Nasdaq Calypso

Bloomberg FIT-EMSX Interface Integration Guide

Version 3.14.1

Revision 6.0
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Approved

Document History

Revision	Published	Summary of Changes
1.0	November 2017	First edition for version Bloomberg-FIT version 2.4.0.
2.0	April 2021	Second edition for Bloomberg-FIT version 3.5.2.
3.0	May 2021	Third edition for Bloomberg-FIT version 3.5.3.
4.0	September 2021	Fourth edition for Bloomberg-FIT version 3.12.0.
5.0	January 2022	Fifth edition for Bloomberg-FIT version 3.14.1.
6.0	December 2024	Updates on supported products.

This document describes how to integrate Calypso with BloombergFIT-EMSX Order 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 BloombergFIT-EMSX interface is distributed as part of the Bloomberg-FIT module, which may support other Bloomberg interfaces that 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 BloombergFIT-EMSX Order interface allows an End User Firm (Buy Side) to stage and send an Order from Calypso to Bloomberg and import the executed drop copy and create a resultant trade.

The Calypso BloombergFIT-EMSX 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 set up the workflows, etc. for the BloombergFIT-EMSX interface to run successfully.

1.1 Supported Features

Calypso Versions

- Order Integration support in Calypso 15.1 and above

FIX Sessions

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

- Single Asset Protocol
- Multi Asset Protocol (MAP)

Workflows

Calypso's BloombergFIT-EMSX integration supports trade messages for the following workflows:

- Simple Order

Product Types

The Bloomberg-EMSX interface supports the following Bloomberg order types:

- Equity
- Equity Index
- Future Bond (incoming mode only, Trade)
- Future Equity (incoming mode only, Trade)
- Future Equity Index (incoming mode only, Trade)
- Order and Trade for Future Bond

- Future Equity
- Future EquityIndex

FIX Messages

- 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.

NOTE:

For each partial fill received from Bloomberg, a separate new trade is created in Calypso. As all the fills associated to same order has same trade-id, so the trade created in Calypso for EMXS will have the external reference as:

BFIT_<PO>_<ExecutionId>

Instead of Bloomberg trade id, in trade-book we will use execution-id.

The Calypso trade is mapped to Bloomberg trade via 'PlatformTradeId' keyword.

1.2 Not Supported

Workflows

- Clearing (Bloomberg platform does not support clearing on Equity)
- Allocations (Bloomberg platform does not support allocations on Equity Order)

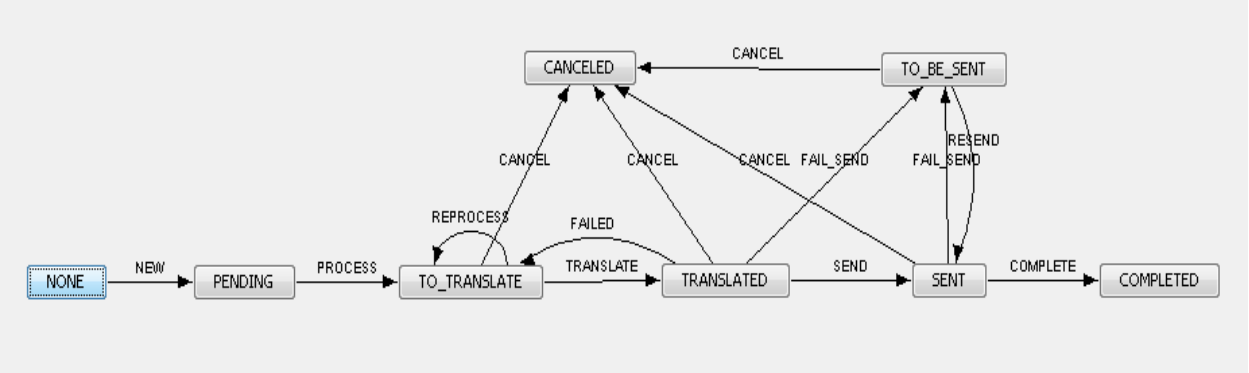
Setup

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

2.1 Message Workflow

Apart from UPLOADSOURCEMSG and GATEWAYMSG workflows (as mentioned in the “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:

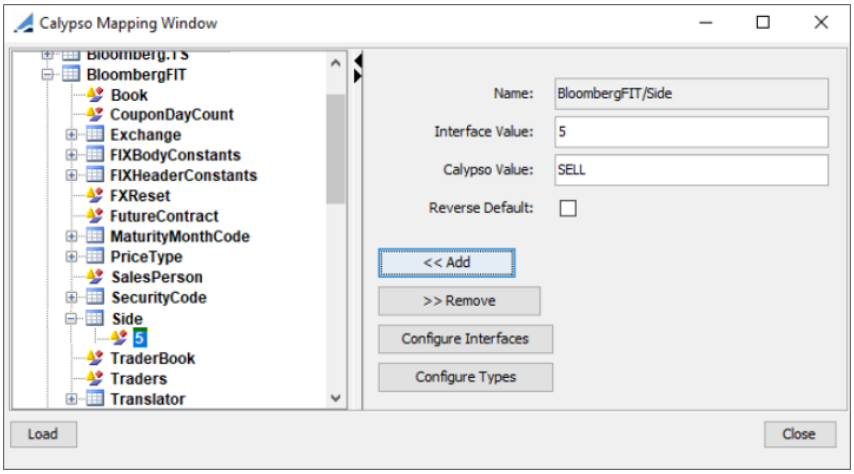


2.2 Legal Entity, Book, Trader, Product

For Legal Entity, Trader, Book and Product mapping/setup, please refer to Calypso Bloomberg-FIT Integration Guide (Generic).

2.3 Trade Direction (Side) Mapping

Tag 54 provides the direction of the trade. Values 1 and P are automatically mapped to BUY. Values 2 and R are automatically mapped to SELL. For any other values, you need to provide the mapping in the “Side” mapping value. Valid Calypso values are “BUY” or “SELL”. In the example below, value 5 (Sell Short) is mapped to “SELL” in Calypso.



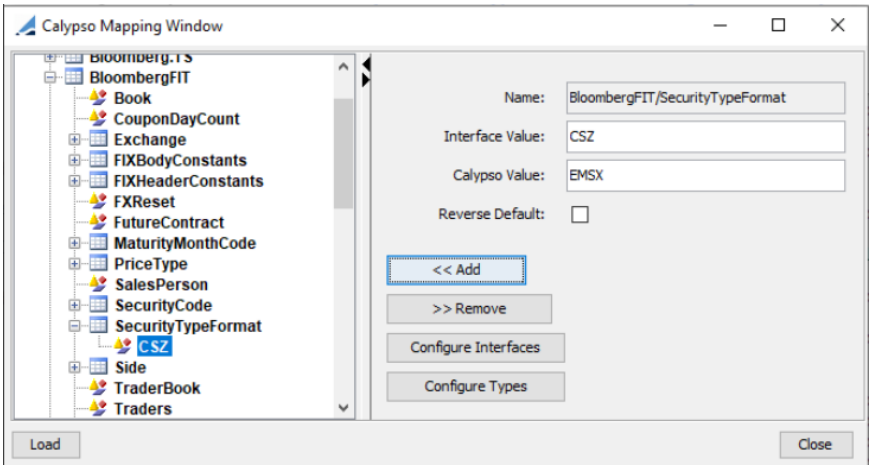
2.4 Security Type Format Mapping

If the equity sent in a FIX message doesn't exist in Calypso, it will fall back to SEF so more checks can be done. We first use tag 167=CS to determine the EMSX message source format. The behavior is as follows:

167=CS and equity not present in Calypso:

The FIX message upload will fail and a BOMessage will be created. In the BOMessage attributes, the upload format will be set as EMSX. Then the equity is added in Calypso and the message is reprocessed. The message will be completed, and the trade will be created.

167=value other than CS (e.g. CSZ) and equity not present in Calypso, and in Calypso there is a mapping of field 167 present, such as:



The FIX message upload will fail and a BOMessage will be created. In the BOMessage attributes, the upload format will be set as EMSX. Then the equity is added in Calypso and the message is reprocessed. The message will be completed, and the trade will be created.

No mapping present for tag 167 and the value is not CS, but the equity exists in Calypso:

The FIX message will be uploaded successfully.

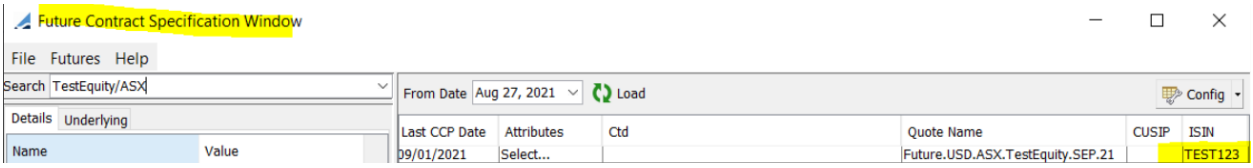
2.5 Futures

For importing trades on Futures, the product code and value must be set on the Future products.

They are compared to the imported values in tags 22 and 48 respectively.

Example:

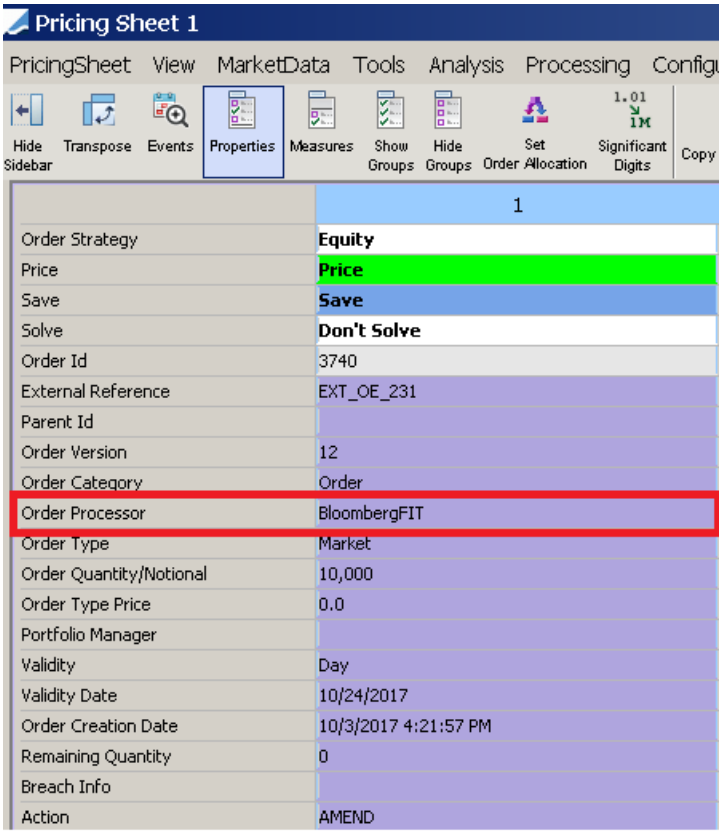
Tag 22 contains ISIN and tag 48 contains TEST123, so the ISIN product code must be set to TEST123 on the corresponding Future product so that the incoming order can be mapped to that product.



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.



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:

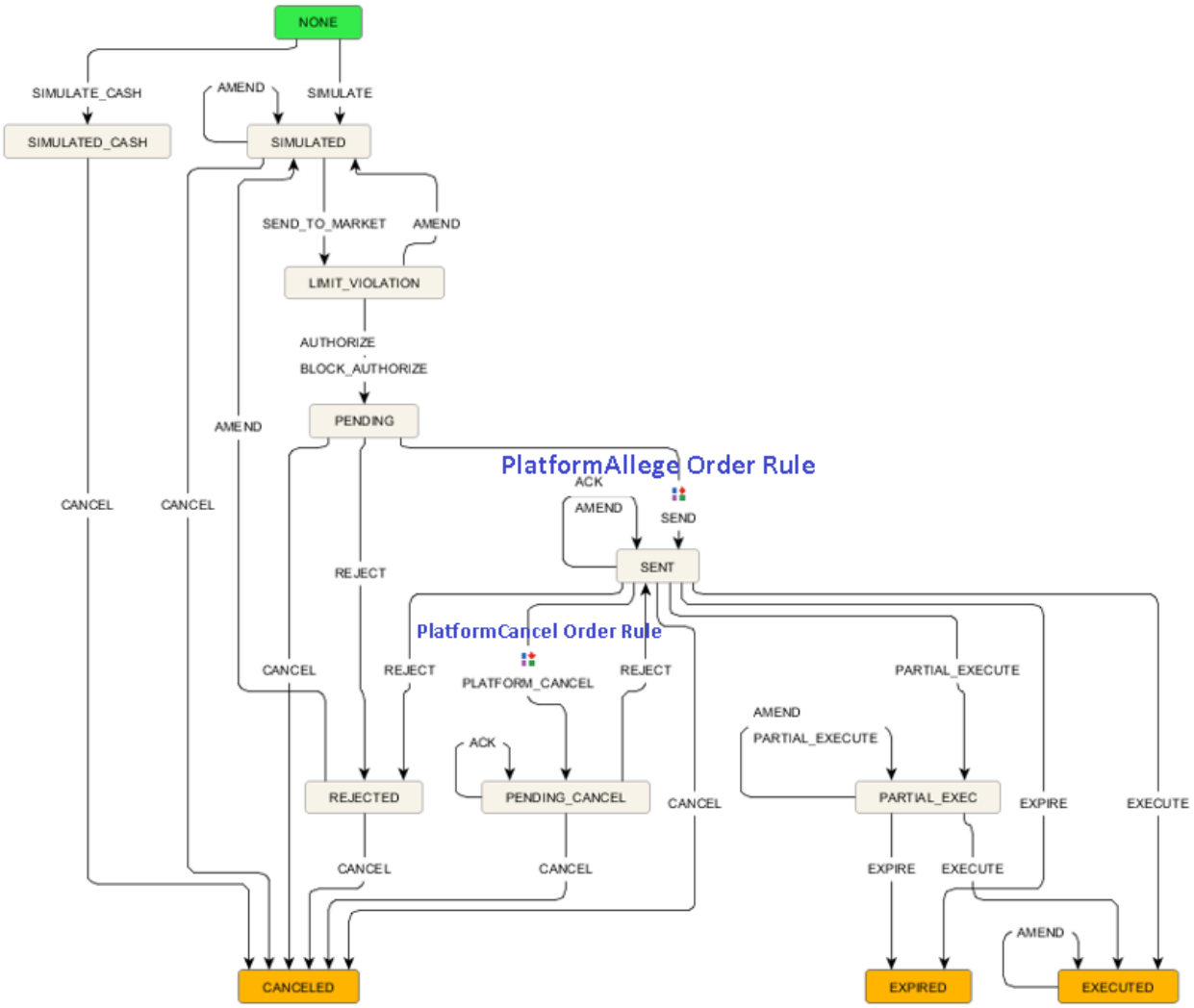
- The corresponding PLATFORMMSG workflow message will go to COMPLETED.
- The order comment 'PlatformSubmitStatus' will be updated with '<Action> Successful'.
- Bloomberg will send the appropriate fix message to Calypso, which is used update the order comment with Bloomberg Order Id.

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.

4.1 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
CANCEL
CANCEL
PlatformAllege Order Rule
ACK
AMEND
SEND
SENT
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

4.2 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