Nasdaq Calypso

Bloomberg TSOX Integration Guide

Version 2.0.0

Revision 1.0
March 2017
Approved

Document History

Revision	Published	Summary of Changes
1.0	March 2017	First edition for version 2.0.0

This document describes how to integrate Calypso with Bloomberg-TSOX Interface.

NOTE: The Calypso License to use this Calypso Integration Module does not include a license for any third-party data services to which this module can interface. Clients are responsible for contracting with the appropriate third-party data service(s) prior to using this Calypso Integration Module.

NOTE: The Bloomberg-TSOX interface is distributed as part of the Bloomberg-FIT module, which may support other Bloomberg interfaces which must be licensed separately.

IMPORTANT NOTE: For Cloud deployments please contact your application management team as the deployment procedure for Cap Cloud is different.

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Introduction

The Bloomberg-TSOX Order interface allows an End User Firm (Buy-Side) to stage an Order from Calypso to Bloomberg and import the executed drop copy and create a trade.

The Calypso Bloomberg-TSOX integration connects to Bloomberg using a FIX interface. Once the connectivity is setup, a trader can book an Order in Calypso and send the order to Bloomberg for Execution. Once the staged order is executed in Bloomberg Terminal, the execution message will then flow through the configured Calypso workflows which route the message through the appropriate stages to create a Calypso trade.

This document describes the configuration required to setup the workflows, etc. for the Bloomberg-TSOX interface to run successfully.

1.1 Supported Features

Calypso Versions

- Order Integration support in Calypso 15.1 and above

FIX Sessions

Calypso's Bloomberg-TSOX integration supports following FIX sessions:

- Single Asset Protocol
- Multi Asset Protocol (MAP)

Workflows

Calypso's Bloomberg-TSOX integration supports trade messages for the following workflows:

- Pre-Allocation

Product Types

The Bloomberg-TSOX interface supports the following Bloomberg trade types:

- Fixed Income (Bond)

FIX Message

- NewOrderSingle Report (Staged Order): The staged order in Calypso is submitted to Bloomberg platform.
- Execution Report (Confirmation status): For staged order submitted, Bloomberg confirms accepted/rejected by sending ExecutionReport. Calypso Order comment is updated with the Bloomberg Order Id.

- Execution Report (Trade): Once the staged order is executed within the Bloomberg Terminal and the Dealer accepts, Bloomberg will send a message over the FIX interface. A Bilateral trade will be created in Calypso to represent the trade between the two parties (Dealer vs. Buy-Side), with the Calypso user's party as the PO.

1.2 Not Supported

Workflows

- Bunched-Order
- Clearing

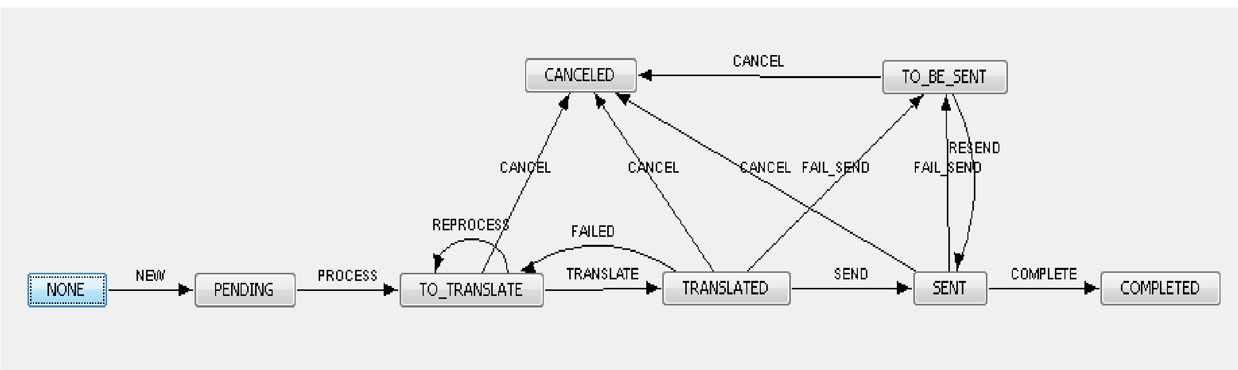
Setup

For setup and configuration related information such as legal entities, and engine configuration, please refer to Calypso Bloomberg-FIT Integration Guide (Generic) for Bloomberg-TSOX related setup.

2.1 Message Workflow

Apart from UPLOADSOURCEMSG and GATEWAYMSG workflows (as mentioned in 'Workflow Setup' section of Calypso Bloomberg-FIT Integration Guide (Generic)), for sending staged order to Bloomberg, PLATFORMMSG workflow needs to be configured. This should be set up as part of the Calypso Data Uploader Integration Guide. The PLATFORMMSG is generated for each outgoing message from CALYPSO to BLOOMBERG, like SEND_TO_MARKET / PLATFORM_CANCEL.

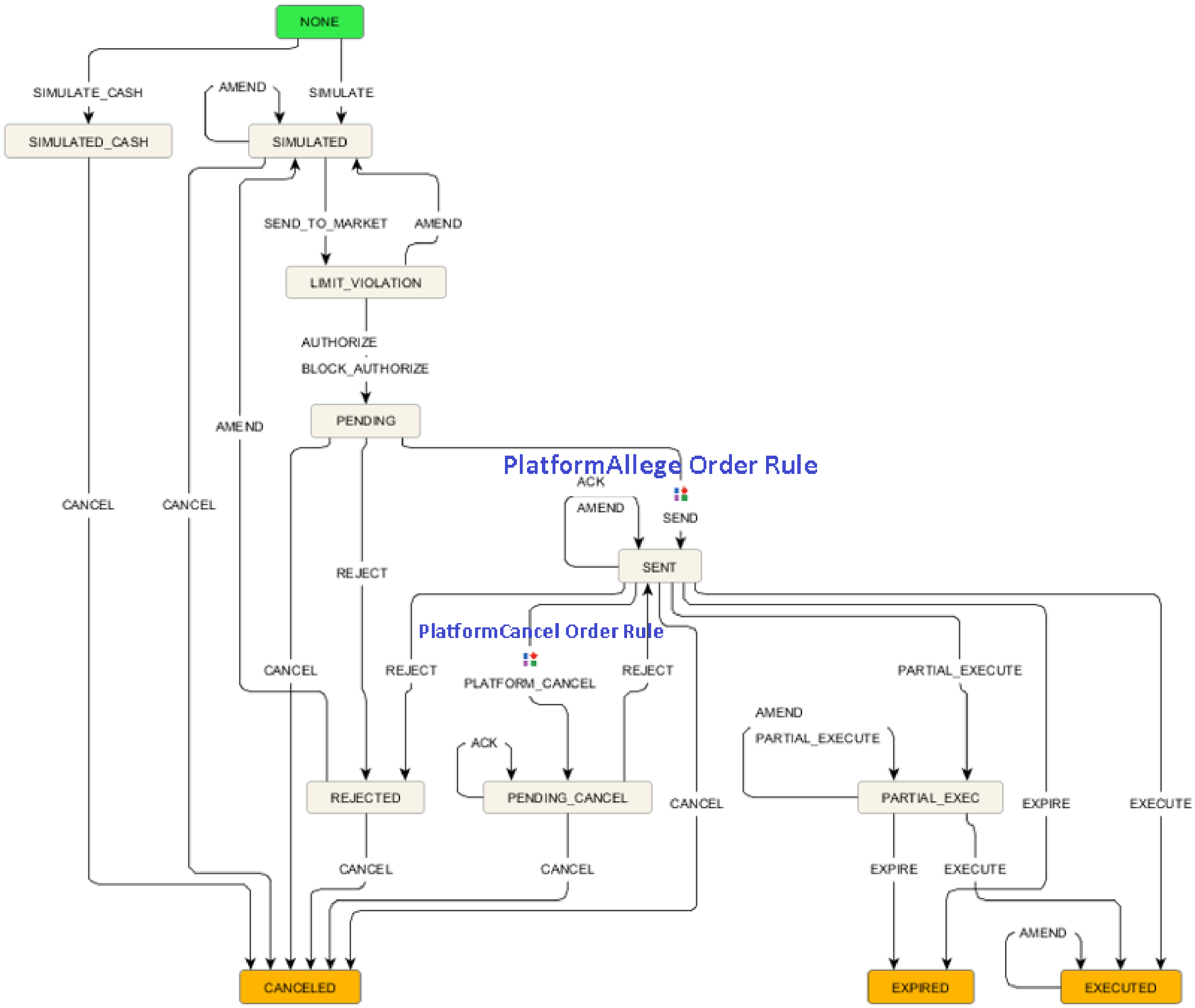
The PLATFORMMSG workflow:



2.2 Order Workflow Setup

The user can perform the following actions on order using the bi-directional functionality:

- Allege Order to Bloomberg (PlatformAllege Order Rule)
- Cancel sent order (PlatformCancel Order Rule)


NONE
SIMULATE_CASH
AMEND
SIMULATE
SIMULATED_CASH
SIMULATED
SEND_TO_MARKET
AMEND
LIMIT_VIOLATION
AUTHORIZE
BLOCK_AUTHORIZE
PENDING
AMEND
PlatformAllege Order Rule
ACK
AMEND
SEND
SENT
CANCEL
CANCEL
REJECT
PlatformCancel Order Rule
CANCEL
REJECT
PLATFORM_CANCEL
REJECT
PARTIAL_EXECUTE
AMEND
PARTIAL_EXECUTE
ACK
REJECTED
PENDING_CANCEL
CANCEL
PARTIAL_EXEC
EXPIRE
EXECUTE
CANCEL
CANCEL
EXPIRE
EXECUTE
AMEND
CANCELED
EXPIRED
EXECUTED

Order Workflow

This section describes the BloombergFIT-EMSX Interface order workflow. It is important to understand these details so that the Calypso Order Workflow can be customized accordingly. Please read and follow all setup instructions carefully to ensure a successful installation.

Bi-directional functionality allows a user to perform actions in Calypso and have the appropriate FIX message sent to Bloomberg using the FIX Message API.

The bi-directional functionality is implemented as 'Platform' workflow rules. Simply add the appropriate workflow rule to a Calypso action and applying that action on an order will prompt the FIXEngine to create the external message and send it to Bloomberg platform. A BOMessage of type PLATFORMMSG is created and moved to SENT status if successfully sent, otherwise it remains in PENDING status.

Once the message has been acknowledged by Bloomberg, the following will happen:

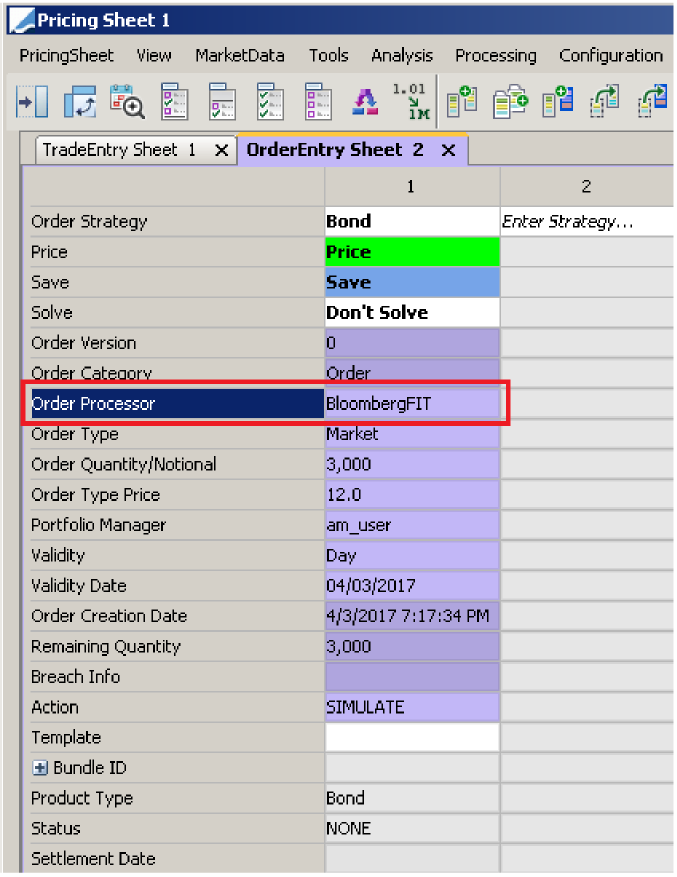
- The corresponding PLATFORMMSG workflow message will go to COMPLETED.
- The order comment 'PlatformSubmitStatus' will be updated with '<Action> Successful'.
- Bloomberg will send the appropriate fix message to Calypso, which is used update the order comment with Bloomberg Order Id.

For example, if a user wants the ability to send the order to Bloomberg, simply create an action (e.g. SEND_TO_MARKET) and add the PlatformAllege Order Rule to that action. If any errors occur while sending the message to Bloomberg, whether due to missing details or invalid action applied, the PLATFORMMSG workflow message will have errors connected to it which can be reviewed to determine the error, address the specific issue, and resend the workflow message.

3.1 Order Processor

A Staged Order destined for Bloomberg platform **must** have Order Processor as 'BloombergFIT' on it.

If not, then the Order will not be sent to Bloomberg platform.



3.2 Order Capture Requirements

The table below describes the sequence of Bloomberg FIX message flows in and how are they handled.

Bloomberg Business	Calypso Action
Send Staged Order to Bloomberg	Calypso sends message: FIX message of MsgType ‘D’ is sent to Bloomberg
Confirmation Message	Calypso receives message: FIX message with MsgType as ‘8’ and with Order-Id tag (tag 11) Action: Update the Calypso order with Bloomberg status
Execute the Order in Bloomberg	Calypso receives message: FIX message with MsgType as ‘8’ and along with Product Details Action: Move the Calypso order to executed and create a trade