

The top of the page features a dark, abstract background with geometric shapes and a large orange arrow pointing right. The word "instrumentix" is written in a white, lowercase, sans-serif font on the left side.

instrumentix

xMetrics® Advantages

xMetrics is the only extensible instrumentation platform purpose-built for modern trading environments. Combining a unique user-programmable framework, comprehensive multi-datastore architecture, and real-time correlation across every layer of your infrastructure, xMetrics eliminates vendor dependency, adapts to change in hours rather than months, and delivers complete visibility from network behaviour to business outcomes — all at a significantly lower total cost of ownership.

The xMetrics Mutations Framework

The only extensible instrumentation platform on the market. User-defined functions in byte-compiled Python or C++ run directly in the instrumentation path, giving you the power to create any metric, enrichment, or integration you need — without vendor involvement and with zero impact on capture performance.

Limitless metrics

Calculate derived metrics not present in captured traffic — spreads, ratios, compliance measures, business intelligence indicators. When regulations change or stakeholders ask new questions, you build the answer yourself and deploy it the same day.

Real-time enrichment and transformation

Ingest client hierarchies, reference pricing, organisational structures, and server telemetry. Combine and transform data at the point of capture so downstream systems receive exactly what they need, in the format they expect.

Why it matters

You eliminate vendor dependency, adapt to change instantly, and unlock use cases that no other platform can deliver. Your monitoring evolves with your business — not at a vendor's pace.

Enterprise and AI integration

Feed enriched, transformed data directly to risk management, compliance, trade surveillance, and AI/ML tools via API. Build workflows that span the enterprise in days, not months.

Adapt at the speed of your business

New regulation? Write a UDF and deploy it within hours. New analytical question from the desk? Correlate the relevant data automatically and surface the answer in a live dashboard. No vendor tickets, no professional services engagements, no waiting.

xMetrics Comprehensive Data Storage

Complete analytics in a single platform

xMetrics includes multiple industry-standard datastores optimised for specific workloads. Every event is persisted and queryable without additional platforms, streaming pipelines, or artificial limits.

Many legacy solutions

Lack a native persistence layer, forcing you to licence platforms like Splunk or KDB, build streaming infrastructure, manage multiple vendors, and accept constraints on what you can analyse. When a regulator asks for data you weren't streaming, or the business needs an unanticipated correlation, you're weeks from an answer — if you can get one at all.

Purpose-built datastores, automatically routed

ClickHouse

Handles 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 platform used to ingest xMetrics data. Provides durable, ordered event pipelines that decouple data producers from downstream analytics and storage systems. familiar SQL tooling.

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

What this means in practice

A regulator requests an audit trail for a specific client and date. Legacy customers scramble across partial data in multiple systems. xMetrics returns complete results in minutes — everything is already stored.

The business wants to correlate network microbursts with execution quality — something nobody anticipated. Legacy customers need weeks to reconfigure streaming and accumulate data. xMetrics customers query immediately and have the analysis within hours.

A tenfold spike in trading volume hits during market volatility. Legacy streaming infrastructure bottlenecks, creating gaps. xMetrics handles the throughput with zero data loss and full visibility.

Proven at enterprise scale across major global institutions, handling billions of daily events with immediate regulatory response. Available as a managed service covering datastore optimisation, capacity planning, and performance tuning.

Why it matters

One platform, one vendor, no streaming complexity, no data limits — at significantly lower total cost of ownership. Your data is always there, even for questions you haven't thought of.

xMetrics Holistic Correlation

Connect the dots from network to business outcomes. xMetrics correlates data across every layer — network, infrastructure, execution, market data, and business metrics — in real time.

The problem with legacy solutions. Competitors keep data in silos. Network monitoring, execution monitoring, infrastructure telemetry, and business metrics all live in separate systems. Investigating whether a network issue caused an execution problem means hours of manual work across multiple tools, followed by arguments about causation. Even streaming to external platforms only lets you attempt correlation after the fact.

What xMetrics correlates.

Network and execution

See how packet loss, retransmissions, or microbursts impact fill rates and latency. Identify which issues affect which clients and instruments, and whether problems stem from network, application, or venue.

Infrastructure and trading outcomes

Ingest hardware telemetry (CPU, memory, disk I/O) from servers running OMSs, SORs, and critical applications. Detect when infrastructure degradation affects execution quality.

Why it matters

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.

Market data quality and trading decisions

Connect feed gaps, latency, or quality issues to SOR behaviour and execution outcomes.

Technical performance and business impact

Link technology behaviour to revenue, customer experience, and market share. Prioritise improvements based on business outcomes, not just technical metrics.

Built to Run Everywhere

Legacy monitoring platforms force you into rigid, appliance-based architectures that centralise traffic and limit scale. xMetrics is fundamentally different. 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. xMetrics runs on commodity servers, in containers, or embedded within specialised capture hardware—allowing it to adapt to any architecture, from a single trading venue to a globally distributed platform.

Scale horizontally as your environment grows. Add instrumentation where new trading systems appear. Extend monitoring across regions, exchanges, and infrastructure tiers without redesigning the platform.

Why it matters

Monitoring should follow your infrastructure—not constrain it. With xMetrics, observability scales naturally with your trading platform, delivering complete visibility without the cost, rigidity, or architectural limits of legacy appliance solutions.

Zero Vendor Lock-in

Your data. Your tools. Your choice.

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.

Ingest anything

Bring in static reference data (client hierarchies, product taxonomies, organisational structures), hardware telemetry from servers running OMSs, SORs, and critical applications (CPU, memory, disk I/O, network interfaces), or data from any other internal system. All ingested data can be correlated with xMetrics-generated data for analysis spanning your entire technology stack.

Export everywhere

All data is accessible via Kafka, Elastic APIs, JDBC, BI tools, and more. Connect directly to risk management, compliance, trade surveillance, and AI/ML platforms.

Why it matters

The open nature of xMetrics, and the ease with which it can export and import data from other systems means you are no longer constrained by the artificial boundaries that limit other solutions

The Multi-Hop Advantage

The only platform that correlates trade flow across as many hops as your business actually has. Where competing systems are architecturally capped at around four correlation points, xMetrics has been deployed in production correlating across eighteen hops end-to-end — with no practical ceiling. If you can capture it, xMetrics can stitch it together.

See the whole journey, not a fragment

Modern trade flow rarely fits inside four hops. Client gateway, risk check, smart order router, internaliser, regional aggregator, broker, exchange gateway, matching engine, drop copy, fill back to client — that is already ten before you have crossed a border or touched a second venue. xMetrics constructs the full transaction lifecycle from entry to execution and back, with every hop's raw event preserved and drillable.

Arbitrage and cross-venue strategies become observable

Arbitrage, smart order routing, and cross-venue execution strategies are inherently multi-hop — by definition they touch several markets, several gateways, and often several regions to capture an opportunity. A four-hop ceiling makes these strategies invisible to monitoring; you see fragments of the journey but never the journey itself. xMetrics makes the entire strategy observable as a single correlated transaction, so you can measure precisely where the edge is being made or lost.

1-nanosecond precision at every hop

Each hop carries a hardware timestamp with 1-nanosecond precision, summarised per interval and broken down by client, MIC, destination, AlgoID, symbol, order type, or any enrichment field you choose. Outliers drill straight through to the raw events that formed the transaction — no aggregation, no estimation, no gaps.

Configurable correlation. Any protocol, any asset class

Correlation rules are configurable, not hard-coded. Model whatever order routing and execution logic your business actually uses — across FIX, ITCH, OUCH, native venue protocols, and proprietary internal formats — and across ticks, quotes, orders, and fills in any asset class. As your topology evolves, the correlation evolves with it.

Why it matters

Competitors force you to choose which four points to instrument and accept blindness everywhere else. xMetrics removes the choice. Your monitoring matches the shape of your trading — not a vendor's architectural limit — so the questions you cannot answer today (where did the latency come from, which hop broke the SLA, which leg of the arb went wrong) become questions you answer in seconds.

xMetrics is an extensible, fully modular instrumentation platform that puts users in control. Its Mutations Framework lets user-defined Python or C++ functions run directly in the capture path for limitless custom metrics and real-time enrichment. Built-in purpose-built datastores (ClickHouse, TimescaleDB, Elasticsearch, Kafka) eliminate streaming complexity, while holistic correlation across network, infrastructure, execution, and business metrics cuts root cause analysis from hours to minutes. With zero vendor lock-in and the ability to run anywhere, xMetrics also uniquely correlates trade flow across 18+ hops at 1-nanosecond precision — far beyond competitors' typical four-hop limit.