Technology applications needed to implement pre-trade risk management controls for DMA and Sponsored access clients.

Nick Garrow
Global Head electronic trading
Newedge Group

CFTC TAC
1st March 2011
Contents

1. Our view of the current electronic trading landscape
2. Our approach to real time risk management in light of regulatory changes
3. Implementing the controls and investment requirements
4. Questions / comments
# DMA and SDMA landscape

<table>
<thead>
<tr>
<th></th>
<th>SDMA Clients</th>
<th>DMA clients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Definition</strong></td>
<td>Newedge “sponsors” the client onto the exchange by providing client with direct access to it outside of Newedge e-trading infrastructure</td>
<td>Client trades through the Newedge electronic trading systems and platforms (TT, CQG, FIX...) over which we have full and exclusive control of pre-trade limits</td>
</tr>
<tr>
<td><strong># &amp; types of client</strong></td>
<td>Prop trading groups, CTA’s, NCM’s 100+ clients, 500+ connections</td>
<td>CTA’s, Banks, Asset management companies, commodity trading companies, corporates... 1000 clients, 4,000+ end users</td>
</tr>
</tbody>
</table>
| **Main challenges** | • Maintaining real time supervision over multiple client connections to multiple markets  
• Full and exclusive control  
• Clients using a wide range of trading applications  
• Wide network footprint and data centre footprint | • Supporting and managing a wide range of DMA systems and platforms  
• Cost                                                                 |
| **Newedge policy** | All SDMA clients are “scored” by Operational Risk for adherence to our ability to set pre-trade limits, view orders, cancel orders and shut the client off. Client signs SDMA order routing agreement  
Limits vetted and approved by risk | DMA clients sign standard order routing agreement  
Pre-trade limits are approved and set up on the relevant platform by Newedge                                                                                                                                     |
| **Regulatory environment** | Move towards limiting, or outright ban on, SDMA or “naked market access”                                                                                                                                           | Getting tighter in reference to SEC §15c3-5 which covers DMA as well as SDMA                                                                                                                                  |

Views expressed in this powerpoint do not constitute legal advice. Consult your legal advisor for more information.
Our strategy moving forward

- **Pre-trade** < 10 mico sec
- **At-trade** 1 to 10 sec
- **Post-trade** 30 secs +

**Client Trading System**
- Pre-Trade Limits Check
  - Standard Limits File
- Standard Audit Trail File
- Limits Audit
- Exception Report

**Exchange**
- eFlow/Bleach/FTEN Drop Copy
- At-Trade Limits Check
- FTEN Alert GUI

**Clearing House**
- Clearvision
- Post-Trade Risk Check

Newedge e-solutions supervision
Newedge Risk Department

Views expressed in this powerpoint do not constitute legal advice. Consult your legal advisor for more information.
At trade risk monitoring

SDMA Client  SDMA Client  SDMA Client

Pre-trade risk

USA exchanges (Equities and ETD)

SDMA Client  SDMA Client  SDMA Client

Pre-trade risk

EU exchanges (Equities and ETD)

SDMA Client  SDMA Client  SDMA Client

Pre-trade risk

APAC exchanges (Equities and ETD)

Views expressed in this powerpoint do not constitute legal advice. Consult your legal advisor for more information.
Challenges

- Data consistency and transportation
  - Lack of consistency in the way exchanges provide real-time drop copy reporting
  - Big data normalisation challenge (3000+ traded instruments)
  - Architecture design needs to deliver data with lowest possible latency
  - Huge quantities of data to be processed and stored (millions of orders per day)

- Implementing low latency pre-trade controls
  - No single supplier providing ultra low latency controls for all asset classes
  - Adding pre-trade controls adds latency .... Commercial considerations
  - Impact on the clients set-up

- Regulatory conformance
  - Need to deliver different solutions in different regions to ensure local regulatory conformance
  - Need consistency in rules moving forward

- Costs
  - Estimate at $4M set up costs and $4M to $6M per year to run
  - Take 12 to 14 months to fully implement; initial focus on conformance with SEC July 2011 requirements
  - Need to invest in people / skills / training ~ $1M per year
Appendix
## SDMA risk monitoring framework

<table>
<thead>
<tr>
<th>Control</th>
<th>Type</th>
<th>Clients</th>
<th>Risk Coverage</th>
<th>Key Issues/requirements</th>
<th>Residual Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pre-Trade</strong></td>
<td>1/ Prevents And Blocks the order =&gt; Newedge fully monitors and has full control (SDMA becomes DMA) 2/ FF-Positions limits</td>
<td>pre-trade module or other low latency module</td>
<td>Risky Clients (clients whose creditworthiness would not enable to cover Fat Finger risk)</td>
<td>1/ Execution error (Fat finger) is eliminated 2/ Counterparty Risk (if client defaults because of Fat finger error) is eliminated 3/ External fraud (clients set up false limits or no limits) is eliminated</td>
<td>LOW</td>
</tr>
<tr>
<td><strong>At-Trade</strong></td>
<td>1/ Preventive and Warning / Reactive =&gt; Newedge ensures clients set up limits 2/ FF-Positions limits</td>
<td>Newedge products: SLF combined with STAF</td>
<td>Medium to low risk</td>
<td>1 and 2/ Same as above if Newedge sets up the limits 3/ Save manual intervention (monitoring is automated / streamlined until break is detected)</td>
<td>MEDIUM</td>
</tr>
<tr>
<td><strong>Post-Trade</strong></td>
<td>1/ Warning / Reactive Newedge monitors after the fact only 2/ Monitoring stress / var</td>
<td>Global Risk post trade module</td>
<td>- Low Risk clients if no Pre and/or At trade monitoring - High/Medium risk clients when combined</td>
<td>1/ Complement the Pre or At trade 2/ Requires that order flow feeds risk systems from drop copies or exchanges (not yet done)</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

Views expressed in this powerpoint do not constitute legal advice. Consult your legal advisor for more information.