

Algorithmica Qfix

What is the Algorithmica Qfix?

Algorithmica QFIX Solution is a modular and low-latency RFQ trading platform designed for electronic fixed income markets. The solution combines advanced components for real-time pricing, smart routing, yield curve construction, risk assessment, and post-trade analytics. Built on open standards and proprietary technology, QFIX enables seamless integration, high performance, and full transparency supporting faster and smarter trading decisions from quote to execution.

The Shifting Fixed Income Paradigm

Electronic trading has moved from the margins to the mainstream, rapidly becoming the new standard in fixed income markets. Key trends underscoring this shift include:

- Pervasive Electronification**
 A significant and growing portion of trading across diverse fixed income segments (government bonds, corporate bonds, emerging market debt) is now electronic.
- Rise of Automation & Algorithmic Trading**
 Algorithmic execution for trade optimization and efficiency is increasingly prevalent.
- Data Analytics & AI as Core Tools**
 Advanced analytics and AI are becoming indispensable for price discovery, liquidity forecasting, risk management, and trade execution.
- Interoperability Imperative**
 Enhanced connectivity and protocol standardization (e.g., FIX) are crucial for seamless system integration (trading platforms, OMS).
- Innovation in Trading Protocols**
 New models like all-to-all trading and portfolio trading are reshaping market structure.
- Enhanced Liquidity Access & Transparency**
 Electronic platforms are improving liquidity, especially in less liquid market segments, and bolstering transparency, aiding regulatory compliance (e.g., MiFID II).

ALGORITHMICA QFIX

Competitors: 0 | Time left: 02:53 | Sent price: | Type: OUTRIGHT | Status: RECEIVED | Owner: | Counterparty: Algorithmica Customer

EUR 5Y vs 3M EURIBOR 10MM

Bid: 2.21964 | +1.2 | -0.1 | 5.048 | -0.1 |

Mid: 2.23164

Send **Reject**

Result

Calc. time: 14:49:33.750

	Total
dv01	4.629
XVA	105.202

Trades

Instrument	Fair Rate
EURBORFX3M	0.00100
EURFRA_IMM2	1.95379
EURFRA_IMM3	1.85418
EURFRA_IMM4	1.83835
EURFRA_IMM5	1.83508
EURFRA_IMM6	1.89472
EURFRA_IMM7	1.96357
EURFRA_IMM8	2.01693
EURFRA_IMM9	2.11499
EURFRA_IMM10	2.15682
EURFRA_IMM11	2.21516
EURFRA_IMM12	2.27353
EURSwap4Y	2.15789
EURSwap5Y	2.23219
EURSwap6Y	2.32006
EURSwap7Y	2.38808
EURSwap8Y	2.46875
EURSwap9Y	2.52049
EURSwap10Y	2.56938
EURSwap12Y	
EURSwap15Y	

```

out void analyze_callable_bond(number)
{
    date trade_date = d;
    date settle_date = #2025-01-03;

    // Calibrate the HW model
    number mean_reversion = 0.03;
    vector(number) mat = yield;
    vector(number) yields = yield;
    vector(number) black_vols = black_vols;
    vector(date) vol_dates = vol_dates;
    vector(number) sigma;
  
```

Questions?
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Algorithmica Qfix

Algorithmica's advanced modular RFQ Trading Platform

• RFQ Gateway & Router

FIX 5.0/5.0 SP2 compliant, utilizing FPML 5.13 for comprehensive product definitions, tiered routing based on client segmentation, low-latency transport with a roadmap for FIXP binary encoding to achieve <100µs message round-trips and planned WebSocket delivery for lightweight front-end API integration.

• Market Data & Yield Curve Engine

Real-time, multi-currency OIS/IRS/basis curve construction using robust methodologies (bootstrapping, monotone cubic spline interpolation) and fallback logic, flexible data streaming via REST, IQC, and an optional FIXP high-performance feed and support for all standard industry conventions and multi-curve frameworks.

• Asynchronous Risk Engine

Subscribes to trade messages (from Qfix) and curve updates via internal REST APIs and message queues, in-memory Directed Acyclic Graph (DAG) engine (C++/Qlang) where nodes represent risk metrics, allowing for millisecond rescoring across VaR, ES, CVA through precomputed graphs, supports historical simulation, parametric VaR, custom stress scenarios, and counterparty exposure calculations, pre-trade risk limit checking and capital charge add-ons computed and asynchronous execution ensures no blocking of critical trader workflows.

• Data Lake & Analytics Layer

Database agnostic storage architecture supporting any ODBC-compatible RDBMS, comprehensive post-trade analytics capabilities including P&L attribution, transaction Cost Analysis (TCA), margin impact modeling, and missed-opportunity analysis, data exposure via REST/GraphQL APIs for seamless integration with Jupyter notebooks, BI dashboards, and machine learning pipelines.

What makes Qfix unique?

• In-Memory DAG Risk Engine

A pre-aggregated dependency graph enabling sub-millisecond risk updates.

• FPML 5.13 Compliance

Ensuring the richest product coverage aligned with the latest ISDA definitions.

• Database agnostic

Providing plug-and-play compatibility with diverse enterprise RDBMS systems.

• ML-Ready Platform

Designed with seamless data pipelines to support advanced quantitative research and machine learning initiatives.

Benefits of Qfix



Reduced Time-to-market (~30%)

Modular microservices and open APIs will accelerate deployment and integration compared to monolithic alternatives.



Revenue uplift (~5-15%)

Low-latency quoting and dynamic client-specific skews are projected to directly increase trading revenue.



Operational resilience

Asynchronous risk processing and robust failover mechanisms will minimize downtime, operational risk and lower support costs.



Cost-efficiency (~20-40%)

The database agnostic ODBC layer and strategic use of open-source components will minimize licensing costs.



Future proofing (+5 years)

Advanced features such as WebSocket delivery, FIXP support, and ML-ready data pipelines will ensure long-term platform viability with minimal refactoring.

Questions?

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Headquarters

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