



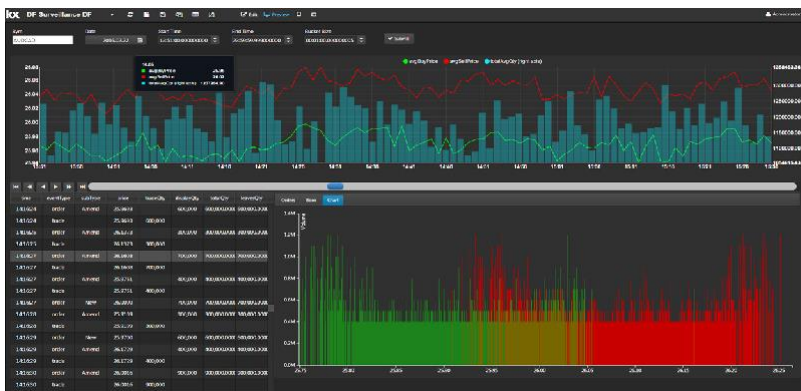
it's about time

MiFID and MAR Solutions

The transaction monitoring and reporting requirements under MiFID/R II and MAR demand a powerful solution that functions beyond 'regulated markets', keeping pace with the new paradigm of closer market supervision. Kx has the technology solution and the resources to implement it and execute change.

Kx for MiFID and MAR accommodates all asset classes seamlessly, and provides real-time and T+1 alerting. It enables clients to independently define and amend alerts to cater for new and evolving market abuse techniques. Changing regulatory requirements mean that an investment with Kx will provide the best TCO.

With Kx for MiFID and MAR, users can change parameters to avoid false positives during busy markets, which reduces staff costs and drives better trading behaviour. Similarly, it provides access to all data sets: orders, trades, market data, reference data, company announcements, and electronic communications.



Order Book Replay

Kx for MiFID and MAR provides the ability to select an instrument and view its price/volume chart over a chosen period. Users can select any point on the timeline to reconstruct the order book at that time with the ability to view the book graphically or in tabular form along with incoming orders, trades and other events as they were generated. Users can watch a detailed animated market replay at selectable speeds, both forwards and backwards, and jump easily to new time points.

Market and Reference Data

Capture all market data into an integrated warehouse in a standardised data schema. Includes Reference Data and any other datasets required (e.g. FX rates for exposure monitoring). Also capture, search and trigger alerts on news items. Combine with external data, for example an exchange or regulator's own intelligence database to monitor investor associations etc.

At a Glance



Kx is a trusted partner with a strong track record of delivering high volume, real-time multi-asset regulatory solutions.

The Kx Advantage

- A unique combination of rapid implementation coupled with extensive configurability
- Developed and delivered by domain experts in technology, regulation and market practices
- A strategic solution for both immediate and long term regulatory requirements
- Reduced Integration and data management costs
- Extensive customer base using Kx regulatory and surveillance solution
- Software driven with focus on data remediation to achieve completeness, accuracy and repeatability
- Large set out of-the-box pre-built alerts to fast track implementation and rollout
- Extensive pool of talented, well trained on-demand consultants focussing on practical execution and implementation
- Also addressing Basel III, EMIR, Dodd Frank, and KYC/AML, BCBS 239, FATCA, and CCAR

Backtesting/Calibration

Replay alerts to reproduce past market misconduct. Test new alerts and algorithms against historical data and recalibrate parameters to minimise false positives. Modify alert parameters in real time to adjust alert sensitivity to new market conditions High speed matching engine. Ability to inject synthetic market events.

Alerts Management

Standard price/volume alerts, spoofing, marking open/close and order book layering, more alert types. Easily create new custom alerts on the fly. Auto-assign alerts to surveillance analysts through workflow for investigation and case creation. Identify Algo conflicts. Persisted to audit for compliance and review.

Expertise

Kx is trusted because our consultants bring deep domain and regulatory knowledge, and a diverse set of experiences across both business and technology to get the job done.

Scalability

We have the capacity to meet your resource needs as they change, ramping up and down—always with the right resources to ensure strategic delivery.

Alerts Workflow

Define analytics and alerts to identify and highlight trading activities and alerts on potential market abnormalities. Identify anomalies such as sudden price/volume spikes, BBO spikes, passive orders or large orders or market manipulation via collusion, spoofing quote stuffing or bait & switch techniques. Alerts are assigned to an analyst for workflow follow up, allowing for review, replay and attaching any items of interest.

Execution Focus

The challenge of regulatory change is implementation, going below the water line, where the real challenges lurk. Kx focuses on deep diving in the execution space, driving project completion within tight regulatory-mandated deadlines.

Technology DNA

Our business and regulatory consultants understand the technology challenges of MiFID II and MAR, aligning implementation with the realities of a complex IT landscape.

A Sample of Out-of-the-Box Alerts Provided for MiFID and MAR

1	Abusive Squeeze	18	Latency of Order Handling	35	Spoofing - Quick Deletion of Orders
2	Barrier Options - Inappropriate Barrier Running	19	Layering: Bait & Switch	36	Spoofing -Smurfing (Repeated Small Order Entry)
3	Barrier Options -Creating Floor or Ceiling in Price Pattern	20	Manipulation of Fixes -Benchmark Manipulation	37	Time-Order Priority
4	Client Stop Loss -Inappropriate Stop Loss Triggering	21	Manipulation of Fixes - Benchmark Trade Prices	38	Trade to Trade- Unusual Price Movement
5	Client Stop Loss -Creating Floor or Ceiling in Price Pattern	22	Marking the Close - Orders	39	High Order Rate
6	Coordinated Trading -Collusion	23	Marking the Close - Trades	40	Unusual Trade Volume y
7	Coordinated Trading / Prearranged Trading	24	Marking the Open (Orders)	41	Wash Trading
8	Cross Trading - Wash Trades	25	Marking the Open (Trades)	42	Cross Instrument Manipulation Inter Trading
9	Cumulative Large Trades Unusual Volume	26	Mark up / Mark down Breach	43	Phishing
10	Divergence/Convergence of underlying v related Inst.	27	Off-market Fair Pricing Trade Out of Bounds	44	Painting the Tape
11	Ping Orders	28	Order to Trade Ratio	45	Pump and Dump
12	Frequent Deletion of Orders - High Order Rate	29	Parking	46	Trash and Cash
13	Front Running (Orders)	30	Partial Fills	47	Quote Stuffing(Includes RFQ)
14	Front Running (Trades)	31	Price Ramping - Extreme Trade Range	48	Momentum Ignition
15	Inappropriate Assignment – Benchmark	32	Price Ramping - Rapid Price Dislocation & Reversion	49	Smoking
16	Inappropriate Assignment - Client Orders	33	Price Ramping -Unusual Price Movement	50	Insider Trading
17	Large Orders	34	Price Ramping - Breaking the Market	51	Attempts to Inside Trade

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

- Kx Dashboards
- Kx Analyst

Control, Deploy & Monitor

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

Industry Solutions

- Finance
- Surveillance
- Algo
- Flow
- Pharma
- Utilities & IoT

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