The trading environment is experiencing dramatic change worldwide. Recent global financial crises and subsequent regulatory changes have significantly elevated the importance of central counterparties (CCPs) and exchanges within the financial services industry. The breadth, complexity and velocity of trading and clearing continues to grow. Clearinghouses have exposure to the same customers across multiple venues. OTC-traded financial instruments will have to be cleared through CCPs. These factors increase the need for sophisticated post-trade risk management.

Specifically designed to address the sophisticated risk management needs of today’s CCPs and exchanges, Sentinel Risk Manager from NASDAQ OMX® provides all the functionality required to measure and manage real-time risk for both exchange-traded and OTC instruments.

This protects the integrity of the clearinghouse and its members. Best-in-class data visualizations across asset classes facilitate enterprise-wide risk management and add more transparency to margin requirements.

A single Sentinel Risk Manager implementation can service multiple clients or aggregate risk across multiple clearing houses. In addition, Sentinel Risk Manager can be fully integrated to the NASDAQ OMX Genium INET and X-stream Clearing systems or any other external margin engine.

A PROVEN SOLUTION, SENTINEL RISK MANAGER IS IN USE IN THE U.S. AND EUROPE.

SOPHISTICATED FUNCTIONALITY

<table>
<thead>
<tr>
<th>Module</th>
<th>Description</th>
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<tbody>
<tr>
<td>RISK/MARGIN AGGREGATION &amp; ANALYSIS</td>
<td>Real-time risk margin evaluation at trade and account levels across participant and account aggregation history.</td>
</tr>
<tr>
<td>LIMIT MANAGEMENT</td>
<td>Limit setting at all levels, dynamic or static; event-driven monitoring automatically generates real-time alerts in response to limit breaches; ability to configure which users are notified of which events.</td>
</tr>
<tr>
<td>REPORTING</td>
<td>Comprehensive interactive and operational reporting, enabling users to define, save and modify their own reports and schedule on a regular or ad-hoc basis.</td>
</tr>
<tr>
<td>MARKET DATA MANAGEMENT</td>
<td>Graphically displays real-time curve construction including live updates to rates and discount factors; supports multiple curve types.</td>
</tr>
<tr>
<td>SCENARIO ANALYSIS</td>
<td>Comprehensive scenario analysis calculates changes in risk in response to trade, price or other changes in the underlying risk model.</td>
</tr>
<tr>
<td>OTC CLEARING MODULE</td>
<td>Sophisticated pricing and margin calculation to meet new OTC derivative clearing requirements.</td>
</tr>
<tr>
<td>EXTERNAL CONNECTIVITY</td>
<td>Comprehensive connectivity with third party matching, market data and trade compression providers, such as MarkitWire, Reuters and TriOptima.</td>
</tr>
</tbody>
</table>
MANAGES ALL RISK FUNDAMENTALS

Recent financial crises demonstrated that the financial industry’s approach to risk management was inadequate. NASDAQ OMX identified seven risk management fundamentals that are essential to maintaining market integrity and improving corporate governance and financial performance in today’s more complex post-trade ecosystem. Sentinel Risk Manager was specifically architected to incorporate these fundamentals.

+ STRONG DATA VISUALIZATION
  A dashboard of all key risk indicators ensures that critical information is fully visible at all times on a single screen in a clear and intuitive fashion. Access is available across the enterprise, including “push” technology to deliver live updates.

+ UNMATCHED DEFENSIVE SAFEGUARDS
  To prevent risk breaches and other violations from going undetected, Risk Manager incorporates multiple safeguards enabling early identification and resolution of issues before they become critical. Robust functionality for setting static and dynamic limits, business rule definitions, automatic escalation and root cause analysis is included.

+ REAL-TIME
  Real-time risk information allows risks to be managed when they occur rather than after the event.

+ HOLISTIC VIEW
  Supports simple and complex aggregation of data regardless of source, enabling risk to be managed on an integrated basis across the enterprise.

+ ADAPTABILITY
  A graphical workflow engine supports the addition and customization of business rules without changing the underlying software. This enables the ability to respond quickly to new market opportunities or regulations, providing significant competitive and cost advantages.

+ CONTROL
  Efficient and precise default management tools give risk managers full control when the worst happens.

+ RESILIENCE
  Sentinel Risk Manager is architected to provide the resilience characteristics typically associated with trading systems. All components have high resilience and can be deployed to ensure there is no single point of failure. Processing is stateless so recovery is seamless.

DEDICATED PARTNER

For more than 40 years, NASDAQ OMX has been a leader in creating electronic technology solutions for the financial industry. We have a long history of partnering with marketplaces worldwide to provide the strategic guidance, technology tools and ongoing support to help them meet their goals. With Sentinel Risk Manager from NASDAQ OMX, in addition to gaining an exceptional technology platform, marketplaces benefit from the unwavering commitment and dedicated support of the world’s largest exchange company.

MORE INFORMATION

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