

How to Drive Superior Customer Experience with In-memory Computing

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SPEAKERS



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Time is Money! EVERY SECOND COUNTS!



Widespread online banking, mobile app outage hits Wells Fargo customers



Costco Thanksgiving Day Site Outages Cost An Estimated \$11 Million



BE RIGHT BACK!

We're experiencing a technical hiccup. But hang in there—we'll be up and running soon.

NORDSTROM rack | HAUTELOOK



**Record Black Friday Sales: \$7.2B
Digital Revenue (14% growth)**

Who **led-accelerates** the digital transformation of your company?

- A) CEO
- B) CTO
- C) COVID-19**

"If data is the new fuel, then scale, accessibility and speed is what can make or break your business"

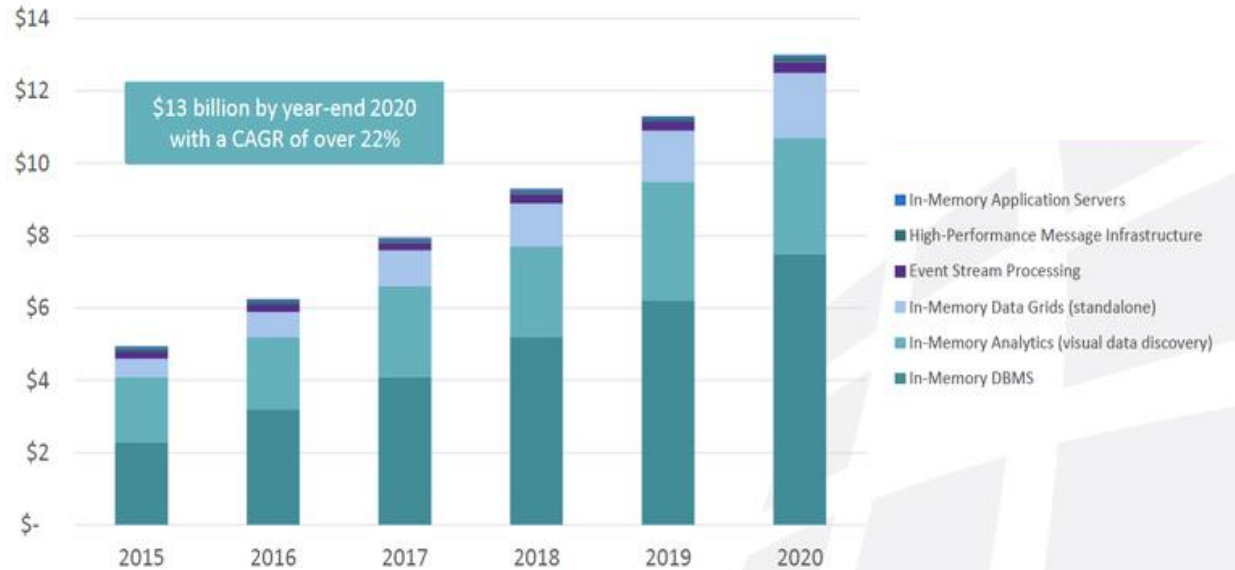


In-memory Computing Trends



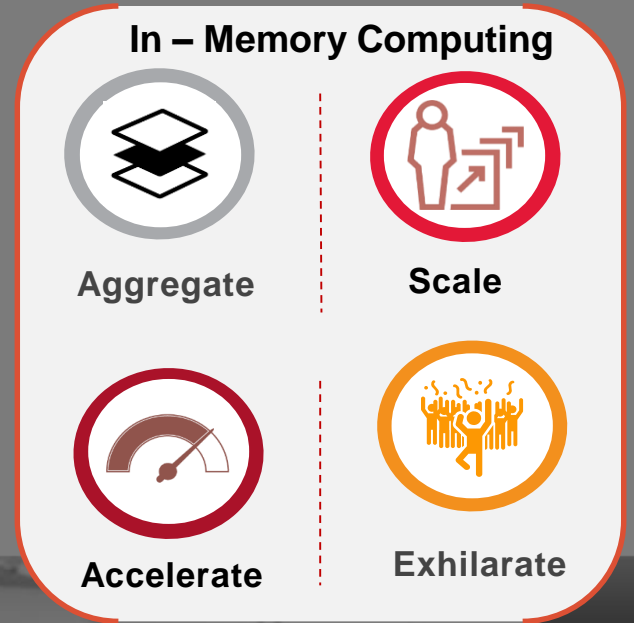
1 sec delay in page load time

- 11% fewer page views
- 16% decrease in customer satisfaction
- 7% loss in conversions
- 88% of e-commerce users are less likely to return to a site after bad experience



In-Memory Computing market size will touch \$15 billion USD by 2021 - Gartner

Tech Mahindra has partnered with GridGain for implementing IMC solutions



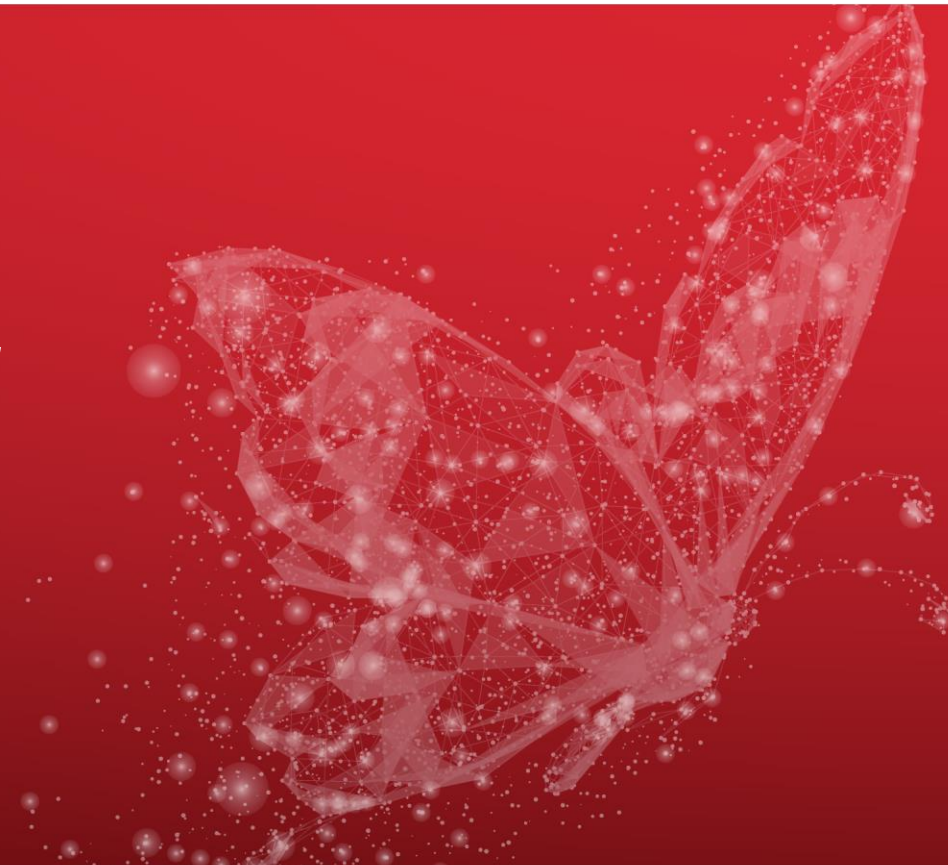
BUSINESS IS INVESTING IN CUSTOMER EXPERIENCE

32% Customer Satisfaction

33% Customer Retention

42% Cross selling & upselling

Solving the Challenges of Digital Transformation



Digital Transformations Create New Demands



Application Performance at Internet Scale

- Business applications must perform in real-time and be massively scalable
- But the time and cost of re-architecting and building new, better infrastructure is problematic

Real-Time Omnichannel Customer Engagement

- Business processes need access to data across all customer touchpoints for 360-degree views
- But cloud computing disperses data across separate and isolated datastores
- But business applications and datastores are often also silos



GridGain Solves Two Critical Use Cases

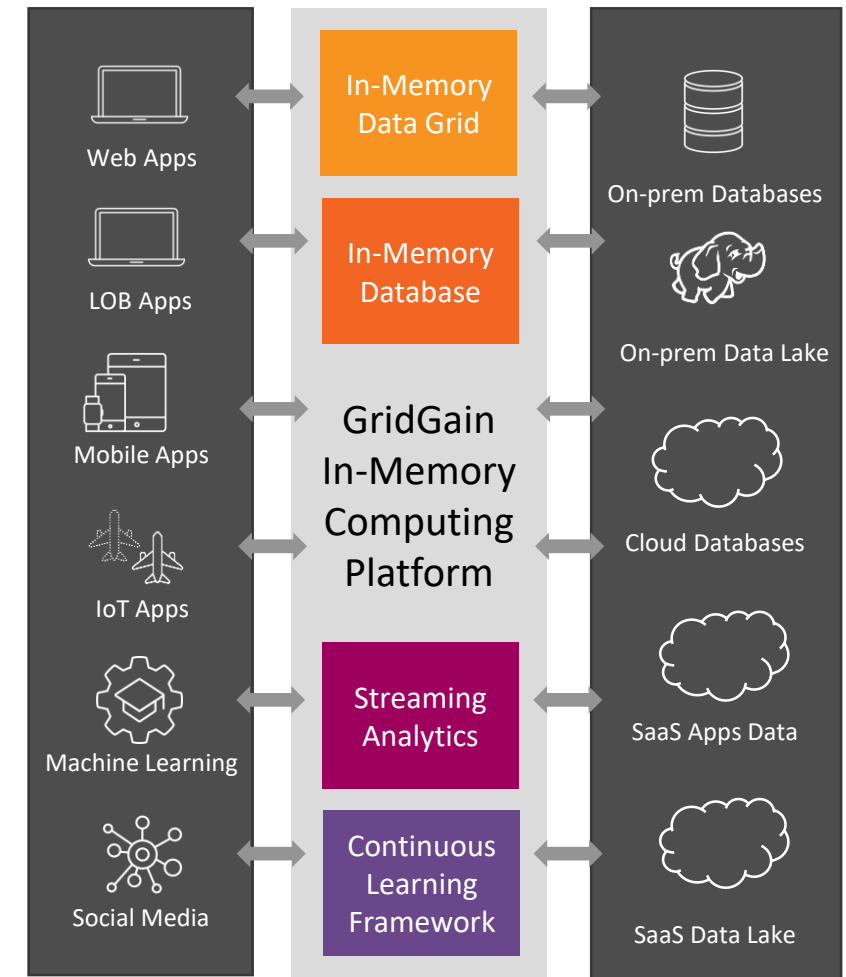


Application Acceleration and Scale Out

- OEM / embedded into software and SaaS products
- Data is cached in-memory and parallel processed for real-time speed
- Distributed computing supports massive scalability

Digital Integration Hub

- Aggregates multiple backend data sources
- Provides applications with high-performance data access
- A unified API future proofs the architecture



Application Acceleration and Scale Out



Powers Internet-Scale Applications

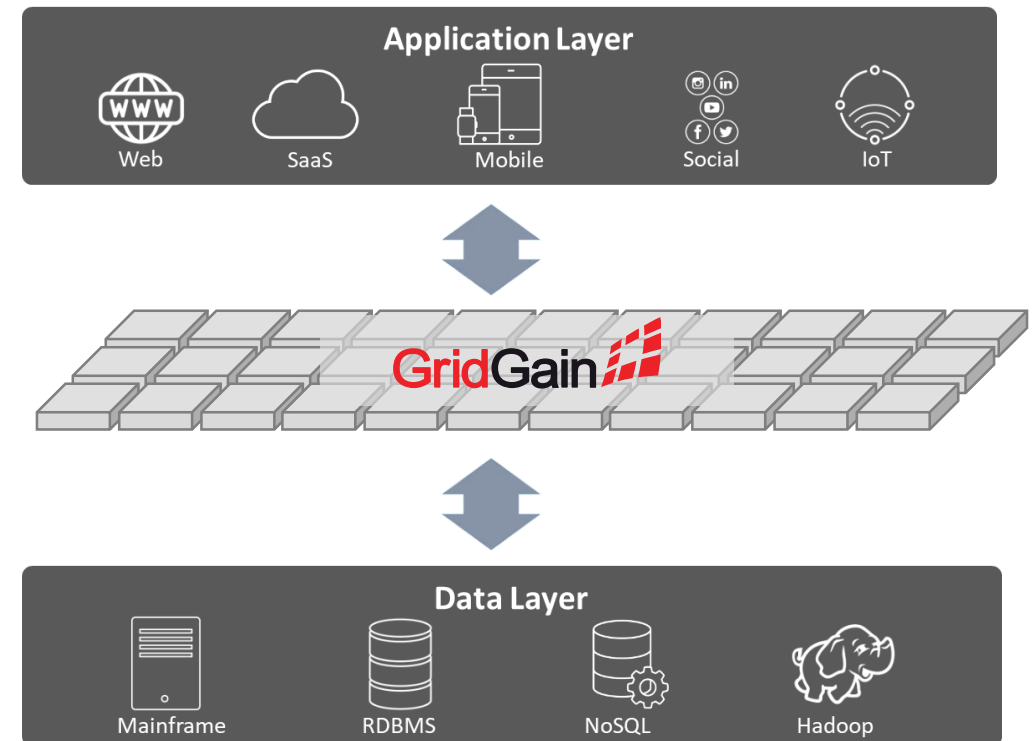
- Data cached and parallel processed in memory for real-time speed
- Distributed computing supports massive scalability

Easily Integrates with Existing Systems

- No rip-and-replace of existing databases or applications
- Data is easily accessed via a unified API
- Works with all popular RDBMS, NoSQL and Hadoop datastores

Built on Open Source Apache Ignite

- With many enterprise-grade features available



Sberbank: Core Banking Services at Scale



SBERBANK

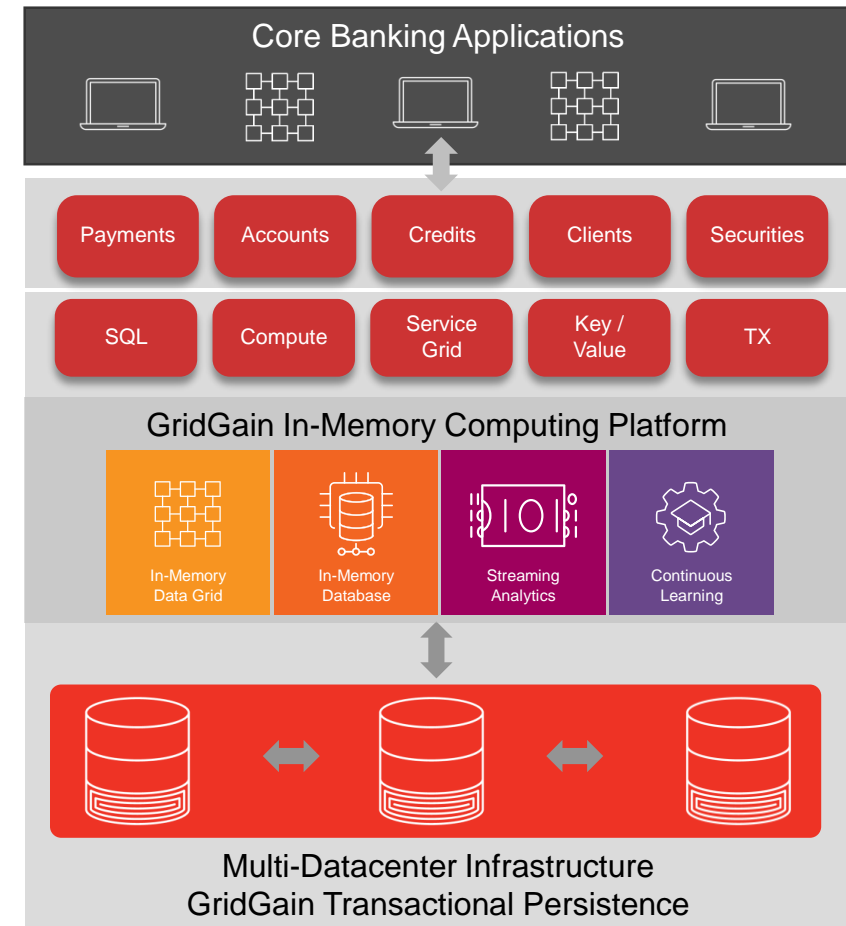
A top 20 worldwide bank and the top bank in Russia with 16k+ branches & 135M customers

Challenges

- 100x increased load due to mobile banking
- Lack of common storage layer across bank
- High cost of RDBMS infrastructure

GridGain Enables

- Common data foundation for core banking systems
- Horizontal scalability across 2,000 servers in 3 data centers with 1.5 PB of data in memory
- Four 9s availability with immediate restart from disk (no memory warm-up)



American Airlines: Route Planning Tool



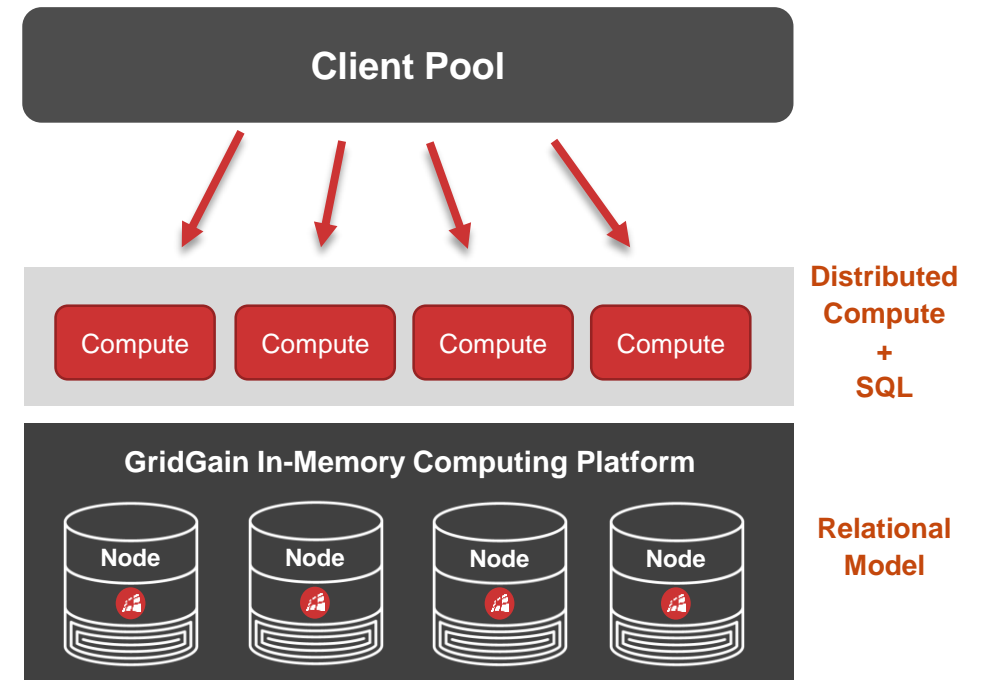
American Airlines  The world's largest airline by fleet size, passengers, passenger-miles and number of destinations

Challenges

- Difficulty in accommodating passenger needs in tight-connection situations due to lack of visibility
- Price optimization wasn't possible and led to less efficient, more costly travel plan changes

GridGain Enables

- Real-time view of all passengers with connections under 45 minutes facilitates baggage, transfer, and rebooking
- Analyzing flight plans (orig/dest pairs, segments) and running pricing calculations to offer optimal prices
- Horizontally scalable, multi-datacenter architecture with relational support that is more cloud-native (using Docker/Kubernetes)



Digital Integration Hubs

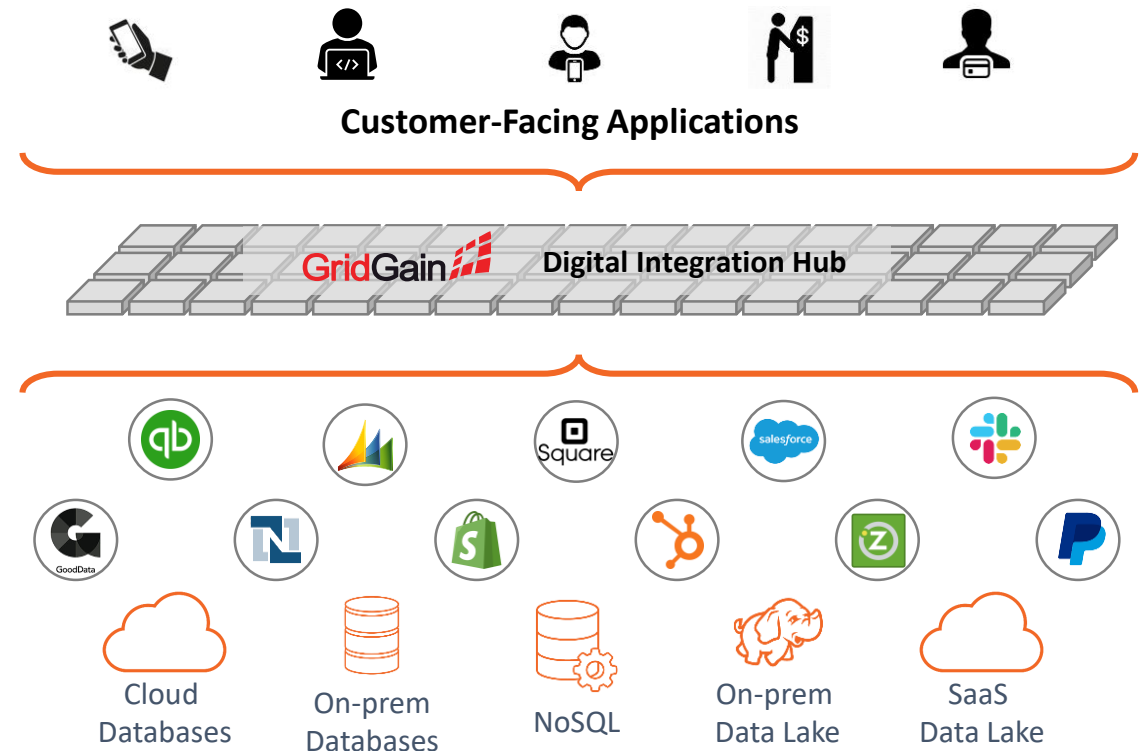


Drive Real-Time Business Processes

- Provides performance, scalability and real-time data access

Connect Applications with Data

- Loads data from any connected cloud or on-prem database or data stream
- Enables real-time data access from a single source for any application
- Automatically syncs changes back to the relevant datastore
- Scalable to petabytes of data



24 Hour Fitness: Digital Integration Hub



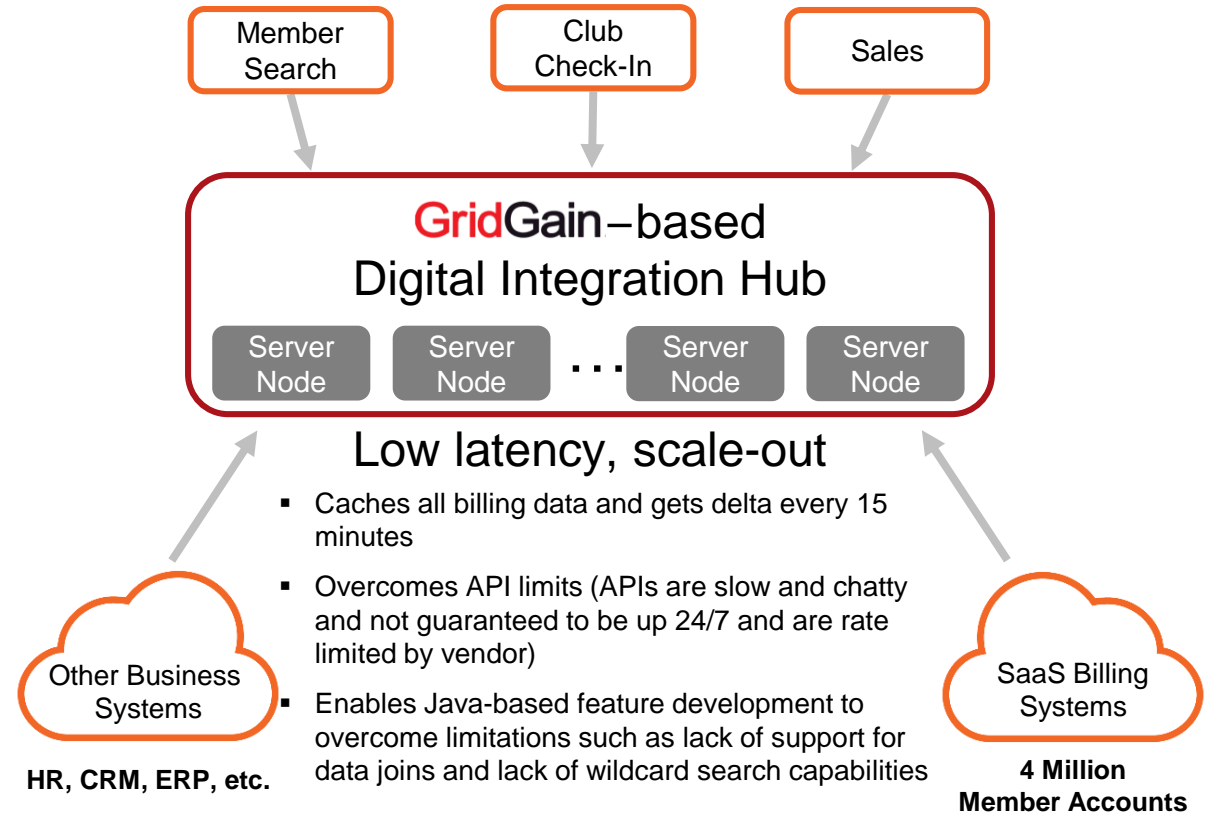
A US-based fitness center chain with 400+ locations and 4 million members nationwide

Challenges

- Every third party system had API differences, limitations and complexities
- Data was out of date and never in sync
- Check-in times skyrocketed and duplicate payments required significant effort to reverse

GridGain Enables

- Data from third party datastores now available in-memory via a unified API
- Real-time customer membership and billing visibility across multiple internal and external systems
- Dramatically improved customer satisfaction, increased upsell opportunities and decreased check in times
- Duplicate payments dramatically decreased



Major Global Brands Use GridGain



Financial Services



Software/Cloud



Logistics & Transportation



Telecom & Mobile



eCommerce & Retail



FinTech



IoT



AdTech / Media / Entertainment



Pharma & Healthcare



Built on Apache Ignite



Of over 350 Apache Projects...



15M+
downloads

Top 5 Dev Mailing Lists

1.  beam

2.  apache Ignite™

3.  kafka

4.  Apache Tomcat

5.  James
Enterprise Mail Server

Top 5 User Mailing Lists

1.  Flink

2.  Lucene

3.  apache Ignite™

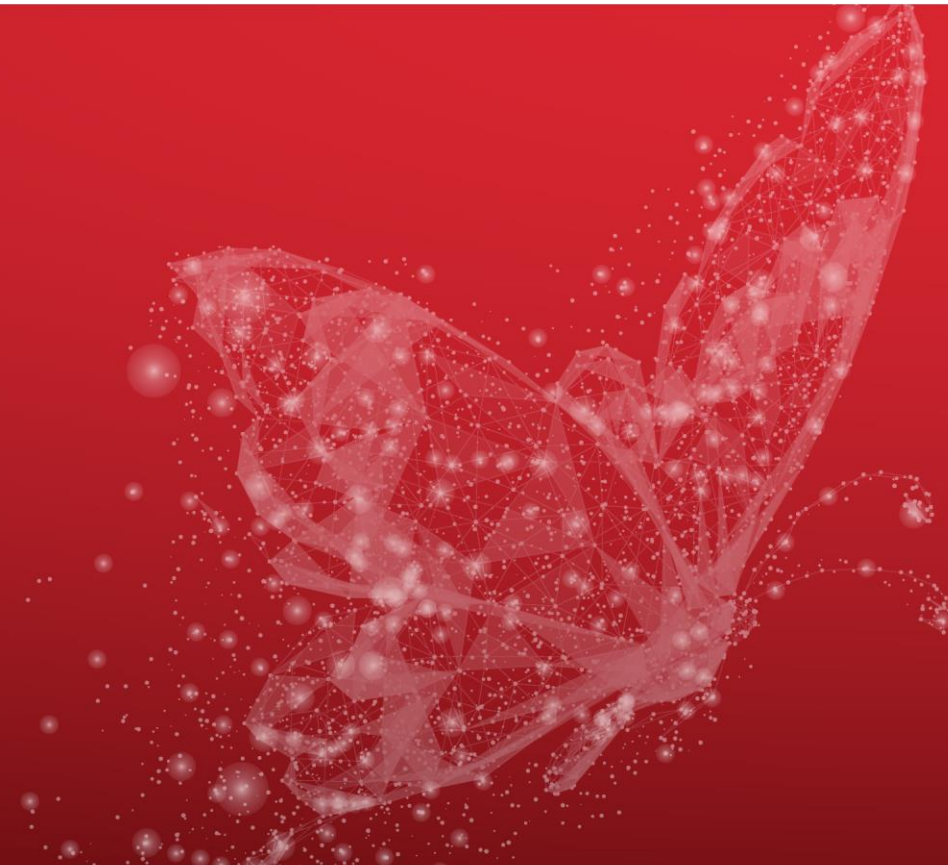
4.  cassandra

5.  kafka

Apache Ignite is used by tens of thousands of organizations



The GridGain Platform



A Comprehensive In-Memory Computing Platform



Integrated In-Memory Data Analysis Features

Streaming Analytics

Real-time analysis of streaming data ingested into the in-memory cluster



Continuous ML/AI



Streaming Analytics

Continuous ML/AI

Model training on the in-memory data in place using integrated ML and AI libraries

Core In-Memory Data Storage and Processing Functionality

In-Memory Data Grid

Caches data from the datastores and streaming data and runs application code on the cluster servers



In-Memory Data Grid



In-Memory Database

In-Memory Database

Replaces the datastores, ingests and stores streaming data, and runs application code on the cluster servers

GridGain 

The Leading In-Memory Computing Platform



Complete Platform with the Richest Functionality

- Built on Apache Ignite
- Enables memory-centric use cases
- Distributed ANSI-99 SQL and ACID transactions support

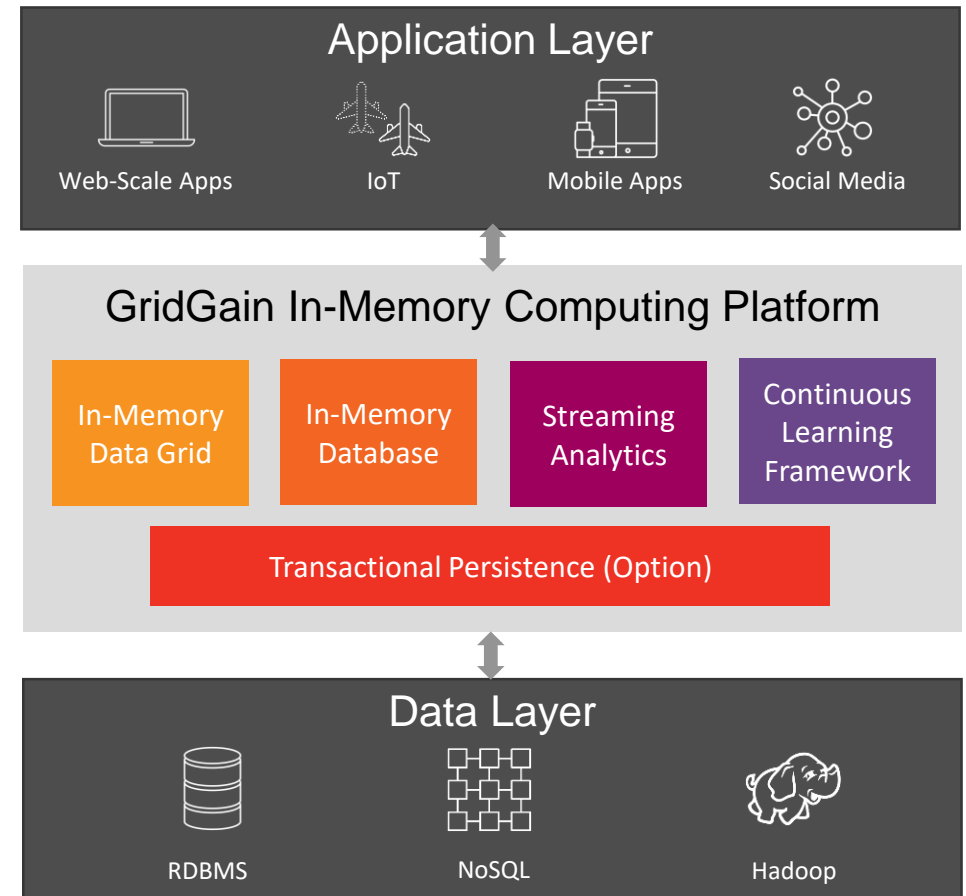
Most Strategic, Least Disruptive Approach

- No rip-and-replace of existing infrastructure
- Works with all popular RDBMS, NoSQL and Hadoop datastores

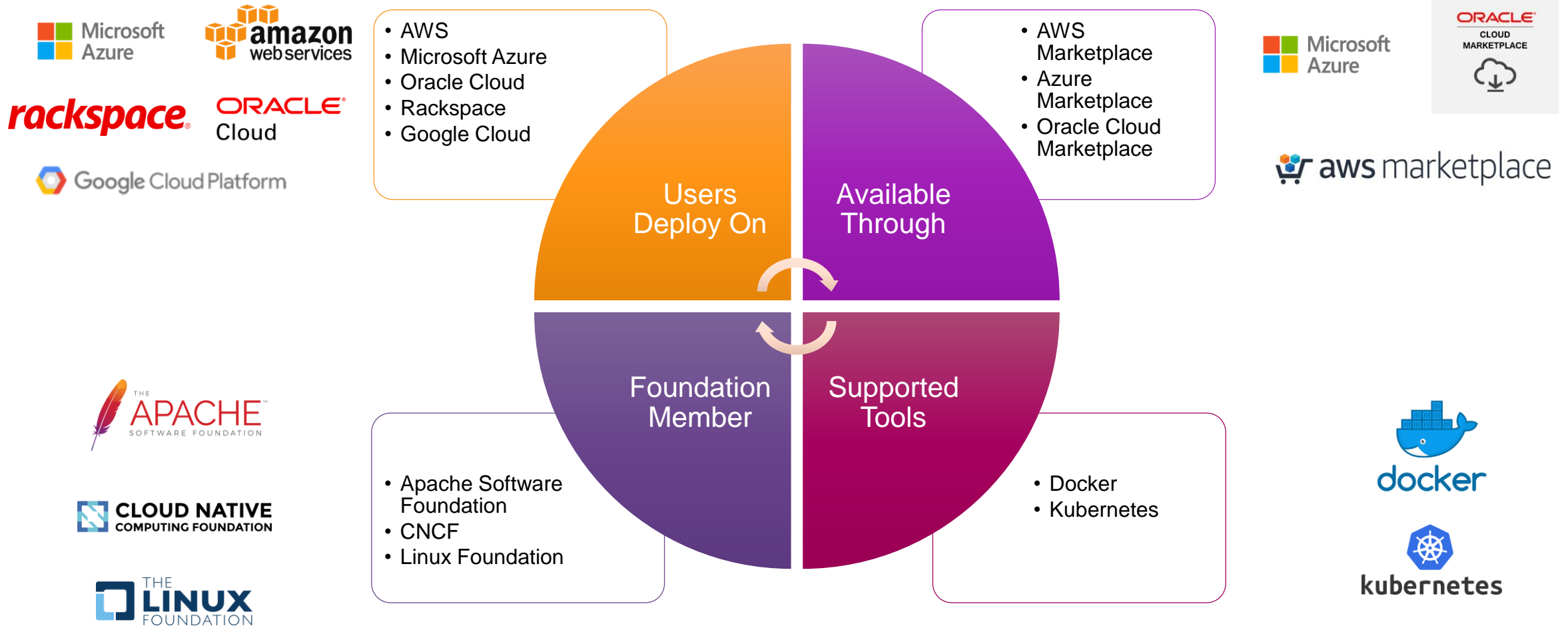
Native Integrations with Popular Solutions

- Confluent/Kafka, Spark, TensorFlow

OLTP, OLAP and HTAP Use Cases



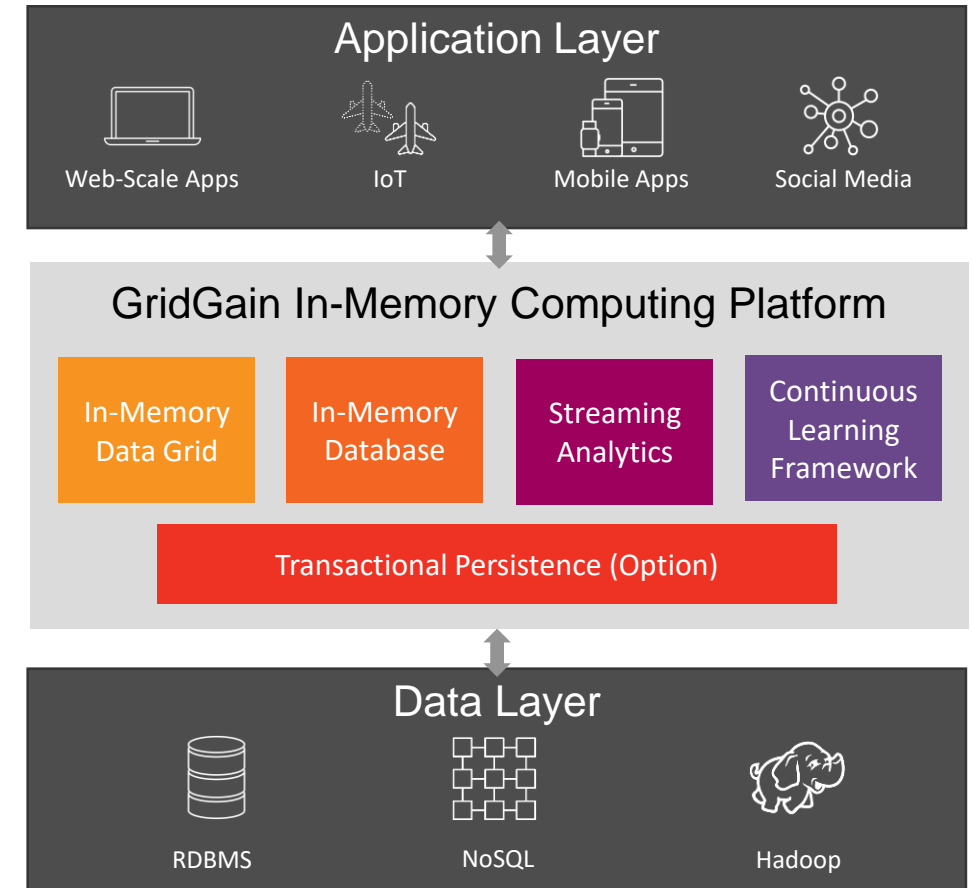
Deploy GridGain Anywhere



The Only In-Memory Computing Platform That...



- ✓ Can be Deployed as an In-Memory Data Grid or In-Memory SQL Database
- ✓ Enables Simple Migration from an IMDG to an IMDB
- ✓ Supports ANSI-99 SQL and ACID Transactions
- ✓ Includes Integrated Continuous Machine and Deep Learning Support
- ✓ Supports Memory-Centric Computing
- ✓ Is Built on a Leading Apache Software Foundation Project



GridGain In-Memory Computing Platform Summary

Addresses Two Critical Challenges

- Application acceleration
- Digital Integration Hubs

Used by Leading Companies Worldwide

- To power digital transformation initiatives

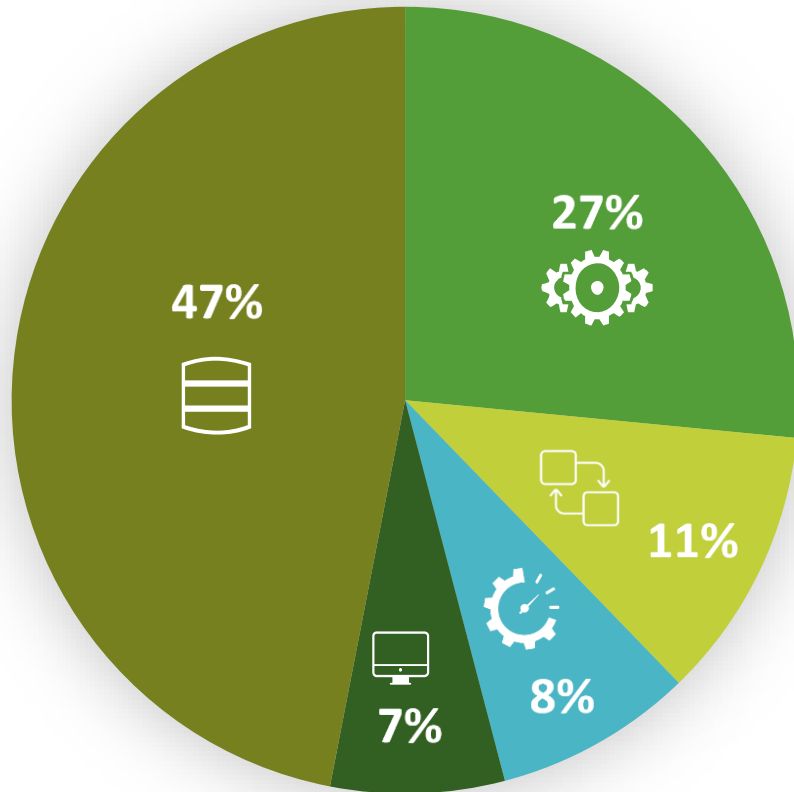
Built on Apache Ignite

- A top 5 Apache Software Foundation project





Problems contributing APP data GAP



- 1 Storage related
- 2 Configuration issues
- 3 Interoperability issues
- 4 Performance issues
- 5 Host, Compute, VM

END USER EXPERIENCE MATTERS





50+

Dedicated Associates

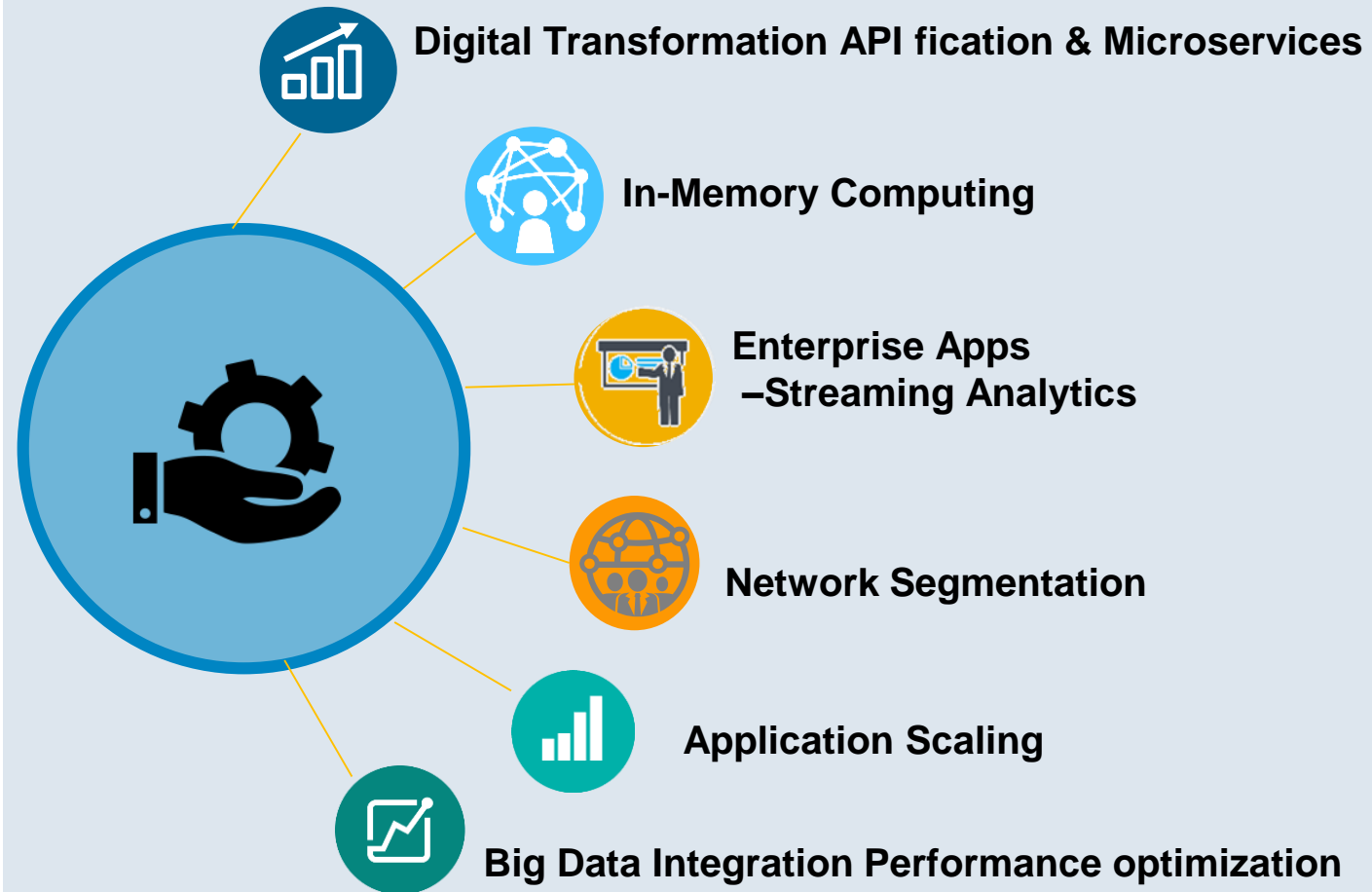
10+

Accelerators and Utilities

100+

Fortune 500 Clients

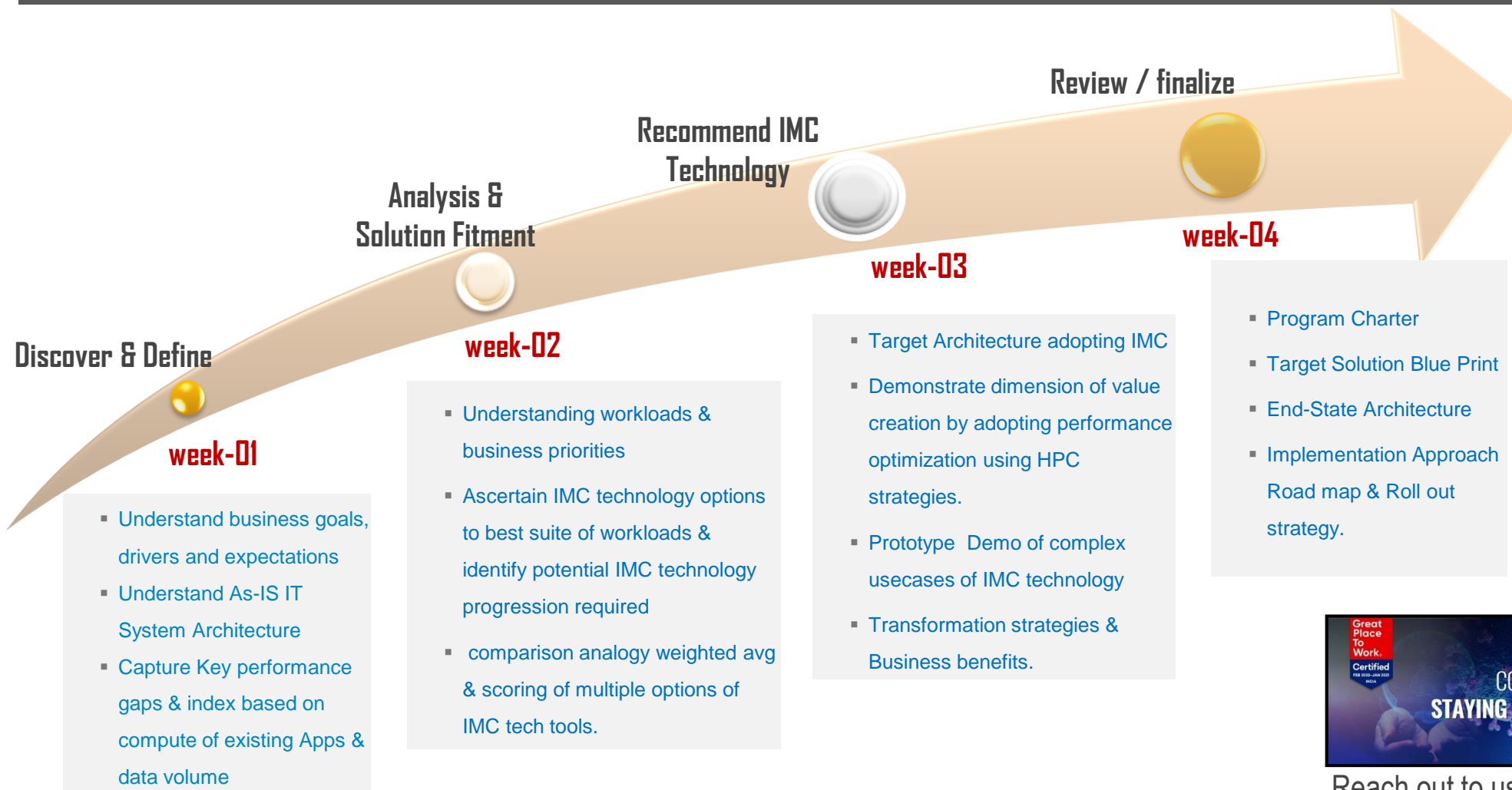
KEY GLOBAL EXPERIENCES





IMC Fitment Assessment Consulting

TechM offers value consulting engagement for Enterprise High Performance Computing especially in the area of Data Integration, Application integration which involves In – Memory Computing Assessments



Reach out to us @
Contact.EIS@techmahindra.com

Questions?

