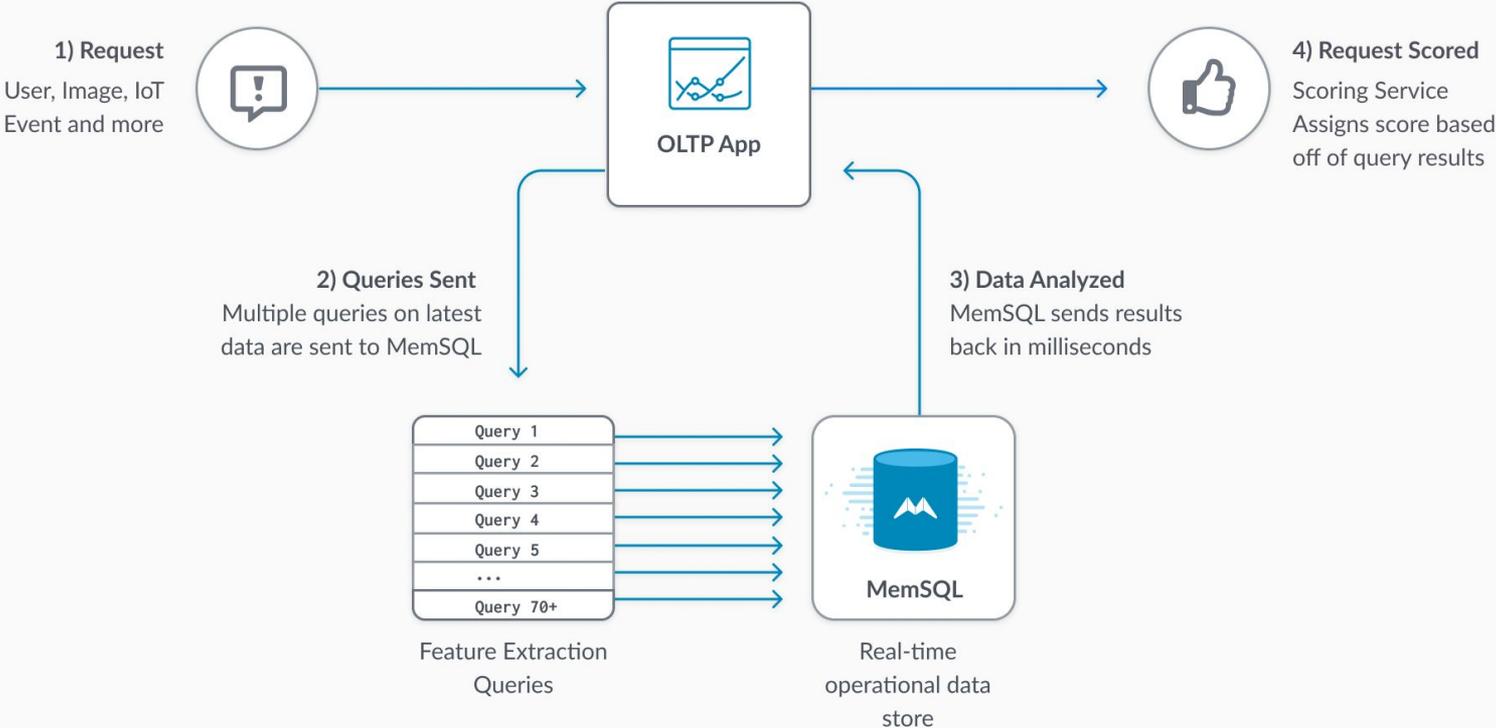


Feature Extraction
Queries



Real-time
operational data
store

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



FORTUNE

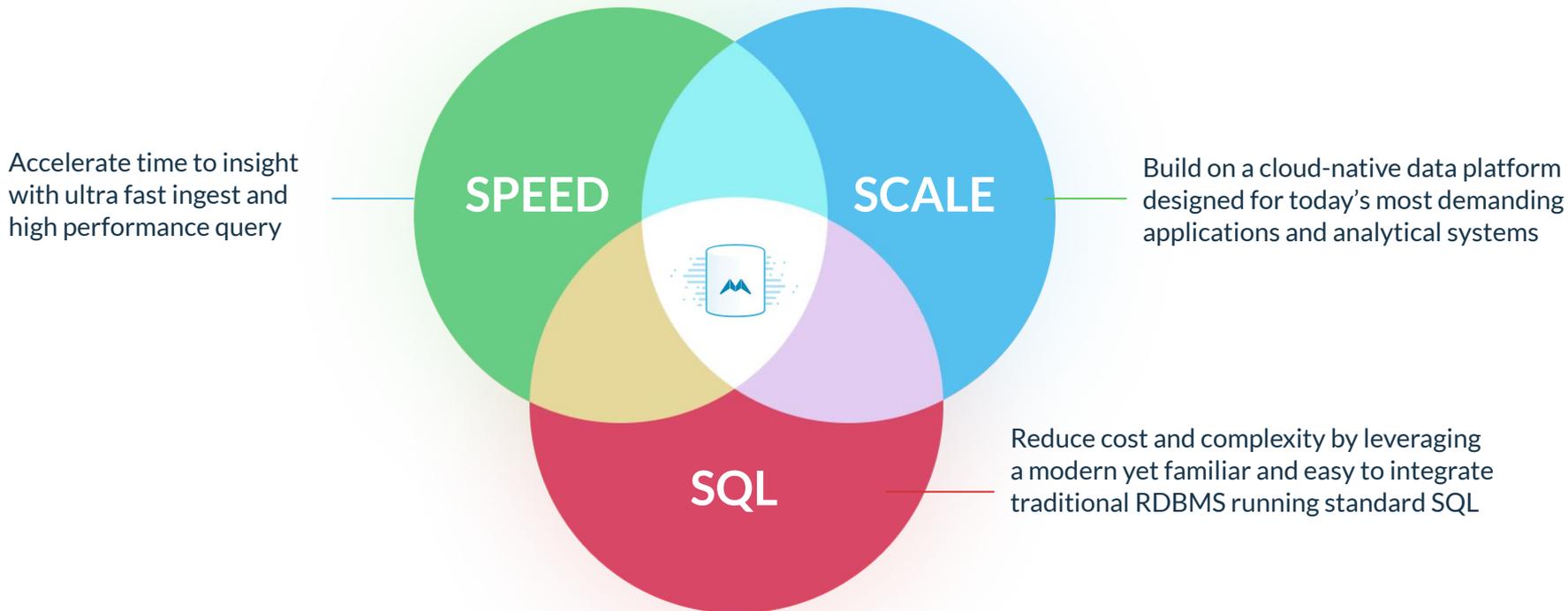
12 of the Fortune 50

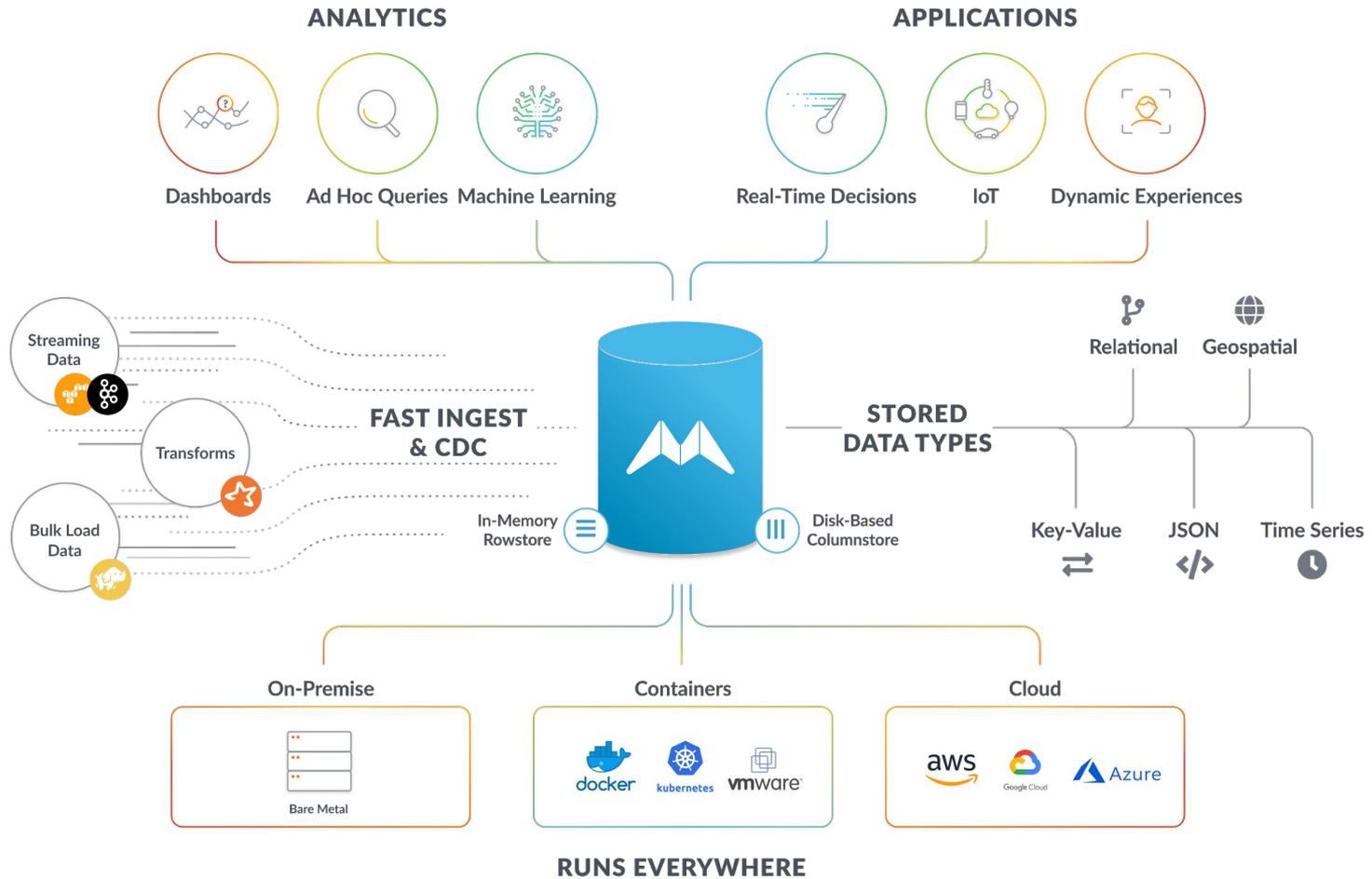


Tech Leaders from Akamai to Uber

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



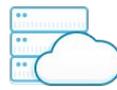
- Parallel stream ingest
- Lock free OLTP & OLAP
- Stream directly to data nodes

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

- No time limit
- Deploy to production
- Full featured
- Up to 4 nodes and 128GB RAM, unlimited disk
- Get support at forum.memsql.com



Learn more at memsql.com/product

Questions? Email us at team@memsql.com