

Implementing FIXatdlSM

FIXPROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARDSM

FIX TEACHING STREAM

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Agenda

- FIXatdl Introduction
- Inside FIXatdl
- Demonstration
- Additional Features and Common Issues



What is FIXatdl?

FIXatdl = **FIX** Algorithmic Trading
Definition Language

FIXatdl is a **FIX Protocol standard**
to define the **interface**
for **algorithmic orders**

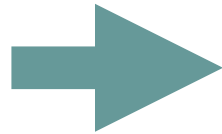


How Does FIXatdl Work?

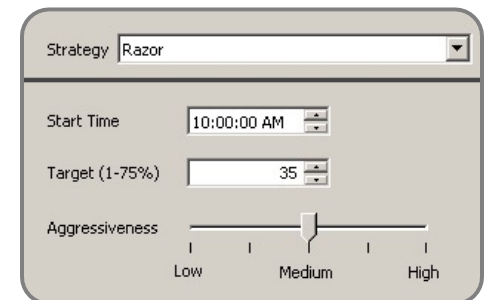
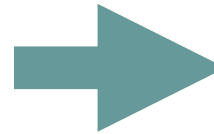
- **Brokers** create a FIXatdl XML file describing its algos:
 - Parameters
 - Screen layout
 - FIX tags
 - Validation rules
- **OMS vendors** load the FIXatdl files into their trading app, eliminating the need for custom programming



Broker FIX
Specification



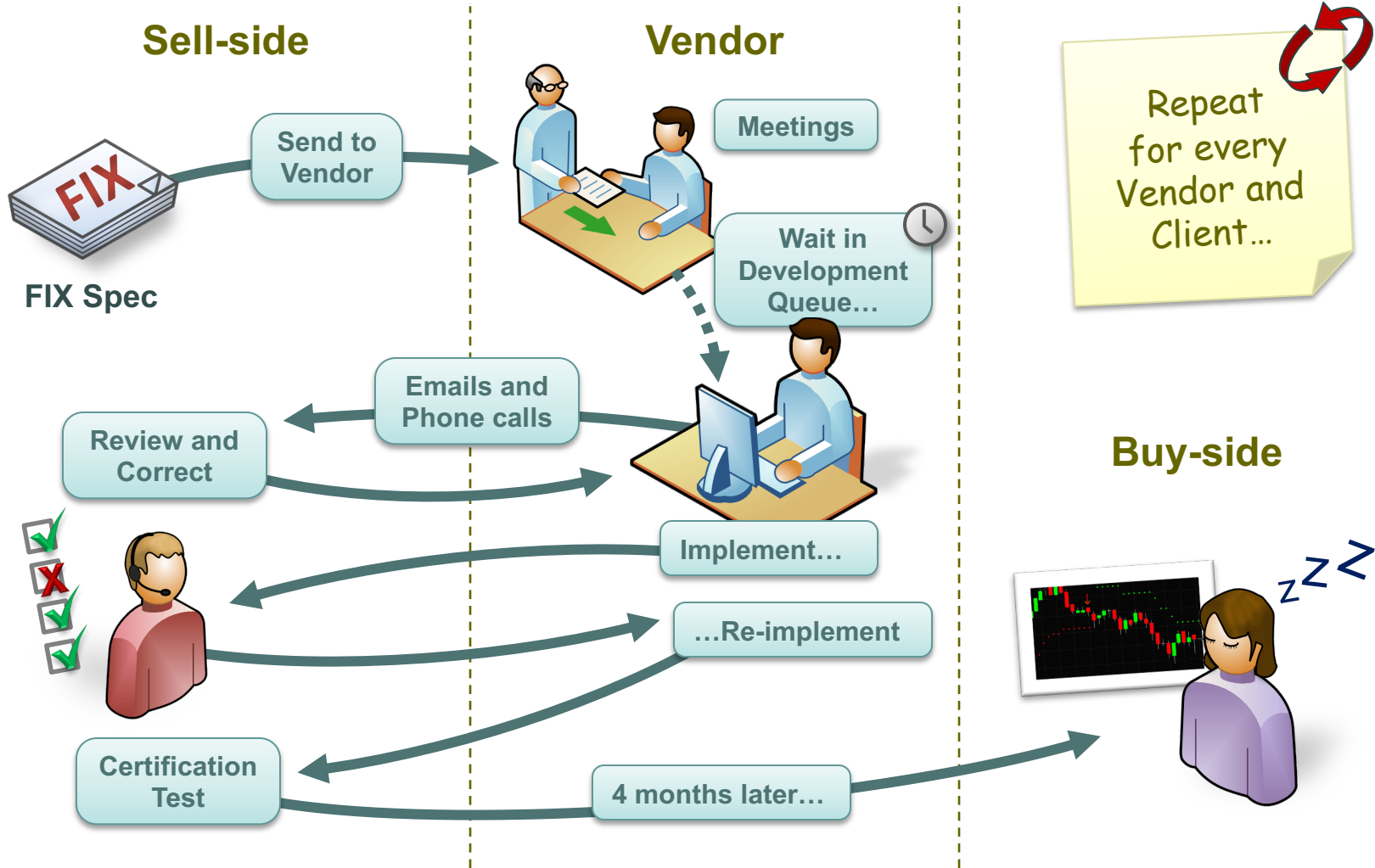
FIXatdl File



Algo Screen

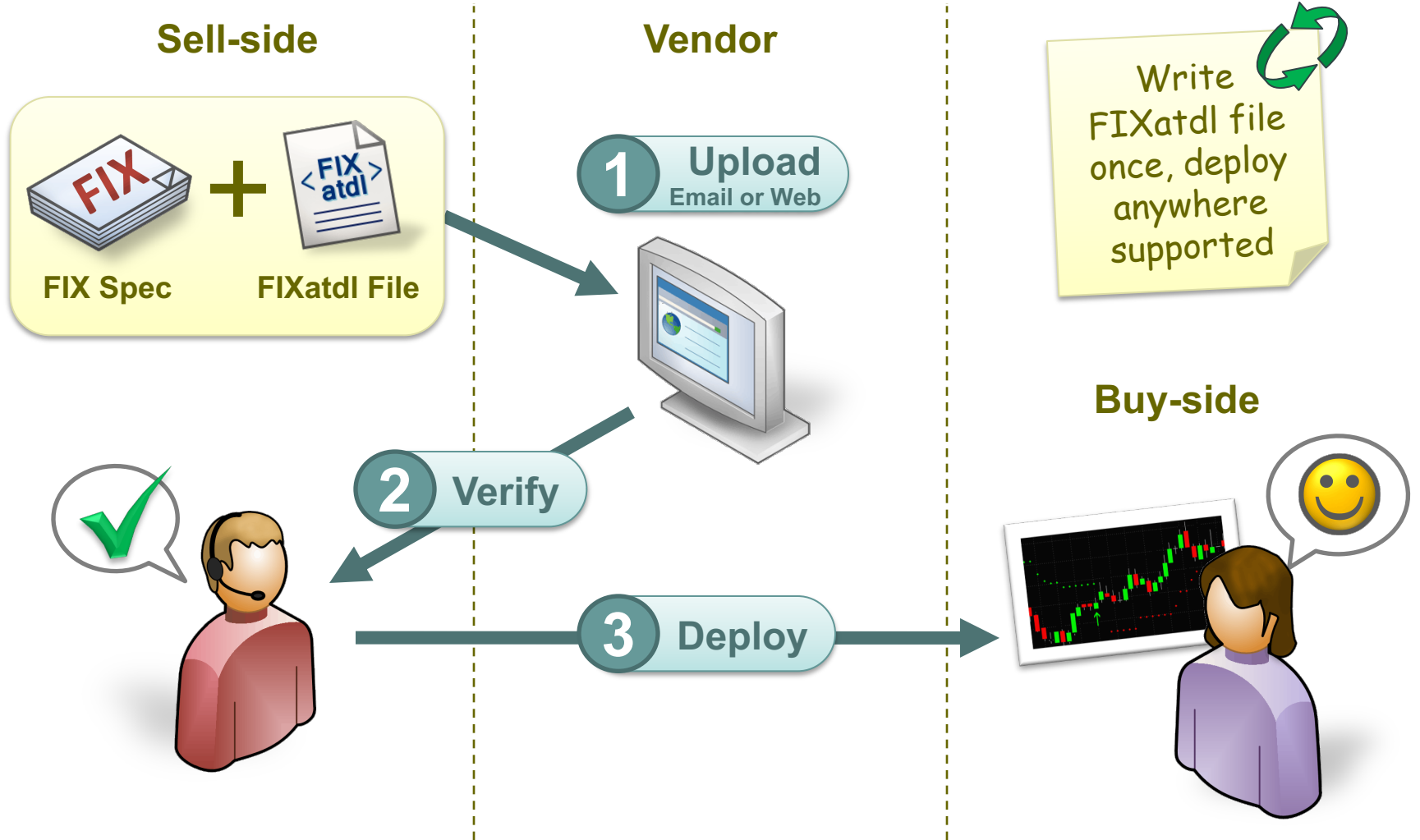


FIX Certification – The Old Way





FIX Certification – The FIXatdl Way





FIX Protocol + FIXatdl

- ✓ FIXatdl is **100% compatible** with the FIX Protocol messaging standard versions 4.0+ and 5.0+
- ✓ **No changes required** to existing FIX engine & network
- ✓ Supports user-defined custom FIX tags
- ✓ Supports parameter validation rules, for example:
 - Example: *“Max Volume Rate must be greater than Min Volume Rate”*
- ✓ One file may contain all broker algos globally
 - Show/hide algos based on order country, exchange, or asset class



FIXatdl – A Win, Win, Win for the Industry

✓ **Sellside Algo Providers**

- Release new algos to customers faster
- Reduced vendor coordination effort
- Better return on investment in algo development



✓ **OMS/EMS Vendors**

- Certify more algorithms in less time and at reduced cost
- Significantly less re-programming effort to support changes



✓ **Buyside Firms**

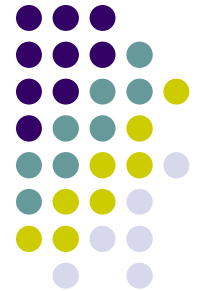
- Faster access to new trading strategies, enabling more effective response to changing market conditions



End Result: *Faster time-to-market with less effort and cost*

Inside FIXatdl

FIXPROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD™





Inside FIXatdl

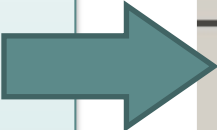
```

FIXatdl XML File

<Strategy name="Tazer" uiRep="Tazer"
  wireValue="3000" fixMsgType="D">

  <!-- FIX Message -->
  <Parameter name="EffectiveTime"
    xsi:type="UTCTimestamp_t"
    fixTag="168"/>
  <Parameter name="VolTarget"
    xsi:type="Percentage_t"
    fixTag="7641" minValue="0.01"
    maxValue="0.75"/>

  <!-- Screen Layout -->
  <lay:StrategyLayout>
    <lay:StrategyPanel>
      <lay:Control xsi:type="lay:Clock_t"
        ID="StartTimeClock"
        label="Start Time"
        parameterRef="EffectiveTime"/>
      <lay:Control xsi:type="lay:SingleSpinner_t"
        ID="VolSpinner"
        label="Target (1-75%)"
        parameterRef="VolTarget"/>
    </lay:StrategyPanel>
  </lay:StrategyLayout>
</Strategy>
  
```



Algo Screen

Strategy

Start Time

Target (1-75%)



FIX Order Message

847=3000
7641=0.35
168=20100319-01:00:00

(an algo trade instruction from client to broker)



FIXatdl Widget Library



Choose from an expressive set of user-input types



Platform-neutral: Java, C#, C++, and web-compatible

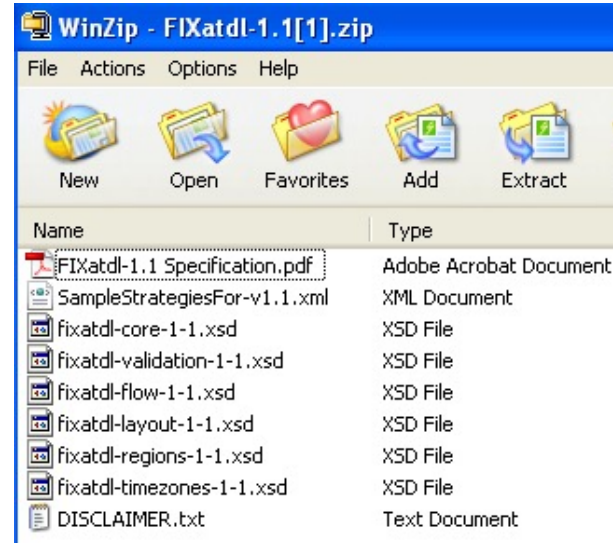
<p>Clock</p> <p>Start Time: 9 : 30 PM</p>	<p>TextField</p> <p>Volume Limit (1-100%): 15</p>	<p>SingleSpinner</p> <p>Duration: 5 secs</p>	<p>DoubleSpinner</p> <p>Limit Price: 18.5</p>
<p>CheckBox</p> <p><input type="checkbox"/> Pegging</p>	<p>CheckBoxList</p> <p>Exclude Auctions</p> <p><input type="checkbox"/> Open <input type="checkbox"/> Close</p>	<p>RadioButton</p> <p><input checked="" type="radio"/> Price Level: </p>	<p>RadioButtonList</p> <p><input type="radio"/> VWAP <input type="radio"/> TWAP <input type="radio"/> Watch</p>
<p>DropDownList</p> <p>Limit Price: Limit Price: Relative Limit Price:</p>	<p>EditableDropDownList</p> <p>XYZ ABC AXP BIIB CSCO MSFT</p>	<p>SingleSelectList</p> <p>VWAP TWAP IceBerg Sweep</p>	<p>MultiSelectList</p> <p>ARCA BATS BIDS CBX EDGE</p>
<p>Slider</p> <p>Lowest Neutral Highest</p>	<p>Label</p> <p>It is the trader's responsibility to select the appropriate end time per each security as defined by Rule 10b-18.</p>		



FIXatdl schema and specification

www.fixprotocol.org/FIXatdl

Specification document
Sample XML instance file
XML Schema Files



XML Schema file / namespace	Purpose
fixatdl- core -1-1.xsd	Data: Defines attributes and elements that are used to describe the data content of the algorithm and the parameters .
fixatdl- validation -1-1.xsd	Data: Defines attributes and elements used to author rules that are applied to the parameter values as a validation check . These rules can be simple where boundary conditions are checked, or complex where compound boolean expressions involving several parameters are evaluated.
fixatdl- layout -1-1.xsd	GUI: XML constructs to describe how a parameter should be rendered within a user interface – this includes recommendations about GUI controls and their relative location within the interface.
fixatdl- flow -1-1.xsd	GUI: Provides the ability to dynamically affect the behavior of a GUI control . Rules can be created to enable or disable parameters based on values entered by the user in other parameters.
fixatdl- regions -1-1.xsd	Data: Enumeration values for countries within three regions : TheAmericas, EuropeMiddleEastAfrica and AsiaPacificJapan.
fixatdl- timezones -1-1.xsd	Data: Lists enumeration values for world timezones based on zoneinfo database.



FIXatdl file structure

```
<Strategies>  
  <Strategy>  
    ... strategy definition ...  
  </Strategy>  
  
  <Strategy>  
    ... strategy definition ...  
  </Strategy>  
</Strategies>
```



```
<Strategy>  
  <Parameter>  
  <Parameter>  
  . . .  
  <Parameter>  
  
  <StrategyLayout>  
  
  <StrategyEdit>  
  <StrategyEdit>  
  . . .  
  <StrategyEdit>  
</Strategy>
```

Demonstration

FIXPROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD™





Broker's Existing Specification – The Starting Point

- Strategy: “Strike Force Delta” (tag 847, value “Z”)
- Description: “Seeks public and non-public liquidity without displaying the order in the book”
- Parameters:
 - Start Time aka Effective Time (optional, tag 168, UTCTimestamp)
 - End Time aka Expire Time (optional, tag 126, UTCTimestamp)
 - Participation Rate (optional, tag 849, Percentage, 0.01 - 0.70)
 - I Would Price (optional, tag 9999, Price, > 0)
 - Execution Style (required, tag 9998, Int)
 - 1 = Very Passive, 2 = Passive, 3 = Neutral, 4 = Aggressive, 5 = Very Aggressive
 - Include Auctions (required, tag 9997, Int)
 - 0 = None, 1 = Open, 2 = Close, 3 = Open and Close
- Rules:
 - If both are specified, Start Time must be less than End Time



Sketch Out Proposed Layout

Strike Force Delta

Seeks public and non-public liquidity without displaying the order in the book

I Would Price	<input type="text"/>	Volume Limit	<input type="text"/>
Execution Style <input type="range"/>			
Very Passive Passive Neutral Aggressive Very Aggressive			
Include Auctions <input type="checkbox"/>			
<input checked="" type="radio"/> None <input type="radio"/> Open <input type="radio"/> Close <input type="radio"/> Both			
Start Time <input type="checkbox"/>		End Time <input type="checkbox"/>	
<input checked="" type="radio"/> Now		<input checked="" type="radio"/> End of Day	
<input type="radio"/> <input type="text" value="10/21/2010"/> <input type="text" value="2:30:00 PM"/>		<input type="radio"/> <input type="text" value="10/21/2010"/> <input type="text" value="2:30:00 PM"/>	



Build the shell of the FIXatdl XML file

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<Strategies
```

```
  xmlns="http://www.fixprotocol.org/FIXatdl-1-1/Core"  
  xmlns:val="http://www.fixprotocol.org/FIXatdl-1-1/Validation"  
  xmlns:lay="http://www.fixprotocol.org/FIXatdl-1-1/Layout"  
  xmlns:flow="http://www.fixprotocol.org/FIXatdl-1-1/Flow"  
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"  
  xsi:schemaLocation="http://www.fixprotocol.org/FIXatdl-1-1/Core"  
  strategyIdentifierTag="847"  
  versionIdentifierTag="958">
```

Tag number for all strategies

Optional, can convey in FIX msg your "version"

```
</Strategies>
```

We will add our Strategy definitions here...



Add Strategy and Parameters (without Layout / Edits)

Unique name, no spaces

Name trader sees

847=Z

```
<Strategy name="StrikeForceDelta" uiRep="Strike Force Delta" wireValue="Z"  
  providerID="BrokerX">
```

```
  <Parameter name="EffectiveTime" xsi:type="UTCTimestamp_t"  
    fixTag="168" use="optional"/>
```

```
  <Parameter name="ExpireTime" xsi:type="UTCTimestamp_t" fixTag="126"  
    use="optional"/>
```

```
  <Parameter name="ParticipationRate" xsi:type="Percentage_t"  
    fixTag="849" use="optional" minValue="0.01" maxValue="0.70"/>
```

```
  <Parameter name="IWouldPrice" xsi:type="Price_t" fixTag="9999"  
    use="optional" minValue="0"/>
```

Parameters:

- Start Time aka Effective Time (optional, tag 168, UTCTimestamp)
- End Time aka Expire Time (optional, tag 126, UTCTimestamp)
- Participation Rate (optional, tag 849, Percentage, 0.01 - 0.70)
- I Would Price (optional, tag 9999, Price, > 0)



Continued...

Add Strategy and Parameters (without Layout / Edits)

```
<Parameter name="ExecutionStyle" xsi:type="Int_t" fixTag="9998"
use="required">
```

```
  <EnumPair enumID="Very Passive"      wireValue="1"/>
```

```
  <EnumPair enumID="Passive"           wireValue="2"/>
```

```
  <EnumPair enumID="Neutral"           wireValue="3"/>
```

```
  <EnumPair enumID="Aggressive"        wireValue="4"/>
```

```
  <EnumPair enumID="Very Aggressive"   wireValue="5"/>
```

```
</Parameter>
```

```
<Parameter name="IncludeAuctions" xsi:type="Int_t" fixTag="9997"
use="required">
```

```
  <EnumPair enumID="None"      wireValue="0"/>
```

```
  <EnumPair enumID="Open"      wireValue="1"/>
```

```
  <EnumPair enumID="Close"     wireValue="2"/>
```

```
  <EnumPair enumID="OpenAndClose" wireValue="3"/>
```

```
</Parameter>
```

```
</Strategy>
```

We will add Layout and Strategy Rules here...

Parameters:

- Execution Style (required, tag 9998, Int)
 - 1 = Very Passive, 2 = Passive, 3 = Neutral,
 - 4 = Aggressive, 5 = Very Aggressive
- Include Auctions (required, tag 9997, Int)
 - 0 = None, 1 = Open, 2 = Close, 3 = Open and Close



Add an empty Layout

Element within <Strategy>

```
<lay:StrategyLayout>
```

```
    <lay:StrategyPanel title="Strategy Parameters" collapsible="false"
orientation="VERTICAL">
```

```
    </lay:StrategyPanel>
```

```
</lay:StrategyLayout>
```

Strategy **Strike Force Delta** ▾

Strategy Parameters



Add I Would Price and Volume Limit controls

Element within main <StrategyPanel>

```
<lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
  <lay:Control ID="IWouldPriceField" xsi:type="lay:TextField_t"
label="I Would Price" parameterRef="IWouldPrice"/>
```

Controls are 'bound' to Parameters via
parameterRef -> Parameter/@name

```
  <lay:Control ID="ParticipationRateField" xsi:type="lay:TextField_t"
label="Volume Limit" parameterRef="ParticipationRate"/>
  <lay:Control ID="ParticipationRateLabel" xsi:type="lay:Label_t"
initValue="(1-70%)" />
</lay:StrategyPanel>
```

Strategy

Strategy Parameters

I Would Price Volume Limit (1-70%)

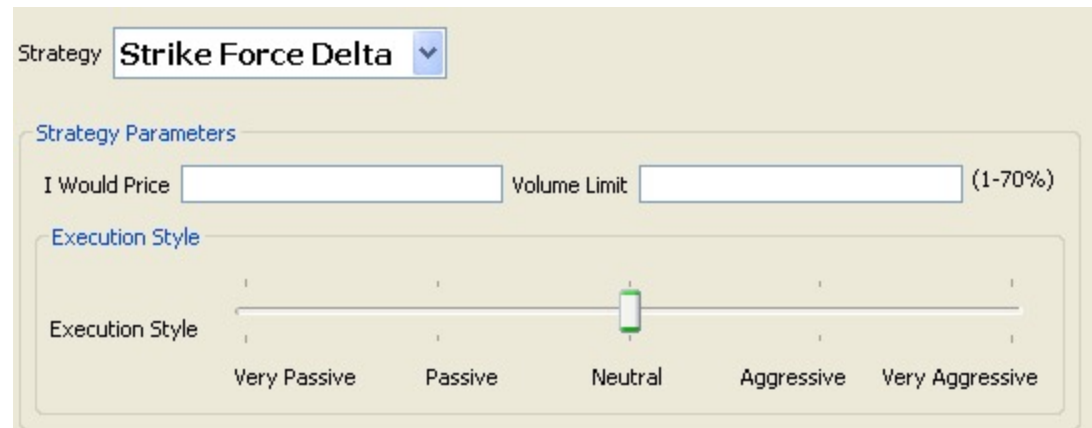


Add Execution Style (Aggressiveness) Slider

Element within main <StrategyPanel>

```
<lay:StrategyPanel title="Execution Style" collapsible="false"
orientation="HORIZONTAL">
    <lay:Control ID="ExecutionStyleSlider" xsi:type="lay:Slider_t"
initValue="Neutral" label="Execution Style"
parameterRef="ExecutionStyle">
        <lay:ListItem uiRep="Very Passive" enumID="Very Passive"/>
        <lay:ListItem uiRep="Passive" enumID="Passive"/>
        <lay:ListItem uiRep="Neutral" enumID="Neutral"/>
        <lay:ListItem uiRep="Aggressive" enumID="Aggressive"/>
        <lay:ListItem uiRep="Very Aggressive" enumID="Very
Aggressive"/>
    </lay:Control>
</lay:StrategyPanel>
```

Control's ListItem/@enumID ties to
Parameter's EnumPair/@enumID





Add Include Auction Radio Buttons

Element within main <StrategyPanel>

```
<lay:StrategyPanel title="Include Auctions" collapsible="false"
orientation="HORIZONTAL">
  <lay:Control ID="IncludeAuctionsField"
xsi:type="lay:RadioButtonList_t" initValue="None"
orientation="HORIZONTAL" label="" parameterRef="IncludeAuctions">
    <lay:ListItem uiRep="None" enumID="None" />
    <lay:ListItem uiRep="Open" enumID="Open" />
    <lay:ListItem uiRep="Close" enumID="Close" />
    <lay:ListItem uiRep="Both" enumID="OpenAndClose" />
  </lay:Control>
</lay:StrategyPanel>
```

Control's ListItem/@enumID ties to
Parameter's EnumPair/@enumID

The screenshot shows a configuration panel for the 'Strike Force Delta' strategy. It includes several sections:

- Strategy:** A dropdown menu set to 'Strike Force Delta'.
- Strategy Parameters:** Two input fields: 'I Would Price' and 'Volume Limit' (with a '(1-70%)' label).
- Execution Style:** A horizontal slider ranging from 'Very Passive' to 'Very Aggressive', with 'Neutral' in the center. A green slider knob is positioned at the 'Neutral' mark.
- Include Auctions:** A section with four radio buttons: 'None' (selected), 'Open', 'Close', and 'Both'.



Add Start Time.....

Element within main <StrategyPanel>

```
<lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
```

```
<lay:StrategyPanel collapsible="false" orientation="VERTICAL"
title="Start Time">
```

Radio Button

```
<lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
```

```
<lay:Control ID="c_NoStartTime" xsi:type="lay:RadioButton_t"
label="Now" initValue="true" radioGroup="StartTimeRB"/>
```

```
</lay:StrategyPanel>
```

Radio Button

```
<lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
```

```
<lay:Control ID="c_EnableStartTime" xsi:type="lay:RadioButton_t"
label="" radioGroup="StartTimeRB"/>
```

```
<lay:Control ID="StartTimeClock" xsi:type="lay:Clock_t" label=""
parameterRef="EffectiveTime">
```

Clock

```
<flow:StateRule enabled="false" value="{NULL}">
```

```
<val:Edit field="c_EnableStartTime" operator="EQ"
value="false"/>
```

```
</flow:StateRule>
```

```
</lay:Control>
```

```
</lay:StrategyPanel>
```

State Rule
Enables Clock when
c_EnableStartTime
Radio Button is selected

```
</lay:StrategyPanel>
```

Will continue (blue StrategyPanel) on next slide



Add End Time.....

Continued (blue StrategyPanel) from previous slide

```
<lay:StrategyPanel collapsible="false" orientation="VERTICAL" title="End Time">
```

```
  <lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
```

```
    <lay:Control ID="c_NoEndTime" xsi:type="lay:RadioButton_t" label="End of Day" initValue="true" radioGroup="EndTimeRB"/>
```

```
  </lay:StrategyPanel>
```

```
  <lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
```

```
    <lay:Control ID="c_EnableEndTime" xsi:type="lay:RadioButton_t" label="" radioGroup="EndTimeRB"/>
```

```
    <lay:Control ID="EndTimeClock" xsi:type="lay:Clock_t" label="" parameterRef="ExpireTime">
```

```
      <flow:StateRule enabled="false" value="{NULL}">
```

```
        <val:Edit field="c_EnableEndTime" operator="EQ" value="false"/>
```

```
      </flow:StateRule>
```

```
    </lay:Control>
```

```
  </lay:StrategyPanel>
```

```
</lay:StrategyPanel>
```

```
</lay:StrategyPanel>
```

Radio Button

Radio Button

Clock

State Rule
Enables Clock when
c_EnableEndTime
Radio Button is selected



Render

Strategy **Strike Force Delta** ▾

Strategy Parameters

I Would Price Volume Limit (1-70%)

Execution Style

Execution Style

Very Passive Passive Neutral Aggressive Very Aggressive

Include Auctions

None Open Close Both

Start Time

Now

End Time

End of Day



Validation



Defaults: 847=Z 9998=3 9997=0



Test Different Combinations

Strategy **Strike Force Delta**

Strategy Parameters

I Would Price Volume Limit (1-70%)

Execution Style

Execution Style

Very Passive Passive Neutral Aggressive Very Aggressive

Include Auctions

None Open Close Both

Start Time

Now

10/20/2010 8:12:26 AM

End Time

End of Day

10/20/2010 8:12:26 AM

Validation

Validate Output 847=Z ,9998=4 ,9997=0 r

Aggressive results in 9998=4

Strategy **Strike Force Delta**

Strategy Parameters

I Would Price Volume Limit (1-70%)

Execution Style

Execution Style

Very Passive Passive Neutral Aggressive Very Aggressive

Include Auctions

None Open Close Both

Start Time

Now

10/20/2010 8:12:26 AM

End Time

End of Day

10/20/2010 8:12:26 AM

Validation

Validate Output 847=Z ,9998=4 ,9997=1 r

Include Open results in 9997=1



Test Different Combinations

Strategy **Strike Force Delta** ▾

Strategy Parameters

I Would Price Volume Limit (1-70%)

Execution Style

Execution Style (Very Passive, Passive, Neutral, Aggressive, Very Aggressive)

Include Auctions

None Open Close Both

Start Time

Now 10/20/2010 8:12:26 AM

End Time

End of Day 10/20/2010 8:12:26 AM

Validation

Validate Output 847=Z r9998=4 r168=20101020-13:12:26 r9997=1 r

Strategy **Strike Force Delta** ▾

Strategy Parameters

I Would Price Volume Limit (1-70%)

Execution Style

Execution Style (Very Passive, Passive, Neutral, Aggressive, Very Aggressive)

Include Auctions

None Open Close Both

Start Time

Now 10/20/2010 8:12:26 AM

End Time

End of Day 10/20/2010 9:12:26 AM

Validation

Validate Output 847=Z r9998=4 r168=20101020-13:12:26 r126=20101020-14:12:26 r

StartTime results in 168=20101020-13:12:26

EndTime (+1 hr) results in 126=20101020-14:12:26



Add StrategyEdit Validation Rules

```

<val:StrategyEdit errorMessage="Start time must be less than end time.">
  <val:Edit logicOperator="OR">
    <val:Edit field="ExpireTime" operator="NX" />
    <val:Edit field="EffectiveTime" operator="NX" />
    <val:Edit field="ExpireTime" operator="GT" field2="EffectiveTime" />
  </val:Edit>
</val:StrategyEdit>

```

Annotations:

- Element within <Strategy> and after <StrategyLayout> section
- "OR" – at least one in list must be true
- "NX" – Null/Not Set
- "GT" – Greater Than

StrategyEdit is an 'assertion'. The errorMessage will be generated if it is NOT TRUE.
 This rule reads: (ExpireTime IS NULL OR EffectiveTime IS NULL OR ExpireTime > EffectiveTime)
 The IS NULL checks are necessary because the parameters are optional.



Test Strategy Rules

Strategy **Strike Force Delta**

Strategy Parameters
I Would Price Volume Limit (1-70%)

Execution Style
Execution Style (Very Passive, Passive, Neutral, Aggressive, Very Aggressive)

Include Auctions
 None Open Close Both

Start Time
 Now 10/20/2010 8:39:56 AM

End Time
 End of Day 10/20/2010 8:39:56 AM

Validation
Validate Output 847=Z r9998=2 r9997=2 r

StartTime and EndTime are not set

Start Time
 Now 10/20/2010 8:39:56 AM

End Time
 End of Day 10/20/2010 9:39:56 AM

Validation
Validate Output 847=Z r9998=2 r168=20101020-13:39:56 r9997=2 r126=20101020-14:39:56 r

EndTime > StartTime

Start Time
 Now 10/20/2010 8:39:56 AM

End Time
 End of Day 10/20/2010 8:39:56 AM

Validation
Validate Output 847=Z r9998=2 r168=20101020-13:39:56 r9997=2 r

StartTime only is set

Strategy **Strike Force Delta**

Strategy Parameters
I Would Price Volume Limit (1-70%)

Execution Style

Validation Exception
Start time must be less than end time.
Rule tested: [2010-10-20T07:39:56.000-05:00 GT 2010-10-20T08:39:56.000-05:00]

Start Time
 Now 10/20/2010 8:39:56 AM

End Time
 End of Day 10/20/2010 7:39:56 AM



Add Description to Strategy

```
<Strategy name="StrikeForceDelta" uiRep="Strike Force Delta" wireValue="Z"
  providerID="BrokerX">
```

```
  <Description>Seeks public and non-public liquidity without displaying
  the order in the book</Description>
```

```
    <Parameter name="EffectiveTime" xsi:type="UTCTimestamp_t" fixTag="168"
  use="optional"/>
```

```
    <Parameter name="ExpireTime" xsi:type="UTCTimestamp_t" fixTag="126"
  use="optional"/>
```

<Description> is an optional element of <Strategy>

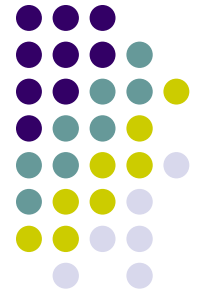
Description can appear on screen

The screenshot shows a web-based configuration interface for a strategy named "Strike Force Delta". The interface is organized into several sections:

- Strategy:** A dropdown menu currently set to "Strike Force Delta".
- Strategy Description:** A text area containing the description: "Seeks public and non-public liquidity without displaying the order in the book".
- Strategy Parameters:** Includes input fields for "I Would Price" and "Volume Limit" (with a "(1-70%)" label).
- Execution Style:** A horizontal slider with five discrete points labeled "Very Passive", "Passive", "Neutral", "Aggressive", and "Very Aggressive". The slider is currently positioned at "Neutral".
- Include Auctions:** Radio buttons for "None" (selected), "Open", "Close", and "Both".
- Start Time:** Radio buttons for "Now" (selected) and a date/time selector set to "10/20/2010 10:56:18 AM".
- End Time:** Radio buttons for "End of Day" (selected) and a date/time selector set to "10/20/2010 10:56:18 AM".

Additional Features and Common Issues

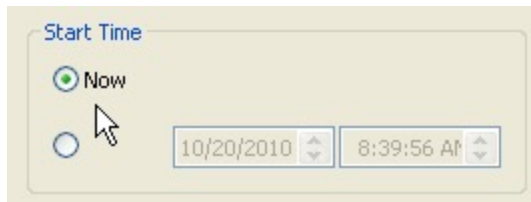
FIXPROTOCOL
INDUSTRY-DRIVEN MESSAGING STANDARD™



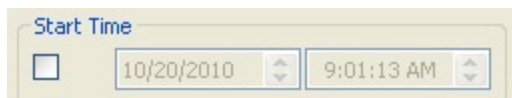


Common Issue: Clock control's Parameter is optional

Need 'helper' control to disable it. Choices: Checkbox or Radio Button



```
<lay:StrategyPanel collapsible="false" orientation="VERTICAL" title="Start Time">
  <lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
    <lay:Control ID="c_NoStartTime" xsi:type="lay:RadioButton_t" label="Now"
    initValue="true" radioGroup="StartTimeRB"/>
  </lay:StrategyPanel>
  <lay:StrategyPanel collapsible="false" orientation="HORIZONTAL">
    <lay:Control ID="c_EnableStartTime" xsi:type="lay:RadioButton_t" label=""
    radioGroup="StartTimeRB"/>
    <lay:Control ID="StartTimeClock" xsi:type="lay:Clock_t" label=""
    parameterRef="EffectiveTime">
      <flow:StateRule enabled="false" value="{NULL}">
        <val:Edit field="c_EnableStartTime" operator="EQ" value="false"/>
      </flow:StateRule>
    </lay:Control>
  </lay:StrategyPanel>
</lay:StrategyPanel>
```



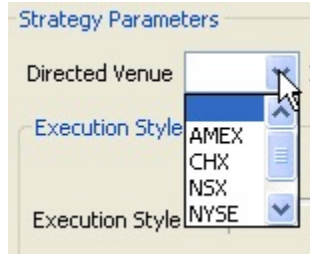
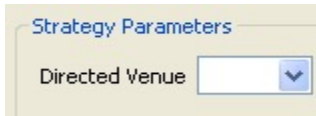
CheckBox

```
<lay:StrategyPanel collapsible="false" orientation="HORIZONTAL"
title="Start Time">
  <lay:Control ID="c_EnableStartTime" xsi:type="lay:CheckBox_t"
label="" initValue="false"/>
  <lay:Control ID="StartTimeClock" xsi:type="lay:Clock_t" label=""
parameterRef="EffectiveTime">
    <flow:StateRule enabled="false" value="{NULL}">
      <val:Edit field="c_EnableStartTime" operator="EQ"
value="false"/>
    </flow:StateRule>
  </lay:Control>
</lay:StrategyPanel>
```

State Rule
Enables Clock when
c_EnableStartTime
CheckBox is selected



Common Issue: Drop Down List's parameter is optional



```
<Parameter fixTag="100" name="DirectedVenue" use="optional"
  xsi:type="String_t">
```

```
  <EnumPair enumID="e_NotSet" wireValue="{NULL}"/>
  <EnumPair enumID="e_AMEX" wireValue="A"/>
  <EnumPair enumID="e_CHX" wireValue="MW"/>
  <EnumPair enumID="e_NSX" wireValue="C"/>
  <EnumPair enumID="e_NYSE" wireValue="N"/>
  <EnumPair enumID="e_PHLX" wireValue="PH"/>
```

```
</Parameter>
```

EnumPair with wireValue = "{NULL}"

```
<lay:Control ID="c_DirectedVenue" label="Directed Venue"
  parameterRef="DirectedVenue" xsi:type="lay:DropDownList_t">
```

```
  <lay:ListItem enumID="e_NotSet" uiRep=""/>
  <lay:ListItem enumID="e_AMEX" uiRep="AMEX"/>
  <lay:ListItem enumID="e_CHX" uiRep="CHX"/>
  <lay:ListItem enumID="e_NSX" uiRep="NSX"/>
  <lay:ListItem enumID="e_NYSE" uiRep="NYSE"/>
  <lay:ListItem enumID="e_PHLX" uiRep="PHLX"/>
```

```
</lay:Control>
```

ListItem with uiRep = ""



Using Strategy Filters – Region/Country Filtering

```
<Strategy name="EuropeAndAsiaOnly" uiRep="Europe and Asia Only" wireValue="3">  
  <Regions>  
    <Region name="AsiaPacificJapan" inclusion="Include"/>  
    <Region name="EuropeMiddleEastAfrica" inclusion="Include"/>  
  </Regions>
```

AsiaPacificJapan OR EMEA

```
<Strategy name="USOnly" uiRep="U.S. Only" wireValue="3">  
  <Regions>  
    <Region name="TheAmericas" inclusion="Include">  
      <Country inclusion="Include" CountryCode="US"/>  
    </Region>  
  </Regions>
```

United States ONLY

```
<Strategy name="AsiaExJapan" uiRep="Asia Excluding Japan" wireValue="3">  
  <Regions>  
    <Region name="AsiaPacificJapan" inclusion="Include">  
      <Country inclusion="Exclude" CountryCode="JP"/>  
    </Region>  
  </Regions>
```

Asia/Pac EXCLUDING Japan



Using Strategy Filters – Security Type Filtering

```
<Strategy name="EquitiesOnly" uiRep="Equities Only" wireValue="3">  
  <SecurityTypes>  
    <SecurityType name="CS" inclusion="Include"/>  
  </SecurityTypes>
```

Equities ONLY ("CS" = Equities)

```
<Strategy name="FuturesOnly" uiRep="Futures Only" wireValue="3">  
  <SecurityTypes>  
    <SecurityType name="FUT" inclusion="Include"/>  
  </SecurityTypes>
```

Futures ONLY

```
<Strategy name="ExcludeFX" uiRep="Exclude FX" wireValue="3">  
  <SecurityTypes>  
    <SecurityType name="FXSPOT" inclusion="Exclude"/>  
    <SecurityType name="FXFWD" inclusion="Exclude"/>  
  </SecurityTypes>
```

EXCLUDE FX (FXSPOT, FXFWD)



Using “Input Data” within Layout or as StrategyEdit

OMS can provide non algo-specific FIX field values. Use “FIX_<fieldname>”

```
<lay:Control ID="PriceField" xsi:type="lay:TextField_t" initValue=""  
  initFixField="FIX_Price" initPolicy="UseFixField">
```



Initialize TextField with Price (tag 44)

```
<val:StrategyEdit errorMessage="FIX Limit Price is required.">  
  <val:Edit field="FIX_Price" operator="EX" />  
</val:StrategyEdit>
```



Validation rule: FIX Price (tag 44) must be set (“EX”)



Easy: Use the Strategy Parameter repeating group vs. UDFs

<Strategies

```
xmlns="http://www.fixprotocol.org/FIXatdl-1-1/Core"
xmlns:val="http://www.fixprotocol.org/FIXatdl-1-1/Validation"
xmlns:lay="http://www.fixprotocol.org/FIXatdl-1-1/Layout"
xmlns:flow="http://www.fixprotocol.org/FIXatdl-1-1/Flow"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.fixprotocol.org/FIXatdl-1-1/Core"
imageLocation="/images/banner.gif"
strategyIdentifierTag="847"
versionIdentifierTag="958"
tag957Support="true">
```

Specify tag957Support=true at <Strategies> level and any Parameter with a fixTag will go in standard repeating group

```
<Strategy name="StrikeForceDelta" uiRep="Strike Force Delta" wireValue="Z" providerID="BrokerX">
```

```
<Parameter name="IWouldPrice" xsi:type="Price_t" use="optional" minValue="0"/>
```

No wireValue

```
<Parameter name="ExecutionStyle" xsi:type="Int_t" use="required">
```

```
<EnumPair enumID="Very Passive" wireValue="1"/>
```

```
<EnumPair enumID="Passive" wireValue="2"/>
```

```
<EnumPair enumID="Neutral" wireValue="3"/>
```

```
<EnumPair enumID="Aggressive" wireValue="4"/>
```

```
<EnumPair enumID="Very Aggressive" wireValue="5"/>
```

```
</Parameter>
```

```
<Parameter name="IncludeAuctions" xsi:type="Int_t" use="required">
```

```
<EnumPair enumID="None" wireValue="0"/>
```

```
<EnumPair enumID="Open" wireValue="1"/>
```

```
<EnumPair enumID="Close" wireValue="2"/>
```

```
<EnumPair enumID="OpenAndClose" wireValue="3"/>
```

```
</Parameter>
```

847=Z

957=3

958=ExecutionStyle

959=1

960=3

958=IncludeAuctions

959=1

960=0

958=IWouldPrice

959=8

960=12.34



FIXatdl Multi-language Support

Publishers can provide files in any language

The image displays two side-by-side screenshots of a configuration tool for the 'With Volume (Asia)' strategy. The left screenshot is in English, and the right is in Japanese. A yellow arrow points from the English version to the Japanese version, highlighting the multi-language support.

English Version (Left):

- Strategy:** With Volume (Asia)
- Strategy Description:** Trade in proportion to actual market volume, at a specified trade rate.
- Time Configuration:**
 - Start Time: Now, 5/10/2010 12:09:06 PM
 - End Time: Automatic, 5/10/2010 12:09:06 PM
- Required Parameters:** Volume Target (1-70%): 25
- Optional Parameters:**
 - Tighter to Target Schedule
 - Exclude Auctions:** AM Open, PM Open, PM Close
 - Check to opt-out of the Afternoon Open auction.
- Dark Access:** OK to Cross, No Cross; Dark Block Limit Price: []

Japanese Version (Right):

- Strategy:** With Volume (Asia)
- Strategy Description:** 市場の累積出来高に対して、ユーザが設定した参加率を守りながら発注していくストラテジーです。
- 設定時間:**
 - 開始時刻: 現在, 5/10/2010 12:12:31 PM
 - 終了時刻: 自動, 5/10/2010 12:12:31 PM
- 必須項目:** ターゲット参加率 (1-70%): 85
- 任意項目:**
 - 厳密にスケジュールに沿って発注
 - 寄付きと引けを除く:** 前場寄り, 後場寄り, 大引け
 - 後場寄り付きオークションに参加しない場合は必ずこのチェックボックスをチェックして下さい。
- ダークプールパラメータ:** クロスあり, クロスなし; Would価格: []

English and Japanese versions of Nomura's "With Volume" strategy as displayed on atdl4j open source tool



FIXatdl –Multi-language support (ex English/Japanese)

Simply substitute non-English for the values displayed on screen to user

```

- <Strategy name="A_WITHVOLUME" uiRep="With Volume (Asia)" wireValue="2" version="2.0.0"
  fixMsgType="D" providerID="Nomura">
  <Description>市場の累積出来高に対して、ユーザが設定した参加率を守りながら発注していくストラテジーです
  </Description>
  <!-- Asia With Volume: Supported Regions -->
  <Regions>
  <Region name="AsiaPacificJapan" inclusion="Include" />
  </Regions>
  <!-- Asia With Volume: Supported Asset-Classes -->
  <SecurityTypes>
  <SecurityType name="CS" inclusion="Include" />
  </SecurityTypes>
  <!-- Asia With Volume: FIX Parameters -->
  <Parameter name="TargetSubID" xsi:type="String_t" use="required" mutableOnCxlRpl="false"
    revertOnCxlRpl="true" fixTag="57" definedByFIX="true" constValue="MODELEX">
  <Description>ModelExLに回送する為のインストラクション</Description>
  </Parameter>
  <Parameter name="HandInst" xsi:type="Char_t" use="required" mutableOnCxlRpl="false"
    revertOnCxlRpl="true" fixTag="21" definedByFIX="true" constValue="1">
  <Description>電子取引の為のインストラクション</Description>
  </Parameter>
  <Parameter name="ExecInst" xsi:type="MultipleCharValue_t" use="optional"
    mutableOnCxlRpl="true" revertOnCxlRpl="false" fixTag="18" definedByFIX="true">
  <Description>Nomura NXでのクロスや他リクイティへのアクセス。</Description>
  <EnumPair enumID="e_OKToCross" wireValue="B">
  <Description>クロスあり</Description>
  </EnumPair>
  <EnumPair enumID="e_NoCross" wireValue="A">
  <Description>クロスなし</Description>
  </EnumPair>
  </Parameter>
  <Parameter name="EffectiveTime" xsi:type="UTCTimestamp_t" use="optional"
    mutableOnCxlRpl="true" revertOnCxlRpl="false" fixTag="168" definedByFIX="true">
  <Description>初期設定では、開始時刻はそれぞれマーケットの寄りの時間が設定されています。
  </Description>
  </Parameter>
  <!-- Asia With Volume: Layout - Optional Parameters -->
  <lay:StrategyPanel orientation="VERTICAL" border="Line" title="任意項目"
    collapsible="true">
  <lay:StrategyPanel orientation="VERTICAL" border="None" collapsible="false">
  <lay:Control ID="c_TighterToTargetSchedule" xsi:type="lay:CheckBox_t"
    parameterRef="TighterToTargetSchedule" label="厳密にスケジュールに沿って発注"
    tooltip="このオプションを使用すれば、より厳密にターゲット・ベンチマークに従った執行をさせることが出来ます。" checkedEnumRef="e_TTP" uncheckedEnumRef="e_Normal" />
  </lay:StrategyPanel>
  <lay:StrategyPanel orientation="VERTICAL" border="Line" title="寄付きと引けを除く"
    collapsible="false">
  <lay:Control ID="c_ExcludeAuctions" xsi:type="lay:CheckBoxList_t"
    parameterRef="ExcludeAuctions" tooltip="寄付付きと引けのオークションに参加するか否かを指定することが出来ます。">
  <lay:ListItem enumID="e_AMOpen" uiRep="前場寄り" />
  <lay:ListItem enumID="e_PMOpen" uiRep="後場寄り" />
  <lay:ListItem enumID="e_PMClose" uiRep="大引け" />
  </lay:Control>
  </lay:StrategyPanel>
  </lay:StrategyPanel>
  <!-- Asia With Volume: Validations -->
  <val:StrategyEdit errorMessage="終了時刻より開始時刻が前になっています。">
  <val:Edit logicOperator="OR">
  <val:Edit field="EffectiveTime" operator="NX" />
  <val:Edit field="ExpireTime" operator="NX" />
  <val:Edit logicOperator="AND">
  <val:Edit field="EffectiveTime" operator="EX" />
  <val:Edit field="ExpireTime" operator="EX" />
  <val:Edit field="ExpireTime" operator="GT" field2="EffectiveTime" />
  </val:Edit>
  </val:Edit>
  </val:StrategyEdit>

```




FIXatdl - Summary

✓ Revolutionizes the algorithmic trading deployment process

✓ Complements the FIX Protocol messaging standard



✓ A “Triple Win” providing key benefits to:

- Buyside
- Sellside
- Vendors



End result is **Faster Time-to-Market** for the algo provider with **Less Effort and Cost** for the customer and customer’s vendors

www.fixprotocol.org/FIXatdl