





About GigaSpaces

We provide the leading in-memory computing platforms for real-time insight to action and extreme transactional processing. With GigaSpaces, enterprises can operationalize machine learning and transactional processing to gain real-time insights on their data and act upon them in the moment.



InsightEdge is an in-memory realtime analytics platform for instant insights to action; analyzing data as it's born, enriching it with historical context, for smarter, faster decisions



In-Memory Computing
Platform for microsecond
scale transactional
processing, data scalability,
and powerful event-driven
workflows

300+
Direct customers

50+/500+ Fortune / Organizations

5,000+Large installations in production (OEM)

25+ ISVs



Our Customers Span Across Multiple Industries











Select Customers



































































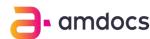


OEMs / ISVs / Partners



























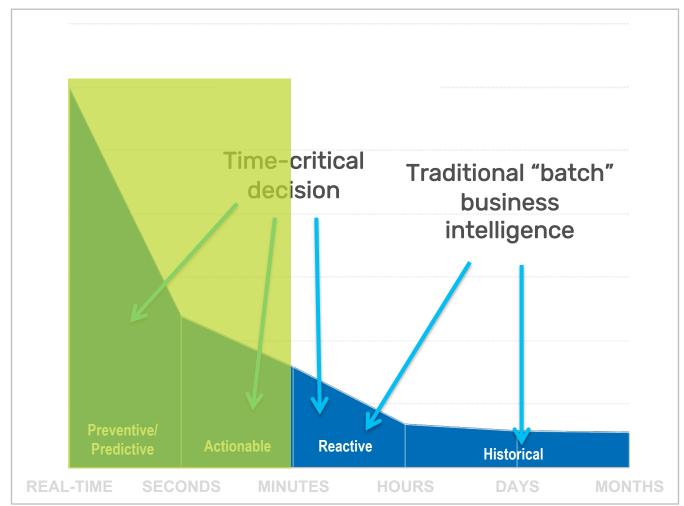


74% want to be data driven

only 23% are successful, FORRESTER®



Walue of Data to Decision



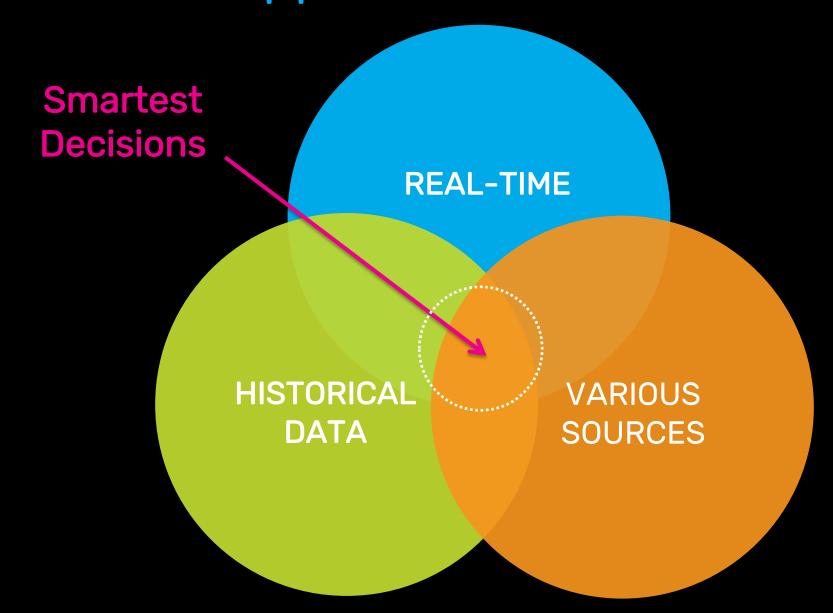
Real-time data is highly valuable if you act on it on time

Old + real-time data is more valuable if you have the means to combine them

Time



Real-Time Applications





WHY ARE ONLY 23% SUCCESSFUL?

FROM:

Big Data

Insights

Real-Time Insights



TO:

Insights

Real-Time Insights

Real-Time Actions



Challenges of Instant Payment Application Development



PROCESSING
PAYMENT
TRANSACTIONS IN
REAL-TIME

Focus on low latency, high throughput and extreme transactional processing (ACID compliant)



BATCH + REAL-TIME DATA CONVERGENCE ON DATA FROM VARIOUS SOURCES

Enable scale for large datasets from different sources for smarter and faster insights leveraging Machine Learning models



ADVANCED ANALYTICS THAT TRIGGER WORKFLOWS

Ability to trigger workflows for instant fraud detection and regulation support



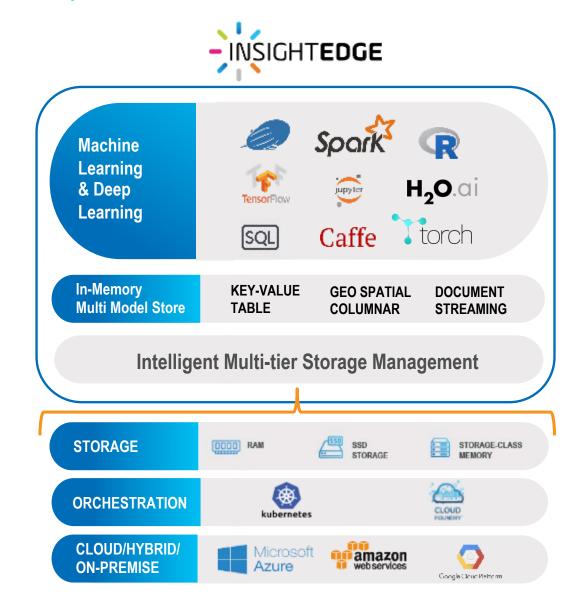
ENSURING HIGHEST LEVELS OF RELIABILITY

Always-on enterprise grade availability



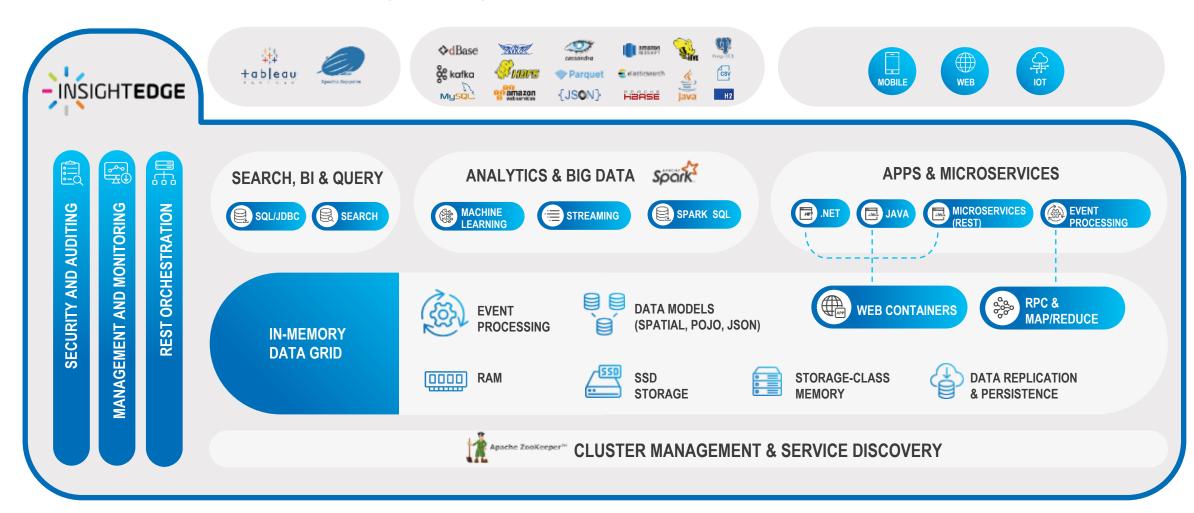
InsightEdge: Unifying Real-Time Analytics, Al and Transactional Processing in One Open Source Platform

- Open Source & Open API
- Rich ML & DL support
- Extreme performance
- Fully Transactional
- ACID Compliance
- Enterprise-grade (Security, High Availability)
- Co-located Apps and Services
- Seamless integration with Big Data ecosystem
 - Data sources (Kafka/Nifi/Talend)
 - Data lakes (S3/Hadoop)
 - BI tools (Tableau/Looker/etc.)





InsightEdge Architecture Overview







CLOUD







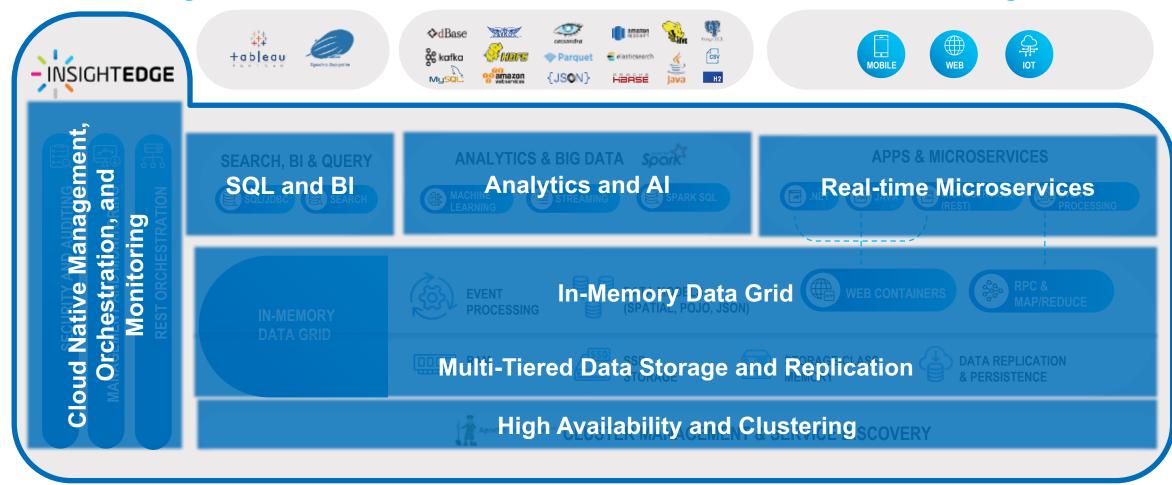








Unifying Fast Data Analytics, Al and Transactional Processing





ON-PREMISE



















Ultra-low latency and high throughput transactional processing IMDG

Partitioned In-Memory Grid Shared-nothing, linear scalability, elastic capacity

Co-Location of Data and Business Logic Co-located ops, event-driven, fast indexing

Event-Driven Processing and Map/Reduce

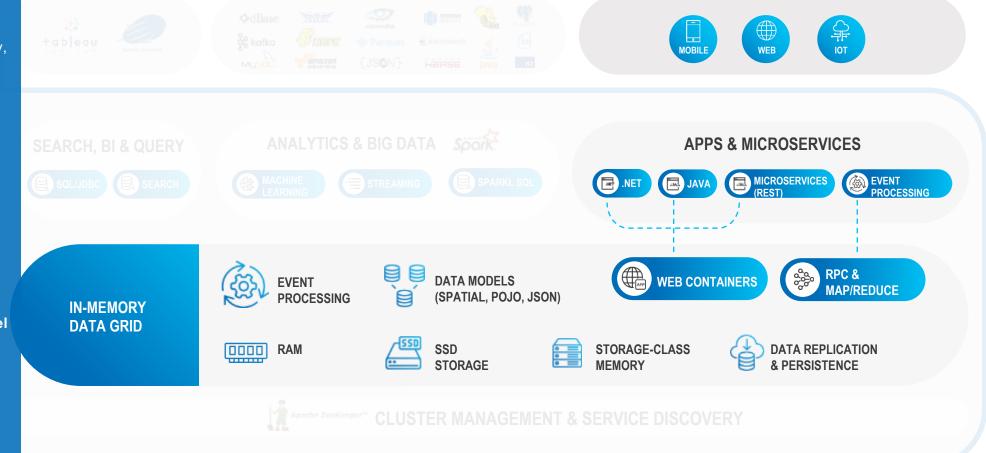
No Downtime

Auto-healing, multi-data center replication, fault tolerance

Fast Indexing Multi-Data Model POJO, .NET, Document/JSON, Geospatial, Time-series

Seamless Integration wih Java/Scala ecosystem

Cloud Native







CLOUD















Co-located Analytics and Al with Transactional Processing

























SEARCH, BI & QUERY





Distributed SQL-99

Real-time integration with Tableau and Business **Intelligence tools**

JDBC driver









Spark for ML and leading DL frameworks

Push-down predicate for ultra-low latency filter (30x faster)

Shared RDDs/DataFrames

Streaming with 99.999% availability

Deep Learning with Intel BigDL

Graph processing, text mining, geospatial









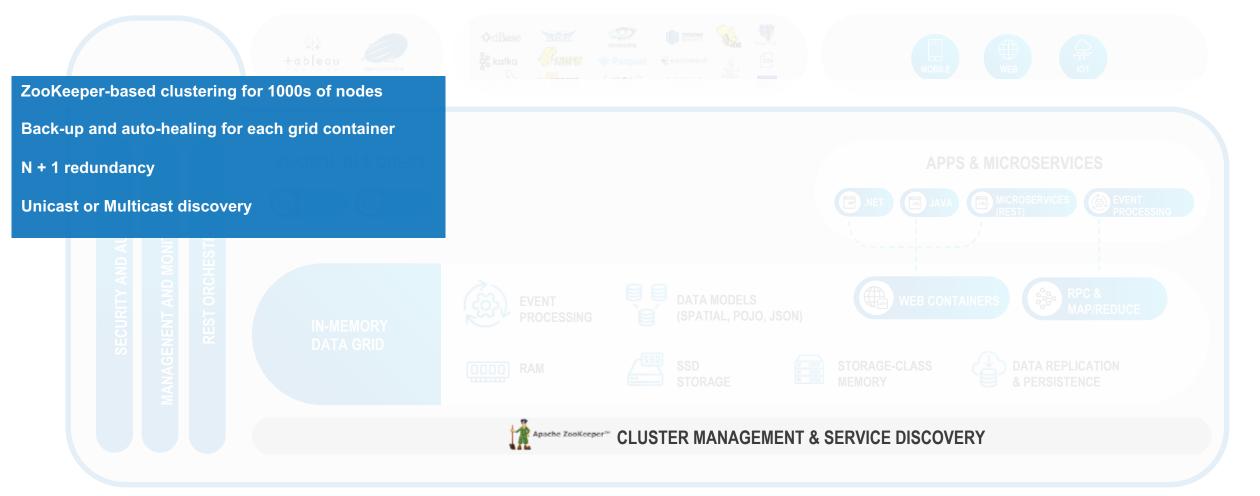








High Availability & Clustering





















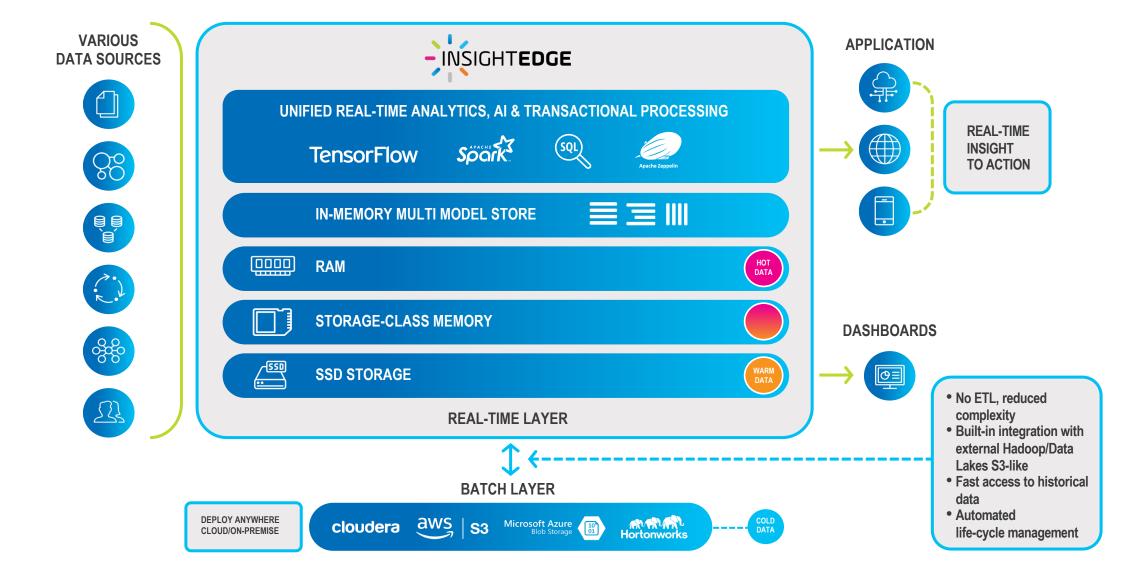


Multi-Tiered Data Storage and Replication for Optimized TCO



* Apache Pass support in Q4 2018

Maximize the Performance of Modern Payments: Real-time Analytics for Instant Insights To Action







FILES



MESSAGE BUS





DATABASES



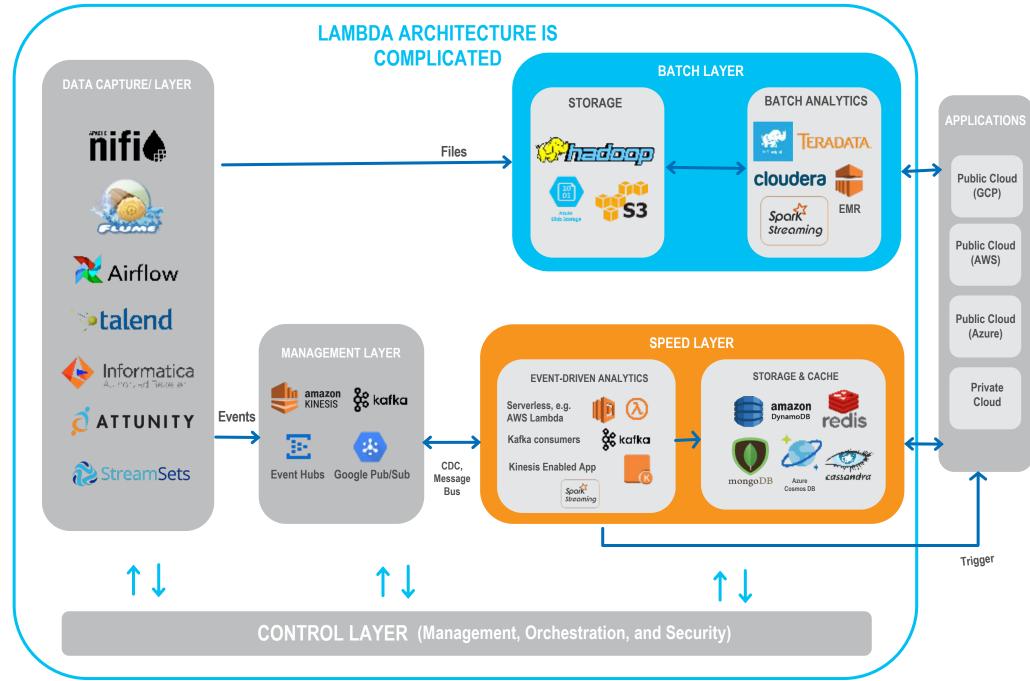
EVENTS



SENSOR DATA



SOCIAL







FILES



MESSAGE BUS





DATABASES



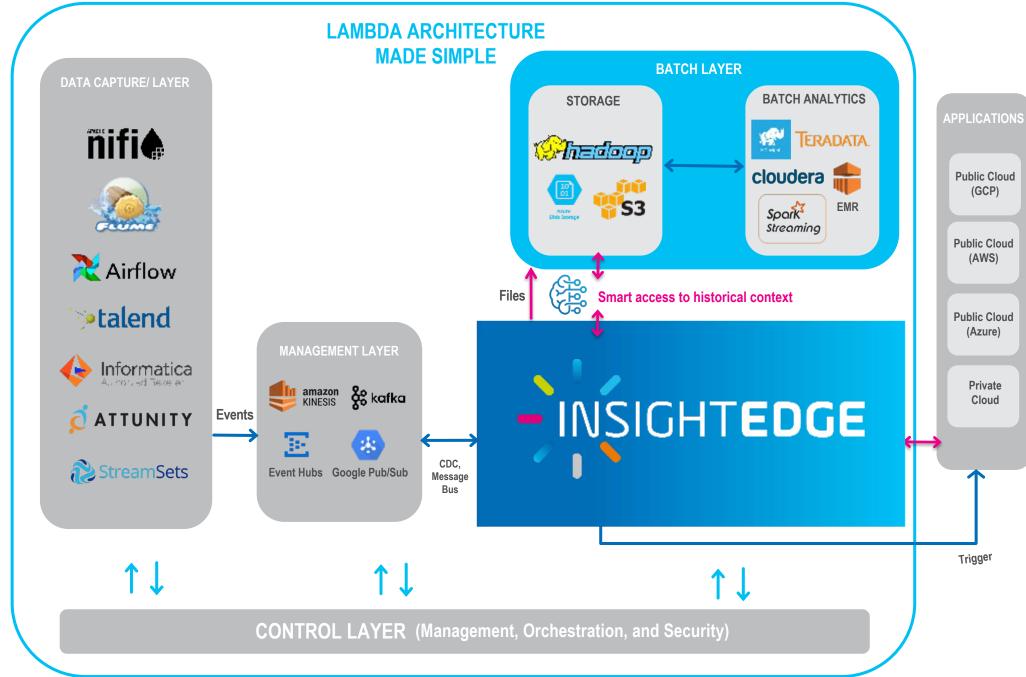
EVENTS

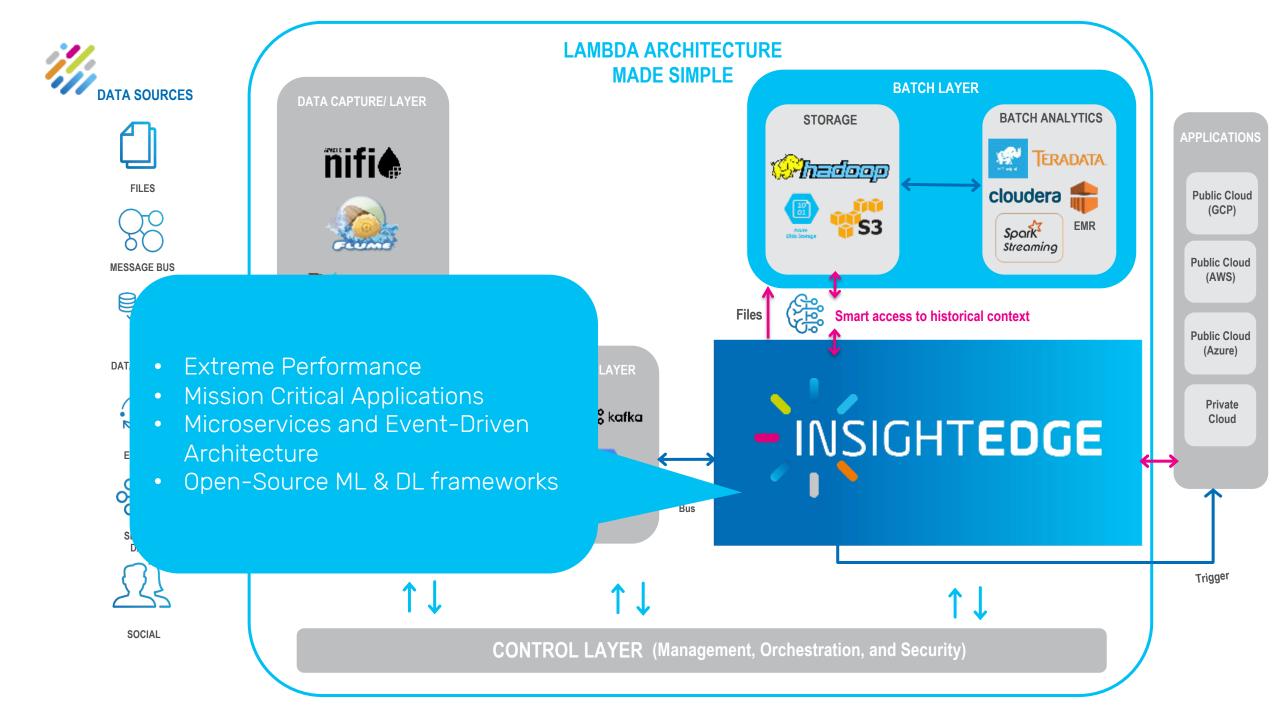


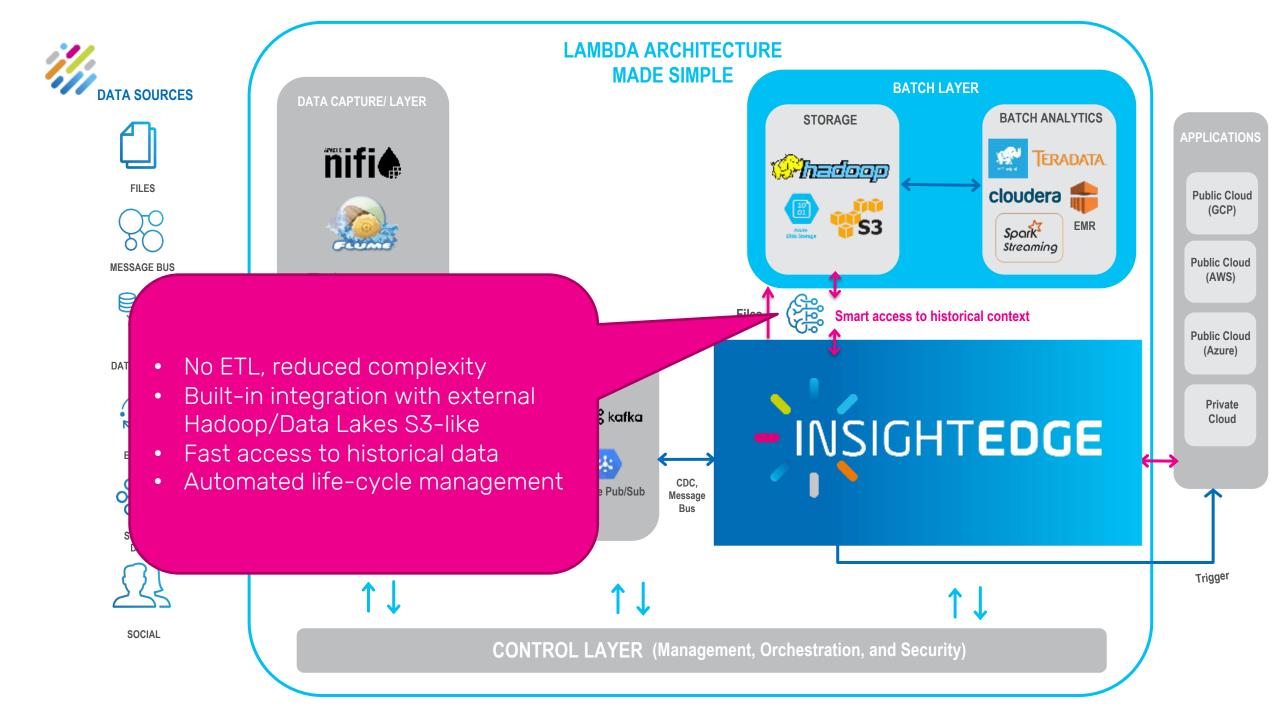
SENSOR DATA

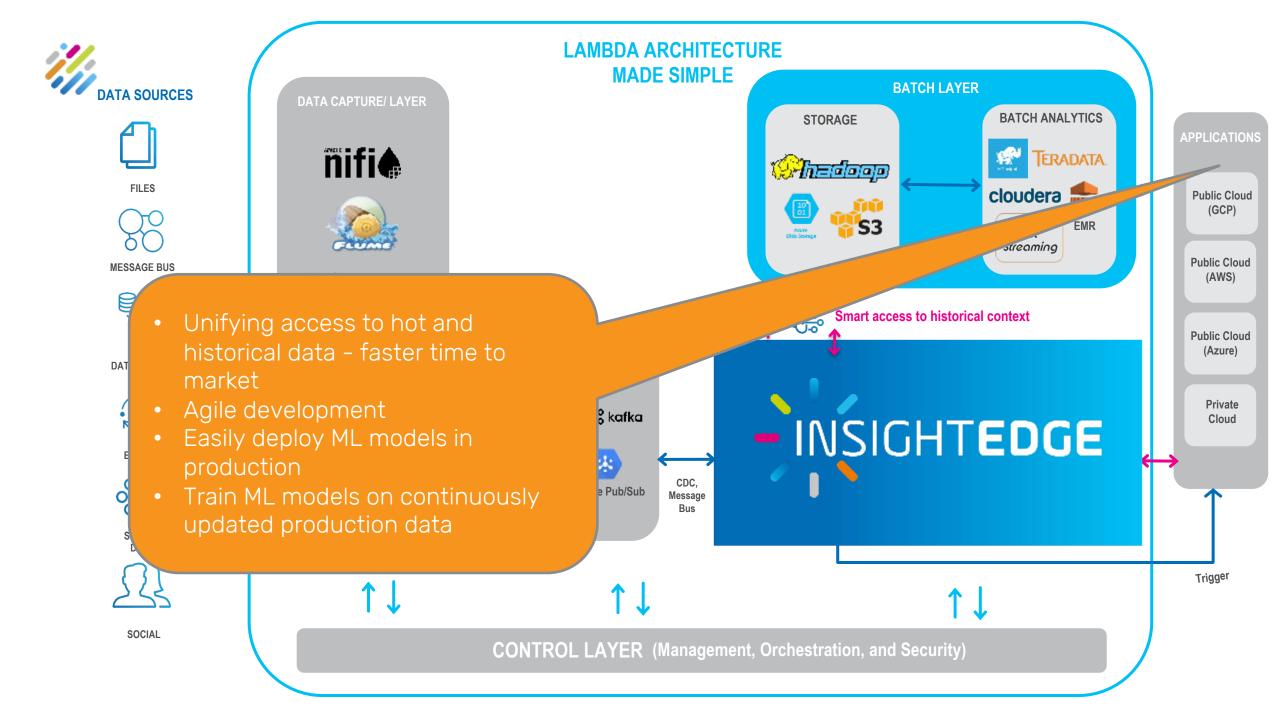


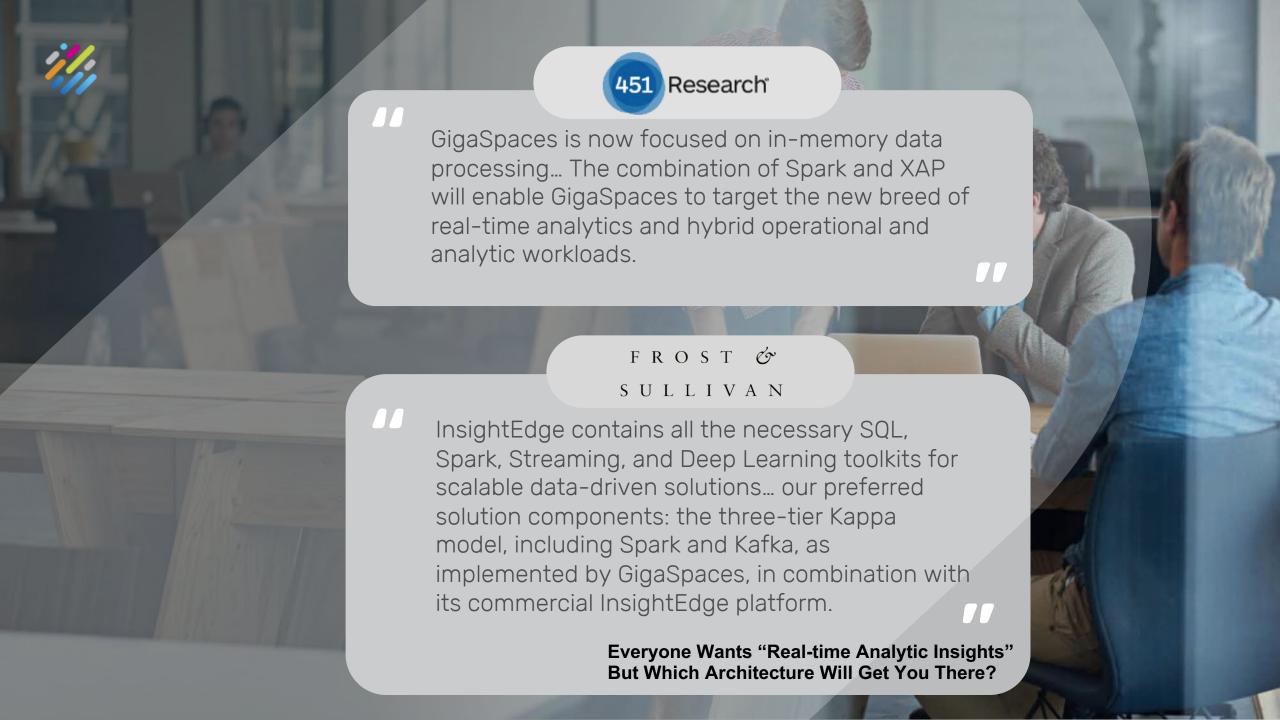
SOCIAL











Fraud and Money Laundering Detection in Real-time

BUSINESS CHALLENGE:

- Detecting fraud on mobile payment applications in real-time
- Detecting the deposit of the same check in multiple accounts at different banks in real-time
- User experience: application availability 24×7
- TCO reduction: reduce dependency on expensive RDBMS (Oracle)

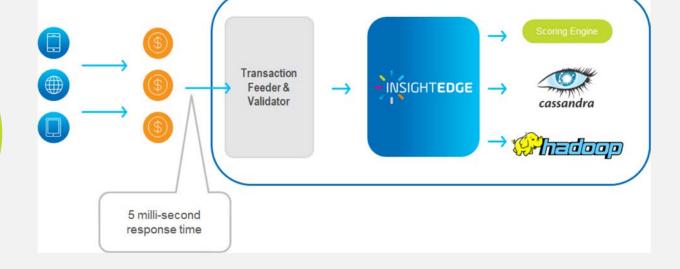
TECHNICAL CHALLENGE:

- IMC Platform to ingest 4 TB of data daily
- Fully consistent transactional In-Memory Map-Reduce
- Millisecond response
- Analyze and validate against a large dataset of live (multiple TB) in memory and archived data (to Cassandra NoSQL and Hadoop)

RESULTS:

- Sub-second response for accurate fraud detection to stop the transaction
- TCO Reduction: RAM and SSD for runtime data compared to Oracle DB or SAN
- Fault-tolerant, highly available, scaling on demand

Ingest 4 TB daily
Handle 1.5M events per second







Instant Payments for real-time transactions and high reliability to enhance the overall customer experience

BUSINESS CHALLENGE:

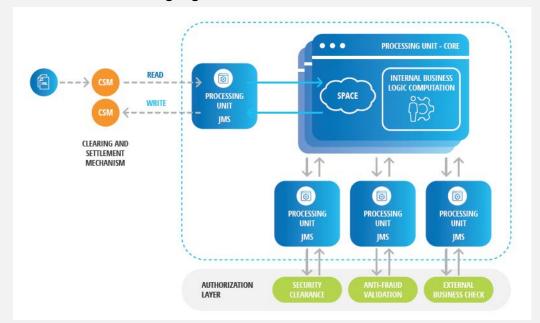
- Enable and accelerate instant payment solutions and meet regulatory requirements on a global scale
- Automatically track purchases and other server-to-server communication in real time
- Store payment transactions, order information and other sales internally

TECHNICAL CHALLENGE:

- Ability to handle added data volumes 15k payment/sec receipts introduced by management of new SEPA European payment regulation
- Assure no-downtime for mission critical service

RESULTS:

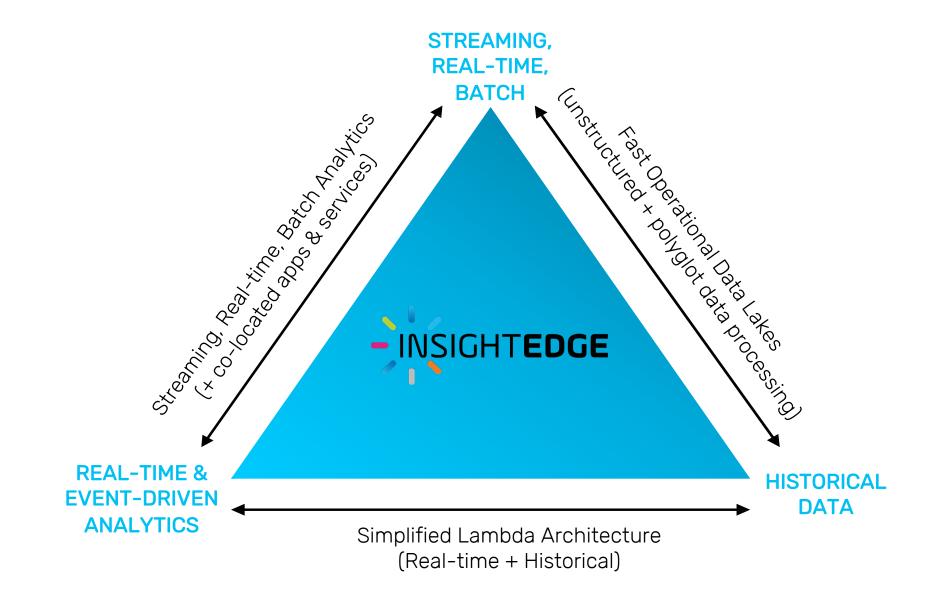
- Running low-latency payment and business logic calculations
- No downtime assured.
- Real-time analytics and Machine Learning preventing fraud and adherence to regulations
- Design to deployment in just a few months leveraging microservices architecture



Payment transaction in 500 milliseconds

End-to-end validation in seconds

Faster, Smarter Insights and Actions







INSTANT
INSIGHTS
TO ACTION



EXTREME PERFORMANCE



TCO OPTIMIZATION



MISSION CRITICAL AVAILABILITY

sec from
data to
insight to
action

millions of IOPS

10X
less expensive than only RAM with In-memory performance

No Downtime at leading enterprise customers for



