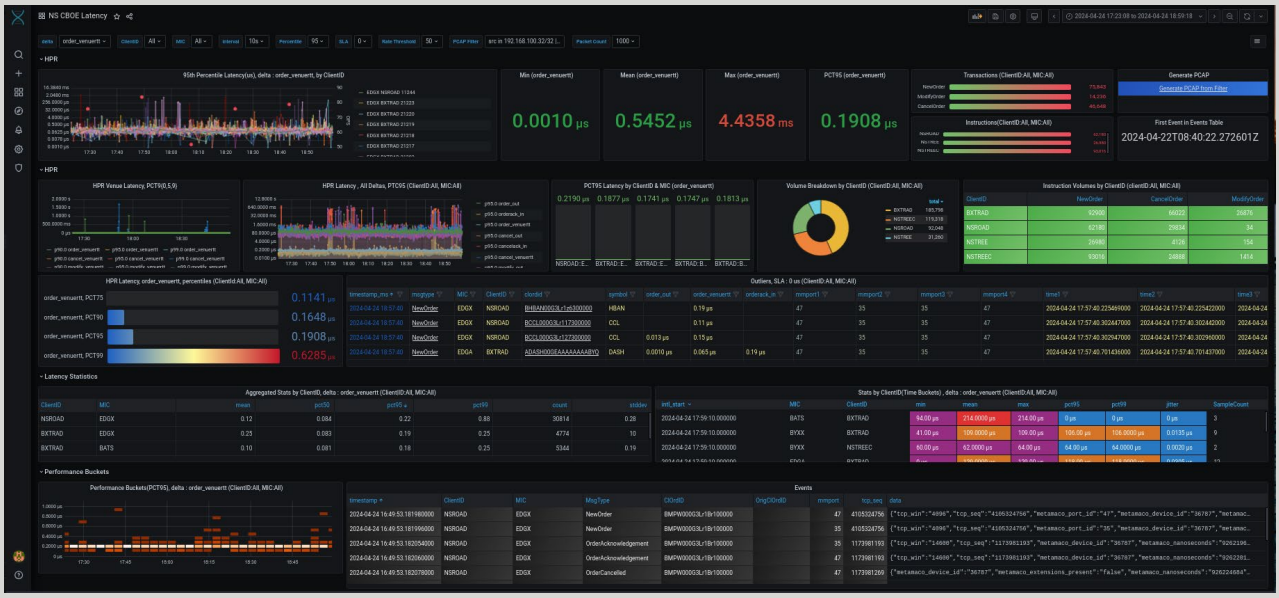


Trade Flow Analytics & Observability with xMetrics®

Maximizing Trade Quality and Market Opportunity

KEYSIGHT

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Introduction

TradeFlow Analytics & Observability is the process of capturing, decoding and understanding the network traffic that contains orders, trades and market data within an electronic trading environment. This involves monitoring the interactions between and within trading systems, exchanges, brokers and networks to ensure that orders and trades are executed correctly and efficiently.

Why is it Increasingly Important?

In today's fast-paced electronic trading world, financial institutions face pressure to meet more demanding regulatory standards, deliver best execution, and maintain transparency. TradeFlow Analytics & Observability, with its multi-platform reach, helps with:

- **Compliance:** Ensures adherence to market regulations (MiFID II, SEC 606)
- **Transparency:** Provides visibility into order lifecycles from submission to execution
- **Performance Optimization:** Identifies network or application issues that might impact latency or execution quality
- **Risk Mitigation:** Helps detect anomalies like market abuse or operational errors that can lead to costly losses

Who Needs it and Why?

Critical for a variety of financial market participants, including:

- **IT & Network Teams:** Monitoring infrastructure and trading systems to ensure they are optimized and efficient, with application support to resolve any performance issues.
- **Sell-Side Firms:** Brokers and dealers who execute trades on behalf of clients, optimizing execution performance and delivering differentiated service offerings.
- **Buy-Side Firms:** Hedge funds, asset managers, and institutional investors monitoring their own trading activities to enhance execution performance and trading strategies.
- **Exchanges and Trading Venues:** For monitoring order flow and ensuring market stability whilst maintaining operational efficiency and market integrity.
- **Compliance Teams:** Ensuring adherence to internal policies and external regulations to mitigate regulatory and operational risks.
- **IT & Network Teams:** Monitoring infrastructure and trading systems to ensure they are optimized and efficient, with application support to resolve any performance issues.

What is xMetrics?

xMetrics® is an award-winning, independent trade flow analytics and observability platform, designed by former investment banking and venue technologists to deliver unmatched visibility and control over trading operations. Developed by Instrumentix and now fully supported by Keysight, xMetrics provides comprehensive, real-time insight into every stage of the trade life cycle — with proactive monitoring of the entire trading estate, including the infrastructure on which it runs.

Purpose-built for the demands of electronic financial markets, xMetrics provides a single pane of glass to monitor all execution, market data, infrastructure and network performance across any asset class. Written in multi-threaded C++11 for maximum throughput, the platform goes far beyond simple latency measurement — it creates rich business and technology data that can be leveraged for real-time visualization, alerting, reporting and deep performance analysis.

Built on a highly modular and scalable architecture, xMetrics deploys across a range of environments — including Keysight's V400 network packet brokers, high-performance capture appliances, or standard servers. With complete topological freedom and a fully distributed monitoring architecture, xMetrics removes the complexity and cost that have historically hindered effective trading infrastructure observability — delivering a global deployment model that satisfies both CTO architecture standards and CFO cost expectations.

xMetrics extends well beyond conventional monitoring. With seamless integration into legacy systems and native persistence to industry-standard datastores, it enables clients to protect and maximise their existing technology investments — eliminating reliance on external analytics stacks whilst lowering total cost of ownership and respecting compliance-defined data boundaries.

Only xMetrics allows firms to implement their own analytics logic and metrics, free from the constraints of any vendor roadmap. The result is not vendor-defined monitoring — it is firm-defined intelligence: a programmable, composable and distributable trade flow observability architecture designed for the structural realities of capital markets infrastructure.

Accessible to firms of all sizes, xMetrics delivers affordable, global trading environment instrumentation — making it the definitive solution for modern trade flow analytics and observability.

Why Choose xMetrics?

- The only truly modular, open and distributable software solution for trade flow analytics and observability — uniquely scalable, considerably simpler to deploy, and significantly more cost-effective than legacy alternatives.
- Integrates with existing infrastructure, enabling firms to build on previous investment rather than replacing it — gaining immediate depth of observability and access to advanced analytics from day one.
- Available as a fully managed service with round-the-clock coverage, delivering comprehensive visibility without the operational overhead. No internal expertise required. No expenditure on unused capacity.
- Written in multi-threaded C++11 for maximum throughput, processing billions of records per day at enterprise scale.

Key Differentiators

Firm-Controlled Intelligence

xMetrics is the only trading observability platform that enables firms to implement their own analytics logic within a performance-isolated runtime. No vendor roadmap dependency. Immediate regulatory adaptation. Custom metrics without delay. The result is not vendor-defined monitoring — it is firm-defined intelligence.

Topological Freedom

xMetrics can be deployed as a single-machine solution or as a globally distributed architecture. This enables geographic compliance segmentation, latency-aware deployment, cost-effective regional instrumentation, and progressive scaling without redesign. Competitors sell appliances. xMetrics provides composable architecture.

Complete Native Persistence

xMetrics can persist all events natively to industry-standard datastores, eliminating reliance on external analytics stacks such as Splunk or KDB. This means instant historical queries, no partial visibility, lower total cost of ownership, and faster regulatory and operational response.

Holistic Correlation

xMetrics correlates data across every layer — network, infrastructure, execution, market data, and business metrics — in real time. Root cause analysis in minutes instead of hours. Proactive optimisation based on patterns competitors cannot detect. Strategic decisions backed by data spanning every layer of your technology and business.

Zero Vendor Lock-in

xMetrics is a fully open platform with no islands of data. Ingest from any external source, enrich at the point of capture, and export to any downstream system via standard protocols and APIs. All data is accessible via Kafka, Elastic APIs, JDBC, BI tools, and more.

xMetrics Platform Components

xMetrics is built from a set of modular, composable components. Each can be deployed independently across a distributed environment, giving firms complete flexibility in how they architect their observability solution.

Capture and Decode — xAgent

xAgent is responsible for traffic acquisition and decoding. It captures real-time network traffic from key trading components such as Feed Handlers, Order Management Systems, and Smart Order Routers. Traffic is typically collected via optical taps and network packet brokers or tap aggregators.

Protocol Stack

Decoder Type	Description
FIX	Decodes FIX execution and market data traffic — the industry standard for order and execution messaging.
Fixed Width	Handles fixed-width protocols using decoders created via XML configuration, requiring no additional development.
Custom / Bespoke	C++ development for proprietary protocols. Can be written by Instrumentix, Keysight, or the client.
Hasher	Provides monitoring without decoding the payload, using hashed signatures for performance measurement.

Correlation Engine — xMaster

At the heart of xMetrics is xMaster, a highly powerful correlation engine designed to handle the complex, non-linear relationships inherent in today's trading platforms. It matches decoded events received from xAgent to create transactional models that track performance across complex environments.

xMaster correlates across FIX, proprietary and native exchange protocols, even when formats and fields change mid-flow. It has been successfully deployed across 18 or more hops, with no hard limit on the number of hops that can be included in a single flow.

A key feature of xMetrics is its ability to manage multiple protocol transitions that occur as orders pass through systems such as Order Management Systems (OMS), Smart Order Routers (SOR), and Market Gateways. For example, client orders introduced via FIX protocol on the client-side are transformed into native exchange protocols on the market-side. xMetrics seamlessly correlates these different message types to provide a complete view of the trade lifecycle. Even when different systems use varying data formats, xMetrics can match and correlate these fields. Whether it's translating RIC codes into exchange-native symbol indexes or converting price data from floating-point numbers to integers, xMetrics ensures that orders can be tracked and analyzed. An example of a field format 'challenge' is shown below.

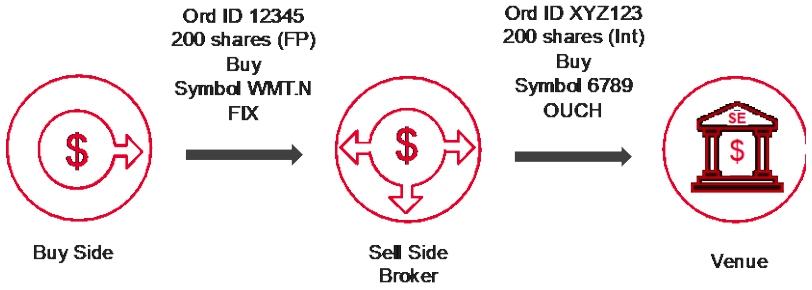


Figure 1. Challenge of order "signatures"

To reliably match an order with its acknowledgments and fills, multiple fields are required to create a unique "signature." This process must occur in real time, across a large number of fields, especially when handling child orders where amendments, fills, and cancellations need to be tracked. The challenge is magnified as orders pass through multiple stages — each with its own signature variation — on their journey from the buy-side to an execution venue. At every "hop" in the trading infrastructure, from points A to E in the diagram below, signature matches must be performed to provide a complete view of end-to-end trade latency. This complexity makes it crucial to have a solution capable of efficiently correlating these fields across every stage of a transaction. More complex trading architectures can have tens of hops.

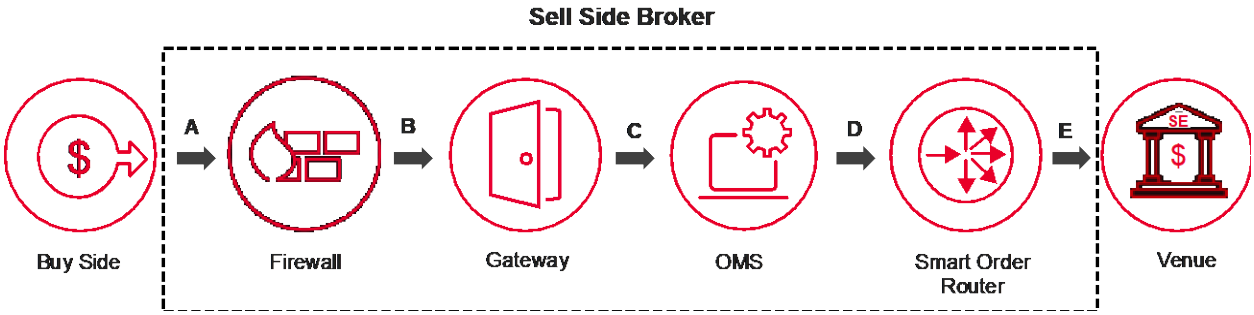


Figure 2. More complex order matching challenges

Summarisation — xReporter

xReporter summarises transactions from xMaster over configurable time periods (e.g. 60 seconds for execution data, or 5 seconds for market data). It aggregates data across multiple dimensions such as gateway, trader, and symbol, generating rich statistics including min, max, mean, median, standard deviation, jitter, and arbitrary percentiles, as well as message rates and bandwidth.

Network Measurement

In addition to rich application performance data, xMetrics measures network performance for each trading or market data activity. Metrics are measured in both directions and include bandwidth, traffic rates, packet rates, and microbursts. The system also exposes TCP behaviour anomalies such as retransmission, zero-window, out-of-sequence and duplicate ACK errors, helping users identify and resolve performance bottlenecks quickly.

Enrichment and Transformation — Mutations Framework

The Mutations Framework is unique to xMetrics. User-Defined Functions (UDFs) in byte-compiled Python or C++ run directly in the instrumentation path, giving firms the power to create any metric, enrichment, or integration they need — without vendor involvement and with zero impact on capture performance.

What you can do

- Calculate derived metrics not present in captured traffic — spreads, ratios, compliance measures, business intelligence indicators.
- Ingest client hierarchies, reference pricing, organisational structures, and server telemetry. Combine and transform data at the point of capture.
- Feed enriched, transformed data directly to risk management, compliance, trade surveillance, and AI/ML tools via API.
- New regulation? Write a UDF and deploy it within hours. No vendor tickets, no professional services engagements, no waiting.

Data Persistence

xMetrics offers flexible, long-term data storage. All business transactions, summary metrics, network details, and raw decoded events are written to purpose-built datastores. Persistence is configurable, allowing different types of data to be stored for varying durations.

Datastore	Purpose
ClickHouse	Massive write throughput and analytical queries across billions of events with efficient compression. Built for peak trading volumes.
TimescaleDB	Time-series optimisation on PostgreSQL. Ideal for latency analysis, performance trending, and statistical work using familiar SQL tooling.
Elasticsearch	Schema-free full-text search powering order lookups, compliance queries, and anomaly detection, with native Kibana and Grafana support.
Kafka	High-throughput distributed event streaming. Provides durable, ordered event pipelines that decouple data producers from downstream analytics and storage.

All queryable via standard interfaces — JDBC, Elastic APIs, Kafka, Grafana.

Adaptive Alerting

xMetrics provides fully configurable, adaptive multi-factor alerting covering business data (summaries, individual transactions, or events), network behaviour (microbursts, bandwidth, retransmissions), and server health (CPU load, memory, disk utilisation). The system supports legacy SLA/threshold-based alerts as well as advanced, data-driven alerting scenarios.

Alerting Examples

- Alerting when the current latency for a specific instrument exceeds the 95th percentile for the last hour.
- Notifying users when packet rates deviate by more than two standard deviations compared to the same period from the previous week.
- Triggering alerts for microbursts that coincide with TCP retransmissions and latency spikes in a monitored flow.

Alert sinks include email, syslog, Kafka topic, ZeroMQ, and socket.

Visualisation — Genesis

The xMetrics Genesis framework (based on Grafana) offers a multi-tenant visualisation platform that allows users full control over dashboard design. Genesis is primarily focused on presenting timeseries data but also includes real-time alerting and transaction search capabilities. Users can quickly search for specific quotes or orders based on any relevant criteria. Genesis supports data injection from external sources, enabling users to integrate multiple datasets into unified, customised dashboards.

BI Reports and Report Editor

xMetrics enables users to create in-depth, customised reports using all available data. Reports can be parameterised, scheduled (intraday or end-of-day), and exported in PDF, HTML, PNG and CSV formats. The built-in Report Editor provides users with a rich interface for designing and automating report generation, with delivery via email to key stakeholders.

Key Capabilities

Latency Monitoring

Multi-hop latency monitoring with 1-nanosecond precision, including per-interval summarised statistics across all instrumentation points. Analysis by client, venue, symbol and more, with drill-down for outliers showing the full order lifecycle.



MM_CMIG	1.098 ms	22.027 ms	2.439 ms	1.927 ms	3.239 ms	4.443 ms	13.235 ms
MM_CIEL	1.065 ms	4.057 ms	2.221 ms	2.279 ms	3.424 ms	3.766 ms	3.912 ms
MM_CCRO	1.003 ms	5.128 ms	1.720 ms	1.436 ms	2.793 ms	3.025 ms	4.077 ms
MM_CASH	0.917 ms	5.040 ms	1.866 ms	1.618 ms	3.104 ms	3.396 ms	4.025 ms
MM_BRML	1.108 ms	15.321 ms	2.346 ms	1.968 ms	3.670 ms	5.852 ms	9.693 ms
MM_BRKM5	0.961 ms	9.336 ms	1.939 ms	1.298 ms	3.291 ms	6.827 ms	8.273 ms
MM_BRFS	1.063 ms	10.409 ms	2.454 ms	2.279 ms	3.509 ms	7.042 ms	9.947 ms
MM_BPAN	1.185 ms	3.536 ms	2.460 ms	2.536 ms	3.413 ms	3.461 ms	3.499 ms
MM_BPAC	1.074 ms	101.891 ms	3.337 ms	1.993 ms	2.969 ms	3.919 ms	27.166 ms
MM_BOVV	1.114 ms	7.992 ms	2.269 ms	1.910 ms	7.722 ms	7.885 ms	7.901 ms
MM_BOVA	0.988 ms	550.631 ms	81.850 ms	2.440 ms	550.075 ms	550.358 ms	550.438 ms
MM_BEEF	1.138 ms	3.777 ms	2.391 ms	2.385 ms	3.642 ms	3.708 ms	3.740 ms
MM_BBSE	0.942 ms	6.633 ms	1.959 ms	1.876 ms	2.696 ms	4.124 ms	5.378 ms
MM_BBDC4	1.036 ms	19.454 ms	2.433 ms	1.928 ms	6.181 ms	7.820 ms	11.017 ms
MM_BBDC3	1.046 ms	11.088 ms	2.110 ms	1.449 ms	5.364 ms	10.791 ms	10.940 ms
MM_BBAS	0.939 ms	28.056 ms	3.582 ms	2.750 ms	9.672 ms	15.186 ms	20.277 ms
MM_B3SA	1.085 ms	35.213 ms	3.454 ms	1.968 ms	16.175 ms	29.573 ms	30.903 ms
MM_AZUL	1.050 ms	2.699 ms	1.578 ms	1.316 ms	2.396 ms	2.497 ms	2.598 ms

Figure 3. Round Trip Delay latency measurements with Min, Max, Mean, and key percentiles

Market Data Monitoring

Comprehensive market data monitoring, including one-way delay measurement between venue and client edge using venue timestamps from the payload, with full gap detection, bandwidth measurement and microburst analysis across all channels.

Order and Algo Search

Standard and custom search dashboards providing highly flexible search capabilities across the full trade flow dataset. Fast results retrieval powered by high-performance datastores, with the ability to view both individual instructions and order chains.

Session Status Monitoring

Venue-specific heartbeat messaging (e.g. BOE, OUCH, Pillar) is used to expose session health across both client-side (FIX) and market-side (non-FIX) connections in real time. The xMetrics Sentinel feature allows for bespoke, client-specific implementations.

Key capabilities include:

- **Network layer health monitoring:** Leverage state packets (SYN, SYN/ACK, FIN, RST) to monitor the health of physical connections in real-time
- **Application layer health monitoring:** Monitor venue-specific messages (e.g., “Login” and “LoginResponse” for NYSE) to ensure the application layer is functioning correctly
- **Comprehensive connection coverage:** Supports both client-side (often FIX) and market-side (non-FIX) connections, providing complete visibility across the trading infrastructure
- **Multi-hop visibility:** Track the health of every network segment, exposing both network and application layer states at each hop along the route to the venue

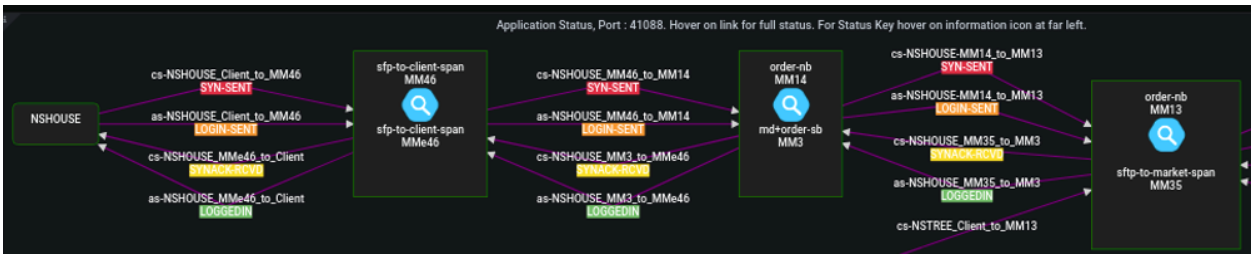


Figure 4. Part of a status diagram showing access to NYSE Pillar system

Unicast Traffic Monitoring

Deep visibility into unicast traffic behaviour, including aggregate and per-connection bandwidth measurement, TCP behavioural analysis, enrichment to identify affected client trading sessions, and 1-millisecond microburst measurement.

WAN Performance Monitoring

Latency, packet loss and traffic measurement — with microburst detection — for both unicast and multicast traffic across wide-area network connections.

Complete Trade Lifecycle Reconstruction

Track every order and market data tick across every hop. Reconstruct the complete trade lifecycle end-to-end, even when formats and fields change mid-flow. Proven across 18+ hops for compliance, client enquiries and post-trade investigation.

True Multi-Tenancy

Rich, fully featured dashboards can be provided on a per-client basis, or users can integrate selected output into their own client portals. Each client’s data is fully segregated with dedicated organisations in the GUI.

Solutions by Market Segment

xMetrics serves every major segment within capital markets. The following pages outline the specific challenges and outcomes xMetrics delivers for each.

Investment Banks and Brokers

Execution quality and client experience set firms apart. Buy-side clients demand transparency into order routing and evidence of best execution. Legacy monitoring shows what happened, not why.

What xMetrics Delivers

- User-defined logic at source — real-time field transformations and custom metrics running directly in the instrumentation path.
- True multi-hop correlation across FIX, proprietary and native exchange protocols, even when formats change mid-flow.
- Technology-to-execution mapping — infrastructure behaviour linked directly to business outcomes.
- Client-level impact analysis — instant identification of which clients are affected, enabling proactive coverage.
- Full trade lifecycle reconstruction for best execution analysis and regulatory enquiries.

e-FX

In e-FX, speed directly affects fill rates and pricing quality. Every component in the stack — pricing engine, market data, LP connectivity — affects execution outcomes. Without end-to-end visibility, firms cannot optimise what they cannot measure.

What xMetrics Delivers

- Pricing engine performance — tick-to-quote latency measured in real time by currency pair, client, and market condition.
- Market data quality — sub-microsecond measurement precision across every LP connection.
- End-to-end correlation — FIX and native API protocols correlated with network-layer metrics such as TCP retransmissions, jitter and congestion.
- Intelligent alerting — contextual alerts that adapt to market conditions, reducing false positives during volatility.
- Complete audit trail — full trade lifecycle reconstruction for every quote and order.

Market Making

Staying competitive and meeting liquidity obligations requires full observability across the entire stack. Technology and infrastructure are at the heart of market making operations.

What xMetrics Delivers

- Market data health — multi-hop latency monitoring, gap detection, per-channel traffic analysis, and alerts for sequence gaps and microbursts.
- Real-time compliance status — live tracking and alerts for quoting obligations including continuous quoting, minimum quote size, and spread requirements.
- Nanosecond-precision order lifecycle visibility with gateway performance tracking and tick-to-trade optimisation.
- Software update benchmarking and backtesting capabilities.

Asset Managers and Hedge Funds

Technology behaviour directly influences alpha capture — yet few buy-side firms have the observability needed to pinpoint issues across the execution chain. DORA mandates operational resilience testing, third-party vendor oversight, and structured incident reporting.

What xMetrics Delivers

- Signal-to-execution tracking — correlate strategy signals with order generation and fills to understand true latency and optimise alpha capture.
- Venue performance analysis — assess which brokers and execution venues deliver the best fill rates, liquidity, and response times.
- Third-party vendor monitoring — track performance of market data providers and technology vendors against SLAs.
- Operational resilience testing — validate system behaviour under stress, failure scenarios, and peak conditions.
- DORA compliance — comprehensive incident logs and audit trails for regulatory reporting.

Exchanges and Liquidity Venues

Members demand proof of fair treatment. Regulators require detailed audit trails. Technology behaviour directly affects liquidity formation — and service degradation erodes market confidence and revenue.

What xMetrics Delivers

- Order entry and execution — track latency from receipt through gateway to matching engine, with custom metrics via the Mutations Framework.
- Market data quality and performance — detect gaps and microburst impacts across all feeds.
- Member monitoring — monitor colocation and WAN-connected members, tracking individual connection health and performance.
- Compliance and accountability — time-synchronised audit trail for every transaction.
- Capacity sizing and benchmarking of software updates, including matching engine changes.

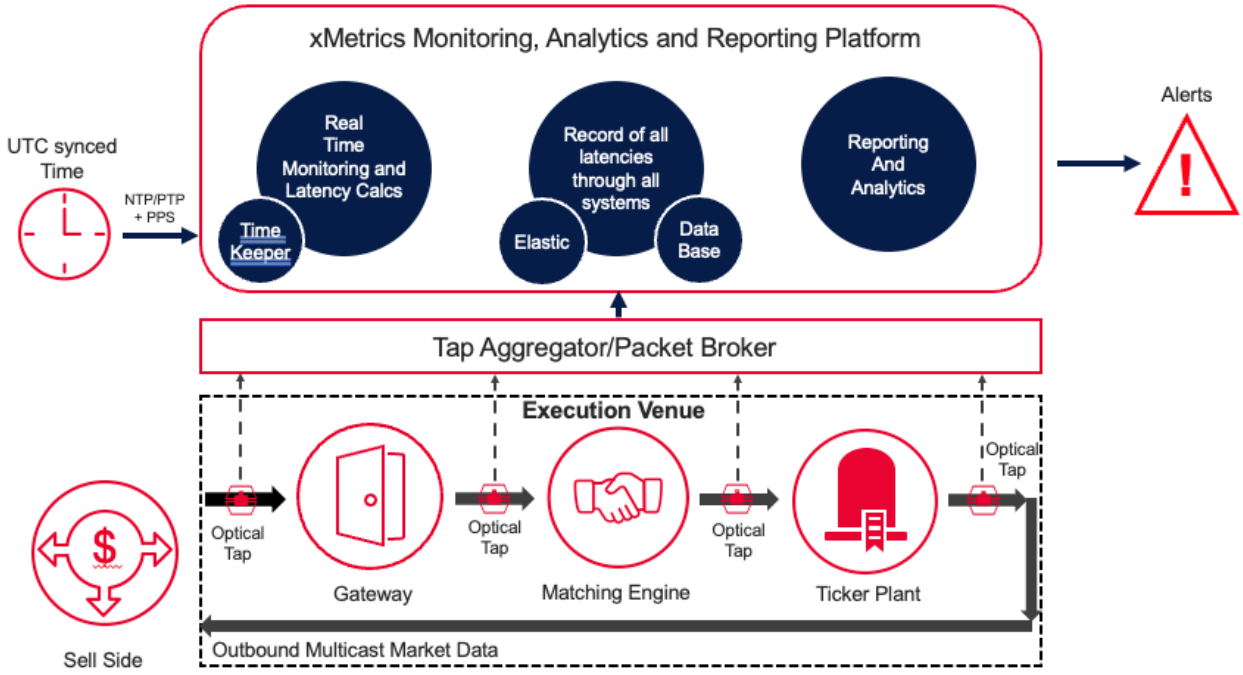


Figure 5. Keysight total solution for Execution Venue latency measurement

Fixed Income

The shift towards electronic trading in fixed income has progressed rapidly. Fragmented liquidity across ECNs, dealer streams and chat, combined with sparse data, makes visibility uniquely challenging. Unlike equities, there is no NBBO to benchmark against.

What xMetrics Delivers

- Quoting and pricing optimisation — track pricing engine and quote generation performance across all venues with RFQ response time measurement.
- Market data quality — monitor latency across ECNs and detect stale data before it affects pricing decisions.
- Credit check optimisation — measure the time cost of credit checks by counterparty, instrument, and trade size.
- Counterparty and venue monitoring — track LP performance, hit ratios and fill quality across counterparties.
- Platform performance — track leg risk and hung orders in real time.

Infrastructure and Managed Hosting Providers

Managed Hosting Providers operate mission-critical infrastructure for trading firms. Clients demand deterministic latency, reliable market data, and consistent performance against stringent SLAs. Without comprehensive observability, providers cannot prove performance, differentiate, or retain clients.

What xMetrics Delivers

- SLA compliance and reporting — measure and substantiate SLA adherence with nanosecond resolution.
- Market data distribution — prove that all clients receive data simultaneously and without bias.
- Multi-tenant performance validation — demonstrate that clients receive their contracted resources regardless of overall load.
- Cross-connect and venue monitoring — monitor performance across exchange connections in real time.
- Client-specific diagnostics — rapidly isolate issues affecting individual customers and manage resolution proactively.
- Competitive benchmarking — generate evidence-based performance comparisons against competing providers.

Competitive Differentiation

xMetrics was designed from the outset as a trade flow analytics and observability system for capital markets. The following comparison highlights key architectural and functional differences versus legacy solutions.

Capability	xMetrics	Legacy
Purpose-built for Capital Markets trading environments	Yes	No
Deployed on commodity hardware	Yes	No
Deployed on Keysight V400 Packet Broker (up to 50% DC cost savings)	Yes	No
Fully modular with distributed deployment	Yes	No
Multiple decoder types included as standard	Yes	No
Automatic support for custom FIX tags	Yes	No
Automatic persistence layer (no external systems needed)	Yes	No
Correlates across all ingested data in real time	Yes	No
Advanced adaptive alerting	Yes	No
User-defined data enrichment (Mutations Framework)	Yes	No
Augments data with information from external systems	Yes	No
Unrestricted integration with other systems	Yes	No
Data queries via standard BI tools (JDBC, Elastic)	Yes	No
Multi-protocol, multi-hop monitoring (18+ hops)	Yes	No
Secure multi-tenancy for users, groups, and customers	Yes	No

Deployment Flexibility

xMetrics is designed as a fully modular software platform. Every component — from packet capture to analytics — can run wherever it makes the most sense in your infrastructure. Deploy instrumentation close to trading systems for precise measurement, distribute processing across data centres, and aggregate insight globally without introducing monitoring bottlenecks.

Supported platforms

- Generic commodity servers
- High-performance packet capture devices from FMADIO or Endace
- Keysight's V400 network packet broker (up to 50% data centre cost savings over rigid traditional solutions)
- Containers and containerised environments
- Public and private cloud environments

Deployment with Keysight V400

xMetrics can be deployed directly on the Keysight V400 Packet Broker, combining packet brokering and analytics on a single platform. This flexibility gives significant space, power and cost savings over more rigid traditional solutions. Keysight provides the packet capture and timestamping infrastructure; xMetrics turns that raw data into actionable trading intelligence.

Integration and Openness

xMetrics streams data to external systems by default using mechanisms such as Kafka or ZeroMQ. It supports industry-standard BI solutions — any JDBC- or Elastic-aware tool is supported, including Apache Superset, Splunk and Microsoft Power BI. Where bespoke integration is required, the Mutations Framework allows custom integrations to be written from scratch and injected directly into the instrumentation path.

Compliance

In the EU and UK, MiFID II regulations require the precise recording of all messages and events throughout the lifecycle of an order and the reporting of executed transactions. Transmission, receipt and modification of orders and decisions to trade need to be accurately timestamped and made available to regulators. This data must be either continuously accessible or on demand historically for up to 5 years. The top level MiFID II requirements cascade down to individual RTS (Regulatory Technical Standards) requirements and cover such areas as the maintenance of data, reporting of transactions, quality of execution and system clock accuracy.

Within the USA, FINRA Rule 4511 mandates that copies of all 'communications' (regardless of media) related to a broker dealer's business be retained for a minimum of 7 years. Meanwhile Rule 6820 mandates that market participants synchronize their system clocks to within 50 mSec of NIST UTC time and retain proof of synchronization for up to 5 years. SEC Rule 606 also mandates execution quality information.

The xMetrics platform provides a fully independent and integrated solution for the capture of all application network and transaction data required for RTS and FINRA reporting, evaluation and storage. xMetrics can be easily deployed across a distributed execution environment and utilize an existing traffic capture fabric, removing the need to overhaul internal IT infrastructures. Due to its modular nature, only a reduced footprint is often needed at remote sites, facilitating extremely cost-effective and rapid implementations. For new deployments, Keysight can provide a total solution using optical taps, packet brokers and tap aggregators and xMetrics. TimeKeeper can also be used to not only synchronize xMetrics and other system clocks, but also to gather time synchronization statistics. A typical architecture may be seen below:

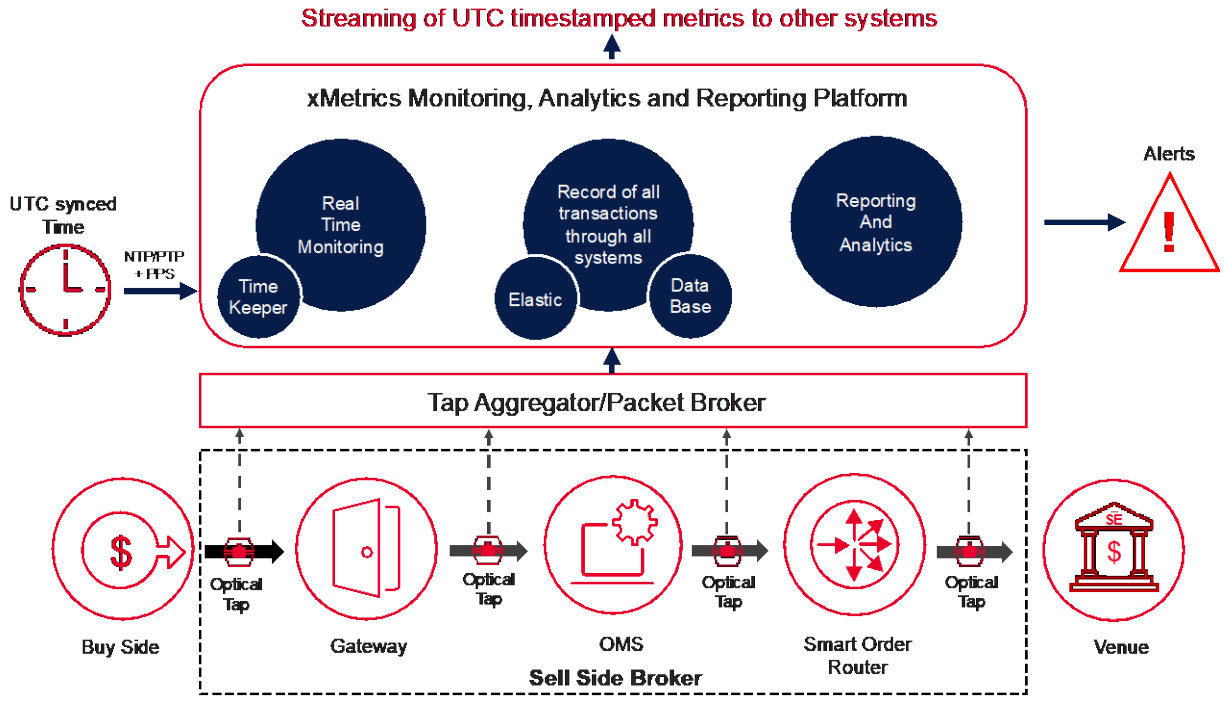


Figure 6. Keysight total solution for Compliance showing optical taps, packet brokers, xMetrics and TimeKeeper

Managed Service

xMetrics is available as a fully managed service, 24×7×365. All components of the xMetrics stack are monitored at all times. This removes the burden of deploying and maintaining a comprehensive observability platform, covering datastore optimisation, capacity planning, and performance tuning.

What this means for your clients

- No internal expertise required to deploy or operate the platform.
- No expenditure on unused capacity — pricing scales according to actual usage.
- Comprehensive visibility without the operational overhead.
- Round-the-clock coverage from a team that understands capital markets infrastructure.

Summary

xMetrics captures, decodes and correlates every transaction across every protocol and every hop in real time. Transform any field at source. Alert on anything. Reconstruct the complete trade lifecycle. No external platforms. No legacy complexity. Just total visibility across the entire trading plant.

Stakeholder	Value Delivered
Compliance	Full trade lifecycle reconstruction, MiFID II audit trails, DORA compliance, best execution evidence
IT & Operations	Root cause analysis in minutes, proactive issue detection, reduced outages, SLA accountability
Trading Desk	Optimised execution, faster troubleshooting, better venue and LP analysis
Client Coverage	Proactive client engagement, faster query resolution, transparent reporting
Technology Strategy	Data-driven infrastructure investment, before-and-after benchmarking, vendor accountability

Keysight enables innovators to push the boundaries of engineering by quickly solving design, emulation, and test challenges to create the best product experiences. Start your innovation journey at www.keysight.com

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