

## Solution Architecture

### Equities ECN Assessment and Performance Improvement

An equities trading ECN faced multiple challenges with its technology architecture which negatively impacted trading volume market share. The ECN needed an immediate assessment to determine how to shorten order processing turnaround, increase electronic order processing capacity, and eliminate recurring processing interruptions. Recently upgraded hardware had only minimally improved operating performance.

#### Approach

A Katahdin Solutions consultant assembled a team of technical experts and led a rapid assessment of the trading platform. Our efforts led an assessment team to perform a focused assessment of current state and possible solution options. During the assessment effort, the team:

- Captured an understanding of issues, volumes and current architecture
- Created metrics for selected current state processes, including maximum orders per second, order turnaround times, and failure rates
- Enhanced the ECN test harness to isolate selected activities
- Identified potential changes, developed simulation routines, and tested the impact of implementing the changes in the trading infrastructure
- Through iterative changes, continued to identify and validate improvements which enabled greater throughput while maintaining order receipt timing integrity
- Compiled and estimated costs for a master set of proposed improvements

Our consultant also prepared a growth matrix identifying various points where proposed architectural changes would be required to avoid processing performance issues.

#### Results

The eight-week effort was provided immediate improvement and a plan for further improvements on an ongoing basis. Performance improvements included:

- Improving order turnaround time by 3400%
- Increasing daily order processing capacity by 500%
- Handling peak volumes without processing delays
- Eliminating frequently occurring processing interruptions

These improvements and the related materials were recognized by the client as key to facilitating the ECN's eventual purchase by a major equities exchange.

---

***Through information technology and advisory capabilities, Katahdin Solutions provides consulting services to organizations seeking to achieve greater efficiency and value from their project delivery and compliance initiatives.***