



Driving Loyalty at the Edge: Real-Time Customer 360

High-Volume API Ecosystem & Tier-Based Loyalty Platform

Customer Case Study
Logistics Industry



<p>96% Faster Load Time</p> <p>Profile retrieval dropped from 30s to 1s</p>	<p>2M+ Daily Guests</p> <p>Supporting massive nationwide scale</p>	<p>Instant Custom Offers</p> <p>Real-time promotions at checkout</p>	<p>1000+ Locations</p> <p>Synchronized data across all sites</p>
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Client Background: High-Volume Retail

A major US gas station network, serving over 2 million guests daily across more than 1,000 locations, needed to modernize its customer engagement strategy. To stay competitive in the fast-paced retail fuel sector, the organization aimed to implement a true "Customer 360" capability, transforming how they interacted with patrons at the point of sale.



The Operational Bottleneck: Legacy Friction

- Unacceptable Checkout Friction:** Store teams waited up to 30 seconds to retrieve basic customer loyalty details during a live transaction.
- Fragmented Data Silos:** Customer identity, loyalty status, and relevant promotions were scattered across disconnected legacy systems.
- Delayed Decisioning:** The inability to process data in real-time meant the business was limited to static loyalty programs and after-the-fact reporting.

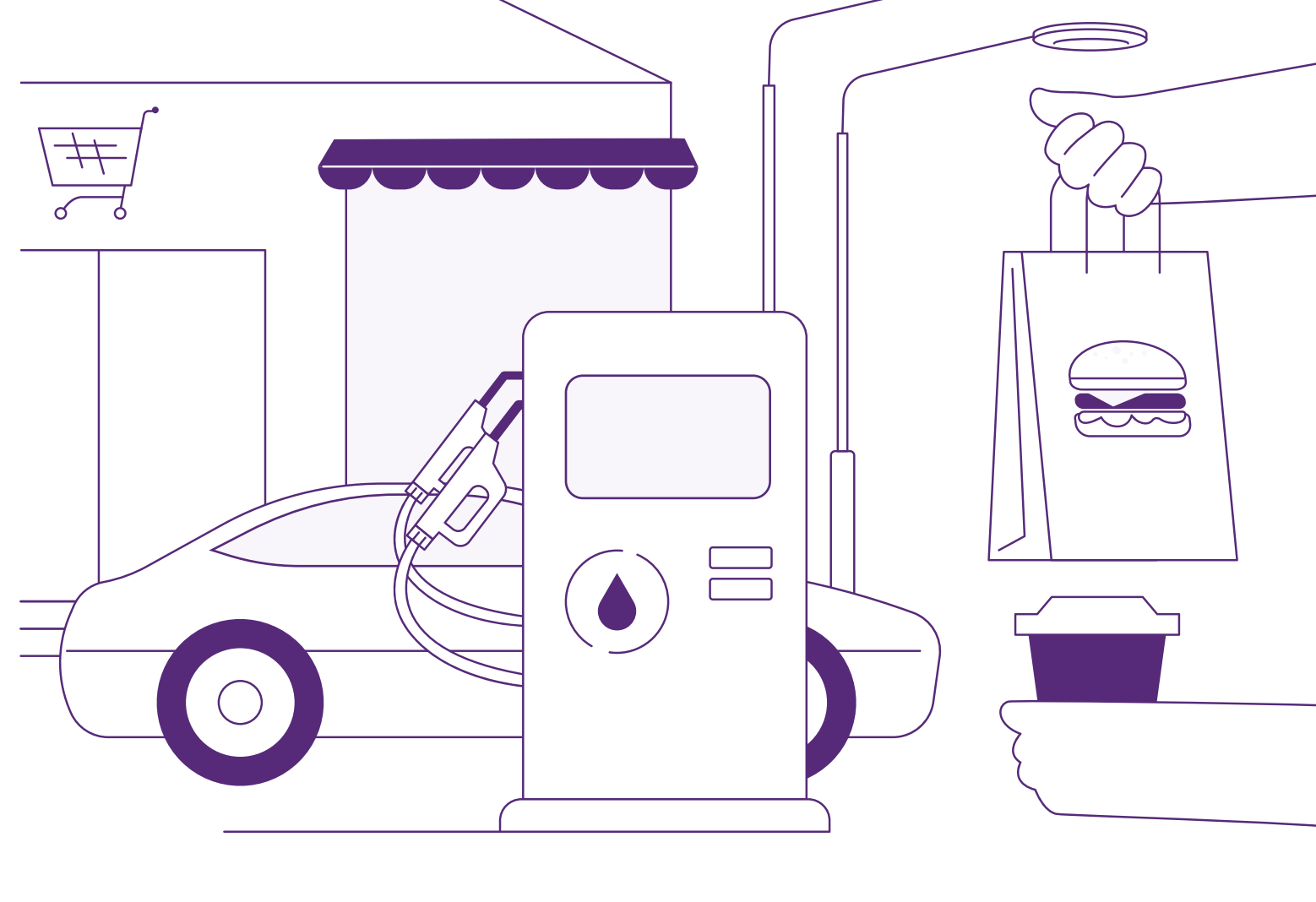
PROBLEM STATEMENT

How can we replace outdated infrastructure with a scalable integration system that delivers real-time customer profiles and instant promotional offers to 1,000+ locations?

The Albocensa Solution: The Unified Customer Layer

Albocensa designed and implemented a state-of-the-art **Customer 360 Integration Foundation**. We modernized the core capability, moving the client away from constrained, on-premise legacy dependencies and introducing a highly resilient, cloud-ready architecture.

We didn't just build a loyalty app; **we engineered a unified system of record that digitized the entire lifecycle of customer identity and engagement.**



The Solution Framework

Our approach focused on capturing, managing, and synchronizing customer data across the enterprise.

<p>Real-Time Customer Profile Engine</p> <p>A centralized, ultra-fast data retrieval system connected directly to the point-of-sale.</p> <p>Data Scope Customer identity, real-time loyalty point balances, and transaction history.</p> <p>Primary Use Equipping store teams with immediate customer context during live checkout.</p> <p>Key Benefit Slashed profile load times from 30 seconds down to 1 second, drastically reducing in-store friction.</p>	<p>Instant Promotion & Offer Engine</p> <p>A dynamic decisioning layer that pairs customer profiles with targeted marketing logic.</p> <p>Data Scope Eligibility rules, promotional campaigns, and real-time custom offers.</p> <p>Primary Use Pushing tailored promotions to the register the exact moment a profile is loaded.</p> <p>Key Benefit Transformed generic transactions into personalized retail experiences, driving repeat business.</p>
<p>Tier-Based Loyalty Platform</p> <p>A modernized reward structure aligned with top-of-industry customer retention strategies.</p> <p>Data Scope Frequency metrics, reward tiers, and gamified loyalty thresholds.</p> <p>Primary Use Managing and upgrading high-frequency customers seamlessly across all 1,000+ locations.</p> <p>Key Benefit Moved the brand away from static rewards, enabling dynamic incentivization for top customers.</p>	<p>Live Enterprise Analytics Dashboard</p> <p>A synchronized BI layer serving both internal stakeholders and customer-facing apps.</p> <p>Data Scope Point-of-sale telemetry, campaign performance, and regional customer trends.</p> <p>Primary Use Providing immediate operational insights for commercial and marketing departments.</p> <p>Key Benefit Eliminated delayed reporting, allowing business teams to make data-driven decisions on the fly.</p>

Value-Driven Outcomes

<p>Sub-Second Execution:</p> <p>Reduced customer detail retrieval time by over 96% (from 30 seconds to roughly 1 second). In a high-volume retail environment, this transforms the checkout experience and completely eliminates point-of-sale friction.</p>	<p>Instant Edge Personalization:</p> <p>Enabled real-time promotional decisioning. The system no longer waits for overnight batch processing; it serves targeted, custom offers the exact moment a customer's profile is loaded at the register.</p>	<p>Next-Generation Loyalty:</p> <p>Deployed a highly scalable, tier-based loyalty system capable of handling the demands of 2 million daily guests, driving higher customer retention and repeat visits across the network.</p>
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Technical Ecosystem

To support a high-volume "API First" architecture, we selected a robust stack focused on extreme reliability, scalability, and automated governance. Each component was chosen to ensure rapid partner onboarding without manual bottlenecks.

[See our full potential >](#)



MuleSoft
Acts as the core integration engine. It simplifies complex routing and manages high-volume API traffic between 1,000+ retail endpoints and centralized databases.



SAP
The enterprise backbone of the solution. We built state-of-the-art integrations to connect existing SAP on-premise services with the new agile customer layer.



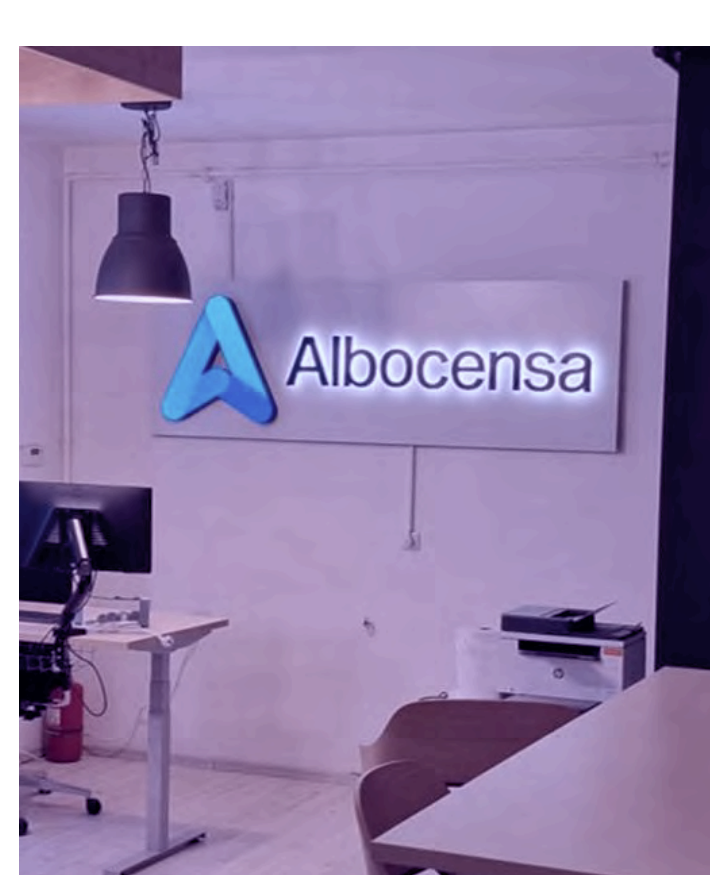
Python 3
Replaced highly brittle Visual Basic 6/8 legacy code. It provides a lightweight, highly maintainable language for executing custom business logic and data transformations.



AWS Lambda
Introduced serverless compute capabilities. It ensures the infrastructure scales automatically to handle massive, unpredictable traffic spikes across 2 million daily guests.



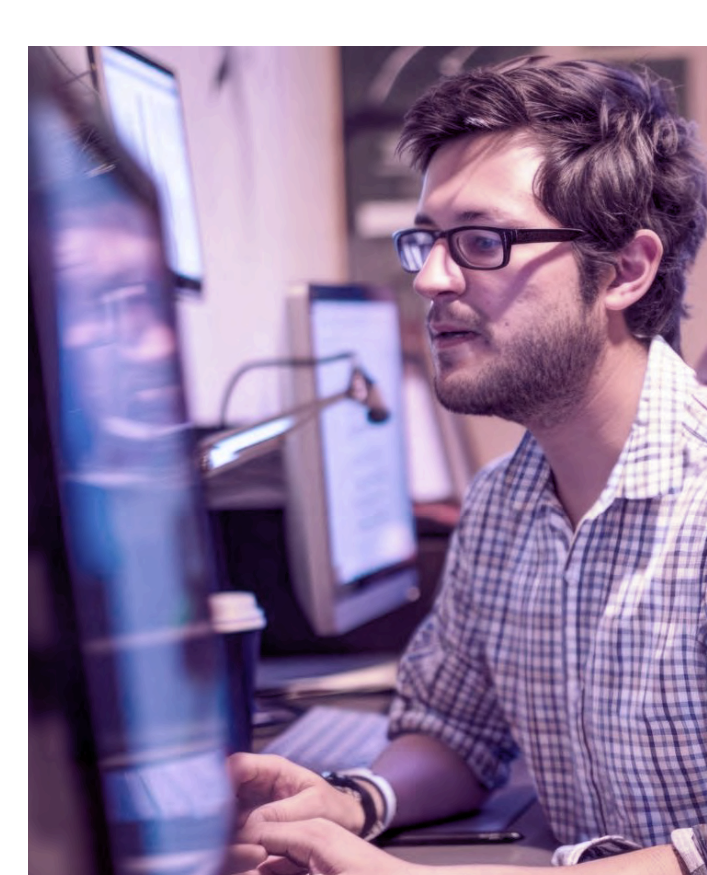
PostgreSQL
The modernized, high-performance database. It replaced legacy MS SQL structures, enabling low-latency, real-time reads and writes for dynamic loyalty profiles.



Team

The delivery was executed by a compact, high-ownership squad composed of three developers, one QA, and one Tech Lead. This structure supported rapid iteration and close collaboration with business and operational stakeholders while maintaining strict technical quality.

By aligning legacy systems with a modern AWS/MuleSoft stack, the Tech Lead established a foundation that enabled the Developer and QA teams to execute a high-velocity rollout. Their combined focus on performance and operational readiness ensured a flawless nationwide deployment across more than 1,000 locations.



Client Benefits

By modernizing the operational framework and transitioning to a real-time integration architecture, Albocensa delivered a highly responsive environment that perfectly aligned with the client's strategic goals for retail innovation. This digital foundation not only removed the friction of legacy IT but completely redefined the customer checkout experience.

<p>Financial & Operational Excellence</p> <ul style="list-style-type: none"> Elimination of Checkout Friction: By reducing profile retrieval times from 30 seconds to 1 second, the client improved point-of-sale efficiency, allowing staff to serve more customers during peak hours. Nationwide Scalability: The modernized stack replaced brittle legacy constraints, creating an integration foundation easily capable of supporting high daily volume across 1,000+ locations without crashing. 	<p>Quality & Visibility</p> <ul style="list-style-type: none"> Actionable Real-Time Marketing: Instant custom offers are now delivered alongside the retrieved customer data, making promotions actionable in real-time rather than after the fact. Data-Driven Operations: The introduction of real-time analytics provided both business departments and the customer journey with timely, synchronized insights, replacing outdated overnight reporting.
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