

# Case Study: Trading System availability – Analysis & Remediation

Implementation and execution of methodology to evaluate stability of a globally distributed trading architecture.

## Challenges

- Quality target to deliver 5-9s availability, with predictable ms order and price distribution.
- Current state not monitored in real-time.
- Complex deployment of software and infrastructure deployed across multiple data centres and liquidity hubs.
- Multitude of data transports and serialisation models increasing complexity and performance.
- Limited, out-of-date or missing documentation of current state.
- Undocumented inconsistencies between environments and co-locations deployments.
- Logging across estate either missing, inconsistent or not time-synchronised.
- Complex organisation challenges to deliver across development, IT support, infrastructure E-Trading support.

## Response

- Audited Electronic Trading application and infrastructure architecture to assess fault-tolerance, redundancy and recovery time.
- Delivered detailed schematic outlining current states, highlighting areas of weakness where target quality attributes were not met.
- Designed and implemented automated testing strategy to accurately measure solution against target quality attributes/NFRs.
- Implemented non-intrusive real-time monitoring to capture actual performance across Dev, UAT and Production deployments.
- Implemented logging mechanism across all components using a consistent format and time synchronised to perform end-to-end message life-cycle.
- Formed programmed prioritised by actual performance and stability data, then ordered by business criticality to deliver incremental and quantifiable improvements.

Core Trading Services

