



it's about time

# Kx for Retail

## Making data valuable and interactions profitable

From inventory management and forecasting to point-of-sales analytics and recommendations the volume and velocity of data that must be processed poses an immense challenge to retail companies. Kx for Retail makes it easier by providing a single stack for capturing data, running real-time analytics and visualizing results. Data from multiple sources, both historical and real-time, can be ingested, validated, stored, enriched and modeled by both power users and business users alike for immediate insights into trends, anomalies and opportunities that otherwise lie buried in torrents of unfathomable data.

- Price Optimization Modeling using conjoint and price elasticity analytics on customer data, epos data and market data
- Price Evaluation Modelling to quantify the impact of pricing and promotion strategies on basket size, footfall and sales volume.
- Real-time inventory, shelf-life and supply chain management for store optimization and customer communication
- Website analytics on who visited your website, when, how often and what were they looking for



**Unified Solution** - A single integrated platform for retail analytics rather than a collection of incompatible tools enabling quicker implementation and lower TCO. Out-of-the-box dashboards provide feature-rich visualization and control tools which can be effortlessly customized and extended for specific analysis, monitoring and research requirements.

**Powerful Analytics** - Kx for Retail includes a powerful programming language, q, providing machine learning and predictive analytics capabilities such as GARCH and Kalman Filtering for forecasting, GMM and K-means clustering techniques for assessing product bundles and Tarjan's algorithm for basket analysis and assessing brand impact of strongly connected users over social media

## At a Glance



Kx for Retail offers a single platform for capturing analyzing and deriving value from vast amounts of historical and real-time data sources – instantly, easily and cost-effectively

## The Kx Advantage

- Single Integrated software stack for quicker, easier implementation, lower cost and reduced TCO
- Pre-built analytics repository for swift implementation and rapid customization of algorithms for forecasting, collaborative filtering and promotional activities
- Rich, customizable visualization through integrated HTML5 dashboards enabling self-service BI
- Lambda/HTAP architecture for combining historical and streams data into analytics and visualization
- Complex Event Processing, aggregation alerting and reporting
- High performance and scalability of Kx
- Ingest, filter, validate, tag and enrich data from multiple sources
- Enterprise features, security, auditing, logging, archiving and compression
- Deploy on premises or in the cloud



### Analytics in one Place

Open interfaces for ingesting data from multiple sources including APIs to a range of other languages and processing environments such as Python, R, Matlab, Excel and Mathematica.

### Fully Scalable

Modular architecture offers the ability to scale vertically or horizontally across machines. Kx consistently outperforms other databases in speed, reliability and overall TCO, enabling retail companies to run large scale simulations that offer improved accuracy and increased acceptance of results by auditors and regulators.

### Enterprise Feature

A comprehensive security and entitlements framework imposes strict control on access and authorization rights. An accompanying audit trail provides details logging of all user actions and system changes.

### Optimized Storage

In-memory engines and on-disk databases employ an elegant columnar data storage architecture. A flexible compression configuration facilitates tuning and optimization of compressed data.

### Rich Visualisation

Out-of-the-box HTML5 dashboards provide feature-rich visualization and control tools including powerful OLAP drill-down features and query builders. Dashboards can be effortlessly customized and extended for specific testing, monitoring and research requirements. Dashboards can be shared across the web or entitled to individual users.

### Openness

Includes APIs to a range of other languages and processing environments such as Python, R, Matlab, Excel and Mathematica. Interfaces to C#, JavaScript and ODBC databases are also provided. Visualization tools include Dashboards for Kx to provide consolidated visibility into Kx and other in-house data sources.

### Performance

Queries and functions are executed on commodity hardware at unrivalled speeds providing the business with the ability to make more informed decisions faster at a fraction of the cost of large-specialized equipment. In-memory processing, vector algorithmic and columnar-based storage all contribute to high-performance, low-latency processing of data.

### About Kx

Kx has been the software leader for complex analytics on massive-scale streaming data for over two decades. The Kx technology is an established and trusted standard for trading, surveillance and research in financial services. Kx has emerged as the elegant, integrated solution to the analytic needs of the Pharma, Retail, Utilities and High Tech Manufacturing industries scaling effortlessly to the data challenges of the Internet of Things.

Kx is a division of First Derivatives plc. Listed on the London Stock Exchange [FDP:LN] First Derivatives is a specialist software and consulting organization with a uninterrupted track record of customer success and profitable growth since it was listed in 2002.

### Kx in Action

#### Visualize and Explore Data

- Dashboards for Kx
- Analyst for Kx

#### Industry Solutions

- Retail
- Finance
- Pharma
- Utilities & IoT

#### Control, Deploy & Monitor

- Control for Kx
- Stream for Kx
- Kx for Monitoring



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