

Build AI-Powered Retail Experiences That Scale Without Breaking



Modern retailers need a modern data foundation to support AI workloads that deliver personalized recommendations, smart pricing, and intelligent automation that scales to meet burst capacity demands. However, most databases weren't built for both AI workloads and retail-grade resilience.

Retailers often need to cobble together multiple databases (SQL, NoSQL, Vector, Graph) to power AI applications, leading to:

- High infrastructure costs from over-provisioning and complex setups
- Slow time-to-market for new AI features
- Revenue loss during outages and peak traffic spikes
- Inconsistent customer experiences across regions

YugabyteDB: One Database for Your Entire AI-Powered Retail Stack

AI-native YugabyteDB eliminates the need for separate databases to power transactions, AI recommendations, customer service bots, pricing engines, and inventory forecasting.

Everything runs on a single platform that never goes down.

Designed for scalable, resilient modern AI applications, YugabyteDB provides an agent-native data layer built from the ground up around AI data constructs such as knowledge, memory, conversations, and traces, in addition to traditional data (SQL, vector, graph, object stores, and search).

Built for Retail Reliability

- Always on during Black Friday, Cyber Monday, and flash sales
- Handles millions of shoppers without performance degradation
- Global reach with low latency for customers anywhere
- Ultra-resilient by design to survive node, zone, region, or even cloud failures.
- Automatic scaling so you only pay for what you use

YugabyteDB Edge Solution

Seamlessly connect 1000s of edge deployments to a central core database for PoS systems, supply-chain management, and inventory management.

- Continuous replication across deployments
- Islandable to support edge location operations in a disconnected state for hours or days
- Centralized management operations
- Conflict detection and automated resolution

Measurable Business Impact

Drive Revenue: Increase conversion rates with AI recommendations that adapt to each customer in real time. Reduce cart abandonment with faster, smarter checkout experiences.

Operational Cost Reductions: Reduce infrastructure spending compared to traditional databases while improving team efficiency through simplified operations.

Brand Protection: Zero downtime during peak events means you never miss a sale. 3-second recovery from infrastructure failures keeps customers shopping.

Accelerate Innovation: Launch AI features faster without waiting for database migrations or complex integrations. Your team has time to focus on building features instead of troubleshooting database issues.

Stay Compliant: Minimize non-compliance by proper data handling, data sovereignty, disaster recovery, and auditability.

Use Cases That Drive Results

Enhanced Customer Experience

- **Personalized Shopping:** Bring data together and power AI agents that recommend products based on browsing history and past purchases. Optimize checkout, payments, and personalized offers at scale.
- **24/7 Customer Service:** Ultra-resilience with zero data loss ensures AI assistants have access to the data needed to handle queries instantly, escalating complex issues. Lower your support costs while improving customer satisfaction.
- **User Account and Loyalty Rewards Management:** Handle millions of user logins and transactions daily while maintaining ACID compliance and ultra-low latency.

Efficient Operations

- **Smart Inventory:** A single distributed, always-on database enables demand prediction to optimize stock levels across all locations. Reduce waste, prevent stockouts, and maximize revenue during peak events.
- **Payment Processing:** YugabyteDB delivers the high-throughput, always-on backend required for real-time payments and wallet transactions. With active-active architecture and zero-downtime resilience, it's built for transaction-heavy platforms.
- **Dynamic Pricing:** YugabyteDB's strong consistency and speed powers price adjustments across millions of products based on demand, competition, and customer segments.

Chosen by Leading Retailers



"We chose Yugabyte for its Raft consensus-based distributed SQL with Postgres semantics, geo-partitioning capabilities, and the ability to self-operate at our scale while maintaining sovereignty requirements."

— **Shopify Engineering Team**

"During severe weather events, our systems stayed online with zero data loss. Our customers never knew anything happened."

— **Top 3 US Retailer**

Why Retailers Trust YugabyteDB

- Battle-tested by industry leaders
- Works with your existing applications
- Deployed in weeks, not months
- Runs anywhere: your data center, AWS, Google Cloud, Azure

Get Started in Minutes

Ready to take your database to the next level? Embrace our fully managed DBaaS in minutes with a free cluster in AWS, Azure, or GCP.

Get started at cloud.yugabyte.com.

For more information, contact a YugabyteDB expert at yugabyte.com/contact.



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