

x-100

- 100Gbps sustained packet capture
- Multi-hop, multi-protocol performance monitoring
- 148.88 million packets a second
- Data enrichment and Transformation

xMetrics

FMADIO
10G 40G 100G PACKET CAPTURE

InstrumentiX
the evolution of flow monitoring

The exponential increase in trading related data volumes over recent years, has accelerated the take up of higher capacity infrastructure and 100Gbps deployments. Correspondingly a new generation of high-performance capture and analytics is required to tackle the vastly increased throughput and provide the insight to understand the link between technology efficiency and trading performance, crucial in the drive to optimise execution outcomes and customer experience.

Introducing the x-100 from InstrumentiX and FMADIO

The x-100 establishes a new industry standard for sustained capture performance and analytics, combining FMADIO's heritage as the world leader in packet capture appliances with InstrumentiX's multi-award winning xMetrics® performance monitoring and analytics solution to support the ever-increasing demands of today's electronic markets.

Industry leading Capture and Analytics in a single platform

Underneath, the FMADIO platform boasts an FPGA-backed sustained capture rate of 100Gbps with a burst capture rate of 200Gbps and 3.2ns-resolution hardware timestamping resulting in lossless capture of 148.88 million packets a second.

On top, the xMetrics® Flow Monitoring solution delivers the same rich, real-time analytics customers have come to rely on to expose the performance and behaviour of their highly-distributed, low latency trading and market data platforms.

Highly flexible, feature rich and cost effective

The analytics function is isolated from the capture function, with one or more discrete xMetrics® instances running as CPU-isolated LXC containers on the FMADIO host; this ensures that users can have full confidence in both the traffic being captured, and the analytics data being generated, as neither function interferes with the other.

What makes the x-100 different?

- *The most flexible and cost-effective solution available to the market*
- *FPGA-backed sustained lossless capture rate of 100Gbps with a burst capture rate of 200Gbps*
- *Analytics function isolated from the capture function, xMetrics instances run as CPU-isolated LXC containers on the FMADIO host*
- *Configurable interfaces and fast search, filter and retrieval*
- *Fully modular software solution, easily integrated with existing systems*



Also available in both 10G and 40G variants in both 1U and 2U form factors, the integration of these two market-leading solutions into a single platform offers both the most cost-conscious and the most feature-demanding clients a solution unmatched by any competing vendor.

Monitoring and analytics that provides continual Return on Investment

Multi-hop, multi-protocol latency monitoring, market data monitoring - including gap detection - and traffic measurement, with real time alerting.

Decode and persist any and all orders, fills, quotes or ticks and, backed by easy-to-use APIs, provide an audit trail of trading activities suitable for compliance and regulatory use cases.

True multi-tenancy with complete isolation of analytics data between clients or departments, maintaining information silos within capital markets firms, whilst also providing service providers with the level of client segregation they have long desired.

Rich, fully featured collections of dashboards can be provided on both a per-client and shared basis, allowing users to offer their own customers self-service analytics and freeing them to concentrate on adding value.

x-100 Features

Packet Capture	Analytics
100Gbps sustained 24/7 packet capture	Single pane of glass to monitor execution, market data, infrastructure and network performance
200Gbps burst packet capture	Fully modular software solution that can be deployed as 'middleware'
x2 QSFP28 Ports with SR4/LR4/CX4 and FEC support configurable as 2x100 GbE 2x40 GbE 4x25GbE and 8x10 GbE	Hugely scalable and can be deployed into environments in a way that historically, would have been far too complex or expensive
200Gbps line rate packet generator	Can be rapidly integrated with and consume data from legacy solutions whilst still harnessing the full power of xMetrics
16-156TB RAID5 storage	Highly powerful correlation & root cause analysis, delivering against use cases that are impossible with legacy solutions
Hardware timestamping	Proactive monitoring and fully customisable multi-factor adaptive alerting
Pre capture filtering & packet slicing	Unique "mutations framework" allows user-defined functions (UDFs) to be inserted directly into the instrumentation path
Inline packet capture	All data available via multiple interfaces including JDBC, Elastic APIs, Kafka topics and native APIs
Simple easy to use HTML GUI	True multi-tenanted solution maintaining Chinese walls and allows self-service analytics for customer's own clients
Full scriptable JSON REST API	Fully managed service that removes the pain from flow monitoring

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