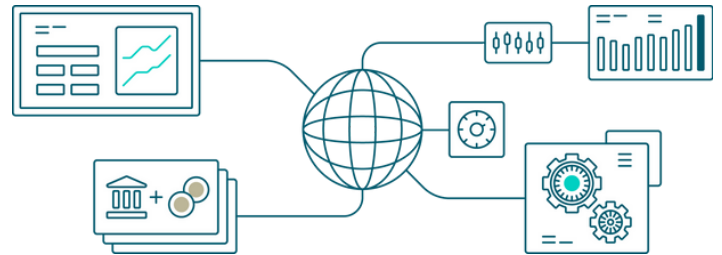







Horizon Compass Smart Order Router

Mastering fragmented markets with precision

Financial markets are highly fragmented, and achieving optimal execution has become increasingly complex. The Horizon SOR, Horizon Compass, is designed to navigate this complexity by sourcing liquidity efficiently, executing at the best price, and minimizing market impact—all while ensuring full compliance with regulatory obligations.



Key challenges addressed:

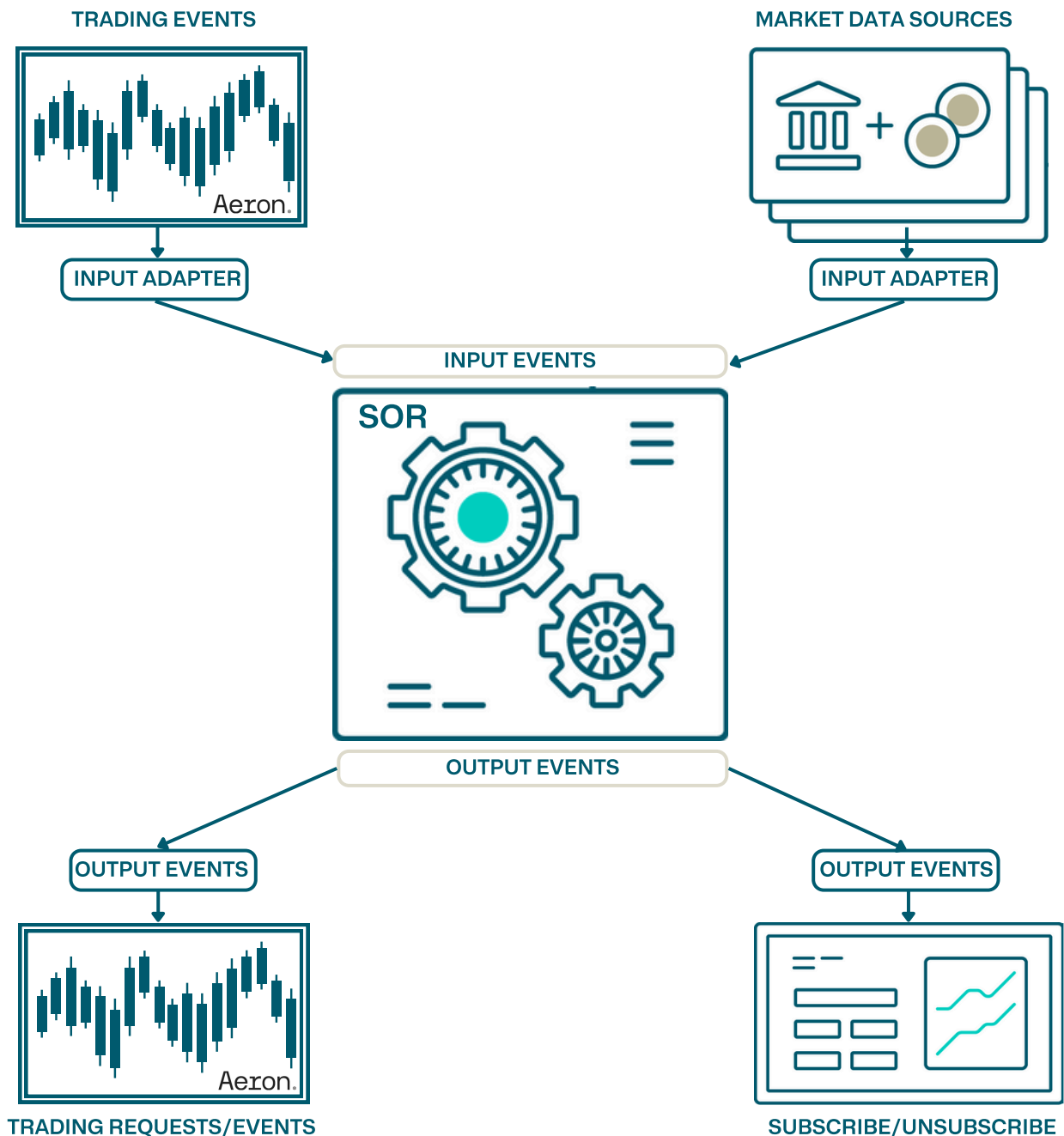
-  **Latency**
Decision speed is critical to avoid being gamed and to capture fleeting liquidity. Horizon targets sub 100µs decision time and enables real-time performance monitoring.
-  **Best Execution**
The SOR aims to achieve the best possible price across a wide range of venues, while generating auditable proof of performance for full transparency.
-  **Regulatory Compliance**
Full traceability and comprehensive logging of execution paths help meet global regulatory obligations such as MiFID II and Reg NMS.
-  **Venue Coverage**
The SOR can interact with various venue types: lit markets, dark pools - including dark books of lit venues, ELP SIs, periodic auctions - grey venues, Conditional Orders, and supports advanced order types like sweep orders and pegged executions (touch, mid, market).
-  **Logging and Transparency**
Horizon's SOR is never a black box –traders benefit from real-time audit trails, user-friendly analysis, and complete control.

TECHNICAL FOUNDATION

To meet the highest demands of performance and resilience, the Horizon Compass is built on Aeron, a low-latency, high-throughput messaging platform. Every aspect of the router has been designed with optimization in mind—from memory and CPU usage to scalability and fault tolerance.

Built from the ground up on Aeron, Horizon's SOR benefits from:

- High throughput & low latency thanks to memory footprint optimization, CPU operation tuning, and asynchronous messaging.
- Scalability via horizontal deployment across multiple instances.
- Cluster-native architecture, ensuring high availability and fault tolerance.



DEEP OMS AND ALGO INTEGRATION

When deployed within the Horizon OEMS, the SOR becomes a native component of the trader's daily workflow. It integrates seamlessly with Horizon Extend to leverage execution algorithms and Horizon's OMS.

Seamless Workflow

Traders can select the SOR as an execution strategy directly from Horizon's order screen.

Flexible Configuration

SOR strategies appear as pre-configured templates or custom parameters.

Complete Visibility

Child order generation, venue selection, and audit decisions are fully visible and traceable in real time.

Performance Metrics

Statistics such as hit ratios, missed opportunities, and slippage are fed back into the trader's dashboard.

Algorithm Synergy

SOR works in tandem with VWAP, TWAP, and custom algos to optimize order slicing and market impact.

DARK, LIT AND HYBRID LIQUIDITY

Liquidity can reside in various types of venues, and Horizon offers connectivity to over 120 venues. Whether executing in visible (lit) markets, probing for opportunities in dark pools, or engaging with periodic auctions and block trading mechanisms, the router adapts its strategy in real time based on venue available liquidity, characteristics, and client preferences.

Venue Types

- Lit venues: Primary markets, MTFs.
- Dark pools: Both exchange-operated and MTF-run pools.
- Systematic Internalizers (SIs), including ELP SIs.
- Periodic auctions and block trading platforms (e.g., IOI, RFQ models).
- Large-In-Scale (LIS) venues with conditional orders.
- Supports sweep orders and peg types (touch, mid, market).

Configurable Routing Logic

- Order type
- Client segment (retail vs institutional)
- Venue preferences
- Regional execution policies



CONFIGURATION AND CUSTOMIZATION

No two trading strategies are the same. That is why Horizon empowers clients with a highly flexible configuration interface, allowing them to tailor routing logic to specific clients, asset classes, or trader profiles. This approach ensures firms can differentiate their execution services with precision.



User-Friendly Interface

Traders and clients can configure default and per-client routing strategies using a user-friendly interface.



Flexible Enablement

Horizon acts as an enabler, providing the tools—not just rigid presets.



Granular Control

Support for different execution policies, passive posting, dark probing, or venue prioritization is available at granular levels.



Smart Stages

Horizon introduces the concept of Smart Stages, which defines configurable algorithm logic used at various routing steps (e.g., dark pool probing, aggressive lit posting).



Order Execution Strategy

Each order is associated with an Order Execution Strategy, comprising a list of applicable Smart Stages.



Compiled Order Execution Policy

A Compiled Order Execution Policy (COEP) provides an in-memory view of all Smart Stages and parameters used for each order.

AUDITABILITY AND COMPLIANCE

Regulators require not just best execution but proof of it. Horizon Compass captures every decision and market snapshot involved in the routing process, providing a complete audit trail. These capabilities enable integration with third-party TCA providers and help firms generate detailed execution reports.



Decision Stamping

Every decision made by the SOR is stamped with a snapshot of the market data and the execution logic used.



Full Traceability

Full traceability of routing logic and order outcomes.



TCA Integration

Interfaces with external TCA providers for impact analysis.



Regulatory Compliance

Helps meet global best execution mandates.



Real-time Visibility

Real-time visibility into audit trails, decision paths, and exception handling provides transparency and enhances trust.

DEPLOYMENT FLEXIBILITY

Firms have varying infrastructure and integration needs. Horizon's SOR is designed for flexibility. Whether used as a standalone solution or as part of the Horizon suite, it adapts to your trading architecture.

- Available on-premises, as managed service and fully integrated with external algo boxes.
- Can run as an independent service or as part of Horizon's platform.
- Easily connects to client-defined routing rules and third-party algos.

WHAT MAKES IT DIFFERENT?

In a market saturated with legacy solutions, Horizon's SOR stands out for its modern, Aeron-based architecture and its unmatched flexibility. Clients benefit from a rich feature set available out of the box, deep customization options, and robust integration with both Horizon and third-party technologies.



Fast

Targeting < 100µs decision time.



Compliant

Full audit trail of SOR decisions along with market data.



Resilient

Based on the Aeron platform.



Feature-rich

Highly customizable Best Execution policy per client, trader, and order.



Monitorable

Real-time visibility on child orders and execution KPIs.



Flexible

Highly customizable Best Execution policy per client, trader, and order.



Smart

Stage-based routing logic, venue blacklisting, exception handling, and anti-gaming mechanisms.

ABOUT HORIZON

Horizon Trading Solutions is an independent global technology company specializing in electronic trading, supporting agency and principal businesses across equities, derivatives, and virtual assets. For over 20 years, we have empowered the world's leading capital market participants with cutting-edge algorithmic technology and direct exchange connectivity. Our multi-asset platform and deep commitment to client success allow us to deliver performance simplified: making it easy to excel in trading.