Nasdaq Calypso

FOW Integration Guide

Version 5.18.0

Revision 30.0
April 2025
Approved

Document History

Revision	Published	Summary of Changes
1.0	September 2015	First revision for version 1.0.1.
2.0	July 2016	Updates for version 1.1.3.
3.0	November 2018	Updates for version 2.4.0.
4.0	May 2019	Updates for version 2.2.12.
5.0	January 2020	Updates for version 2.4.2.
6.0	August 2020	Updates for version 2.4.3./
7.0	January 2021	Updates for version 2.2.13, 2.2.14, 2.4.4, 2.4.5, 2.4.6
8.0	June 2021	Updates for version 2.4.7.
9.0	July 2021	Updates for version 2.4.8, 2.4.9.
10.0	August 2021	Updates for version 3.0.0, 3.0.1, 2.4.10
11.0	September 2021	Updates for version 3.1.0
12.0	November 2021	Updates for version 3.2.0, 2.4.11
13.0	January 2022	Updates for version 2.4.12 4.0.0, 4.0.1 - Technical release only – Version 17.0 compatibility
14.0	February 2022	Updates for version 3.3.0
15.0	March 2022	Updates for version 4.1.0, 4.2.0 (added EUREXContractDate), 3.4.0
16.0	May 2022	Updates for version 3.3.1, 4.3.0, 3.5.0

Revision	Published	Summary of Changes
17.0	June 2022	Updates for version 4.4.0
18.0	July 2022	Updates for version 3.1.1, 3.6.0, 4.5.0
19.0	August 2022	Updates for version 3.7.0, 3.7.1, 3.7.2, 4.6.0, 4.6.1, 4.6.2
20.0	September 2022	Updates for version 3.3.2, 3.3.3, 4.7.0, 3.8.0
21.0	October 2022	Updates for version 4.5.1
22.0	November 2022	Updates for version 4.8.0 Also, release notes are moved to their own document
23.0	January 2023	Updates for version 4.9.0
24.0	November 2023	Updates for version 4.14.0
25.0	January 2024	Updates for version 5.7.0 (compatibility with version 18)
26.0	April 2024	Updates for version 5.10.0 – Enhanced lock feature for contract fields
27.0	May 2024	Updates for version 5.10.0 - Lock feature for contract fields being getting overridden
28.0	July 2024	Updates for version 5.12.0 – Added CascadeFrom mapping
29.0	August 2024	Updates for version 5.13.0 – Added DefaultStaticValue mapping
30.0	April 2025	Updates for version 5.18.0- Added FOW/ProductTypeAttributes mapping.

This document describes the setup requirements to operate the Futures & Options World 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]

Table of Contents

Overview

The FOW Interface allows importing Future and Future Option contract definitions from FOW using a scheduled task.

1.1 Supported JDK Versions

Please refer to the Calypso Hardware and Software Recommendations Guide.

1.2 Supported Calypso Versions

Please refer to the Calypso Cumulative Release Notes for modules compatibility information.

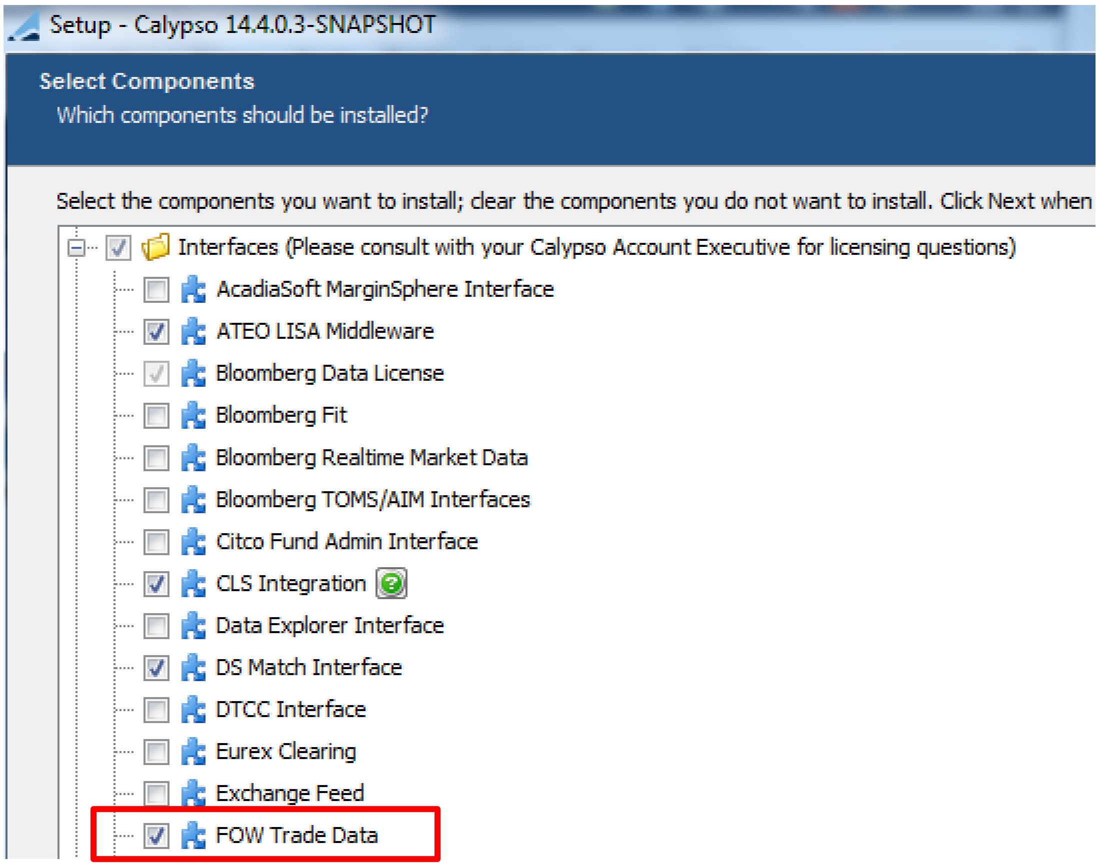
1.3 Libraries Required

The FOW interface is dependent on the Calypso Data Uploader.

Installation

2.1 Software Installation

The FOW interface is installed as part of the Calypso Installer when you select the “FOW Trade Data” interface:



Please refer to the Calypso Installation Guide for complete details on the Calypso Installer.

If you are installing a Calypso Upgrade package instead, the instructions are also in the Calypso Installation Guide.

Database Upgrade

When you run Execute SQL as part of your installation, the FOW files will be already loaded. You just need to check “FOW” in addition to the checkboxes for your other modules and interfaces.

2.2 Property Files

If running the FOW Import process in the mode where you want the Scheduled Task to fetch the data files from an external source, as opposed to manually loading the file into a local file folder, the properties files below must be configured.

Add connectivity details in the file "`<calypso home>/client/resources/calypso_fow_config.properties`".

This file needs to be renamed from "`calypso_fow_config.properties.sample`" to "`calypso_fow_config.properties`".

```
FOW.URI=sftp://sftp.fowtradedata.com:22

FOW.username=calypso1

FOW.password=xyz

FOW.location=
```

Fow.location (optional): Location of the file on ftp server e.g. refdata so it will search in refdata directory for the file names specified in the schedule task.

Note that the values used for username and password are just examples and will be specific to your access details for the FTP site.

Note: The values used for username and password are just examples and will be specific to your access details for the FTP site.

In addition, the file "`<calypso home>/client/resources/gatewayservices.properties.sample`" should be renamed "`<calypso home>/client/resources/gatewayservices.properties`"

Copy the property and configuration files to `<calypso home>/custom-extensions/custom-projects/custom-shared-lib/src/calypso/resources`.

You will then need to deploy the files to your applications servers.

Please refer to the Calypso Installation Guide for details.

Setup Requirements

3.1 Default Contract Underlyings

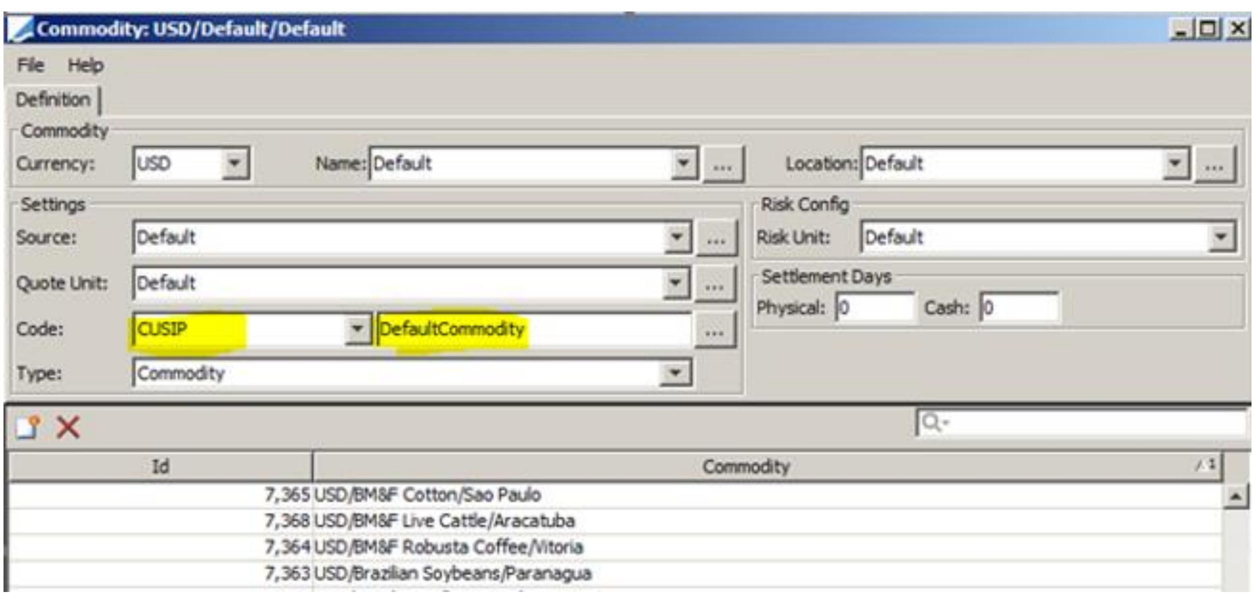
3.1.1 Default Contract Underlyings – Commodity, Equity, Equity Index

Calypso ETD products require a reference to an underlying asset in order to be successfully created in the database. This underlying is primarily used for physical delivery, so its specific details are not critical to Back Office processes such as IM/VM calculation, position management or reporting. As a backstop, the user should choose a given underlying product as their desired default, and add a definition and have that underlying selected as the underlying for the contract.

This logic applies to commodity, equity, and equity index products, and the 'CUSIP' Product Code is used to hold the expected value from the table below.

Asset Class	CUSIP Product Code Value
Commodity	DefaultCommodity
Equity	DefaultEquity
EquityIndex	DefaultEquityIndex

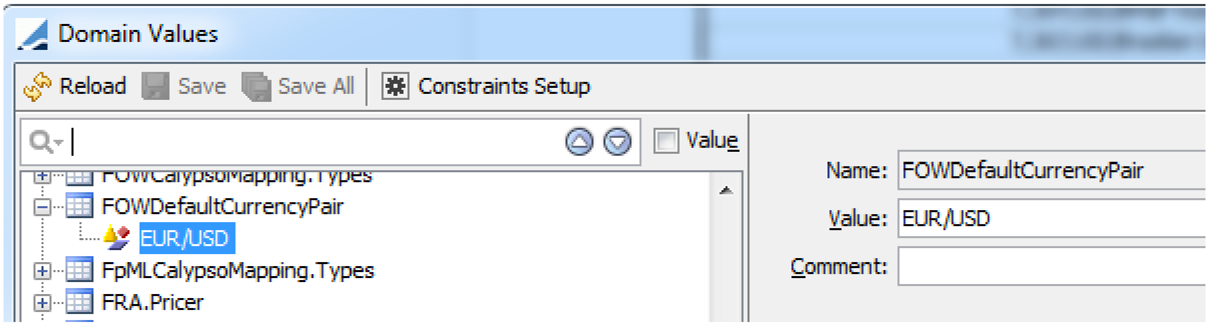
For example, the underlying below would be recognized as the default due to the value of "DefaultCommodity" in the CUSIP code field:



3.1.2 Default Contract Underlyings – FX

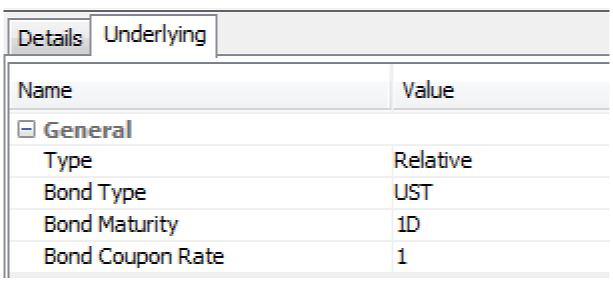
FX products use a different logic to populate the underlying currency pair on an FX future or ETO, as described in the order below.

- If the "ContractName" field in the reference data file provides a currency pair value in the format of XXX/YYY (for example EUR/USD) then find that currency pair in Calypso and use it as the underlying, else
- If the "ClearingExchangeTicker" field in the reference data file provides a currency pair value in the format of XXX/YYY (for example EUR/USD) then find that currency pair in Calypso and use it as the underlying, else use the currency pair value stored in the FOWDefaultCurrencyPair domain value (example screenshot below) as the underlying.



3.1.3 Default Contract Underlyings – Bond

Bond products do not need to reference a specific underlying product in Calypso, so we use the settings show below by default as the placeholder information when no specific underlying is mapped.



Name	Value
General	
Type	Relative
Bond Type	UST
Bond Maturity	1D
Bond Coupon Rate	1

3.2 Mapping MIC Codes

Calypso Mapping supports Multiple MIC Codes in case of same Exchange Legal Entity.

Name = FOW/ExchangeMIC.

Interface Value = <Exchange legal entity>

Calypso Value = <Comma separated MIC codes>

Example:

Interface Value = EEX

Calypso Value = XEER,XPOT,XPSF,XEEO

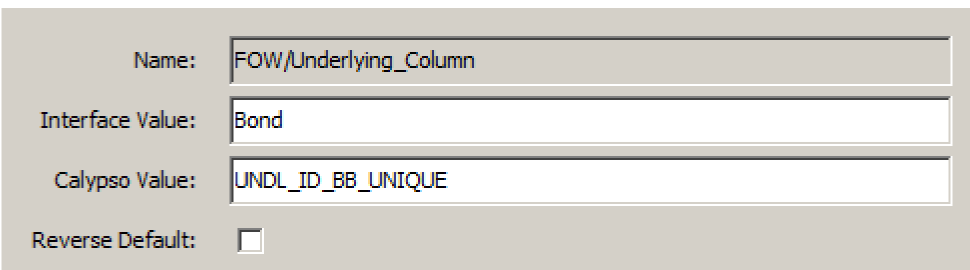
3.3 Mapping Underlyings

Calypso Mapping can be used to identify the specific underlying products in Calypso based on the underlying information provided by the external system file, replacing the need for the defaulting behavior. For each asset class, the mapping process allows the user to identify 1) the header of the column from which to source the data in the reference data file and 2) the product code in Calypso used to match this value with.

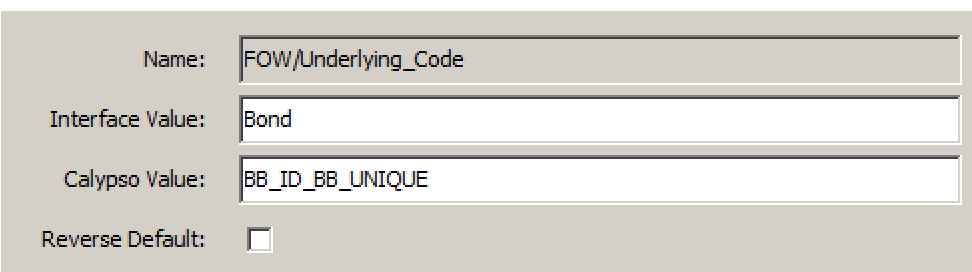
For each asset class, a default underlying should be configured as per the preceding section to act as a placeholder in order to allow the system to successfully import the reference data, but if specific mappings are provided, the specific underlyings will be chosen.

Underlying Bonds

The Underlying_Column mapping defines the column used in the external system (FOW) to identify the Bond product.



The Underlying_Code mapping defines the security code used in Calypso to identify the Bond product.



In summary the value of the column UNDL_ID_BB_UNIQUE in the external system file is used to identify the bond with security code BB_ID_BB_UNIQUE in Calypso.

Underlying Commodities

Name = FOW/Underlying_Code

Interface Value = Commodity

Calypso Value = CUSIP

Name = FOW/Underlying_Column

Interface Value = Commodity

Calypso Value = CUSIP

If no mapping is specified, the default commodity underlying is used.

Underlying Rate Index for Future MM Contracts

Name = FOW/Underlying_FutureMM

Interface Value - <exchange>/<ISOMIC>/<ticker>

Calypso Value = <rate index>

Example:

Name = FOW/UnderlyingFutureMM

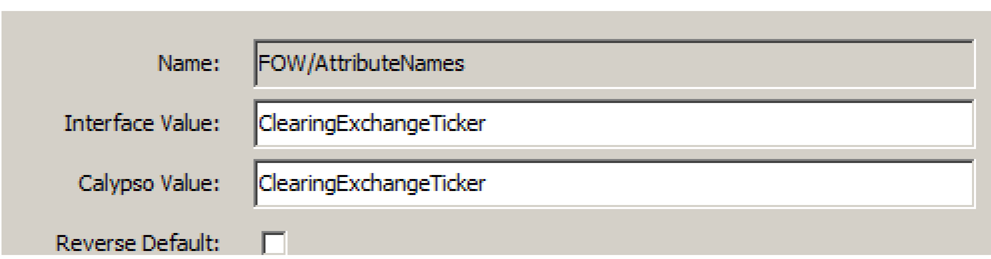
Interface Value – CBOT/XCBT/AXAXX

Calypso Value = USD/LIBOR1W

3.4 Mapping Contract Attributes

3.4.1 AttributeNames

Attributes mapping is used to identify what columns in the external system file would go as attributes of the Contract object in Calypso.



The Value of the column ClearingExchangeTicker will be saved as Contract attribute with name ClearingExchangeTicker on the Future/Future Option Contracts in Calypso.

Note: The name of the Calypso attribute does not need to match the external column name.

3.4.2 CascadeFrom

The following mapping allows setting the CascadeFrom attribute based on the contract name.

Name = FOW/AttributeStaticValue

Interface Value = CascadeFrom/<contract name>

Calypso Value = <CascadeFrom value>

Example:

InterfaceValue = CascadeFrom/XEER-1NBQ-F

Calypso Value = XEER-1NBY-F

In contract XEER-1NBQ-F, CascadeFrom attribute is set to XEER-1NBY-F

3.5 Mapping Prompt Month Symbols for Future Instruments

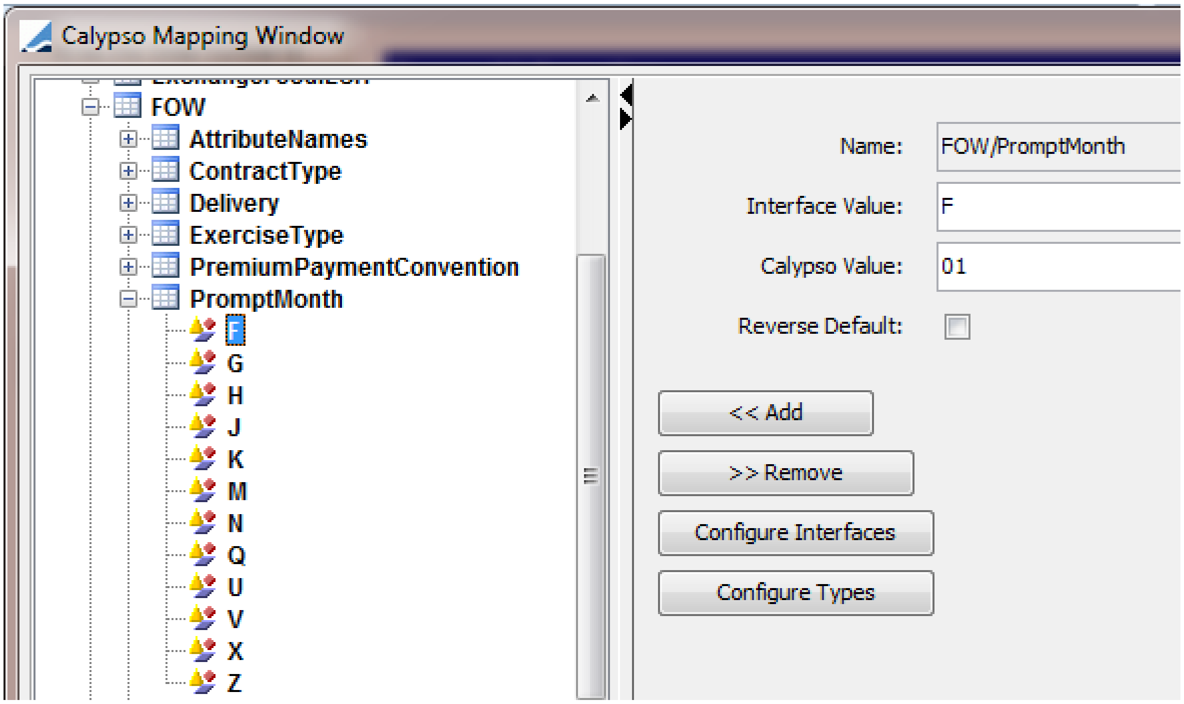
Prompt Month from PromptMonth Field (default)

The FOW Prompt Month information is imported and stored on the individual future instruments in order to ensure that the contract month is named accurately. The FOW Prompt Month is given as a one letter code and a 4 digit year, such as Z2015 which would represent December according to the market standard month symbol mapping codes shown below.

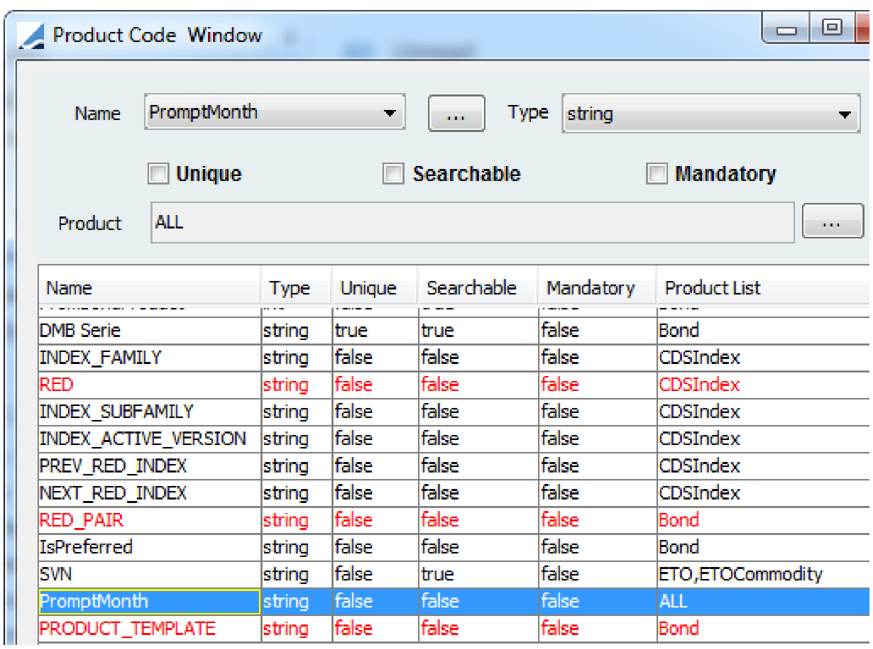
Month Codes

Month	Month Code
January	F
February	G
March	H
April	J
May	K
June	M
July	N
August	Q
September	U
October	V
November	X
December	Z

These codes must be added to the FOW Mapping configuration, using the numerical month as the Calypso Value as shown below, for the Prompt Month to be successfully imported.



In addition, the user must be sure to have a "Prompt Month" Product Code available on the contracts in which to store this data as shown below in the Navigator>Configuration>Product>Code window.



Prompt Month from EUREXcontractDate Field

You can use the EUREXContractDate field formatted as yyyyMMDD to populate the Prompt Month based on the following mapping:

Interface Name = FOW/PromptMonthColumn

Interface Value = <Exchange Code>/<ISOMIC>

Calypso Value = EUREXContractDate

If the mapping is not present, the Prompt Month is taken from the PromptMonth field.

Example:

Interface Name = FOW/PromptMonthColumn

Interface Value = EUREX/XEUR

Calypso Value = EUREXContractDate

In addition, the date format is updated based on the following mapping for futures:

Interface Name = FOW/DateFormatFuture

Interface Value = <Exchange Code>/<ISOMIC>/<Maturity Type> or simply <Maturity Type>

Calypso Value = Daily or Monthly

Example:

Interface Name = FOW/DateFormatFuture

Interface Value = EUREX/XEUR/B

Calypso Value = Daily

The date format is updated based on the following mapping for future options:

Interface Name = FOW/DateFormatOption

Interface Value = <Exchange Code>/<ISOMIC>/<Maturity Type> or simply <Maturity Type>

Calypso Value = Daily or Monthly

Example:

Interface Name = FOW/DateFormatOption

Interface Value = EUREX/XEUR/B

Calypso Value = Daily

PromptMonth Update

The following mapping enables the update of PromptMonth for existing products.

Name = FOW/Translator

Interface Value = UPDATE_EXISTING_PRODUCTS

Calypso Value = Yes

The update option only applies to the scheduled task FOW_REFERENCE_DATA_IMPORT.

Name Month = Expiry Date

Name = FOW/PromptMonthColumn

Interface Value = <product type>/<exchange>, <product> or <exchange>

Calypso Value = CONSTANT=Expiry Date

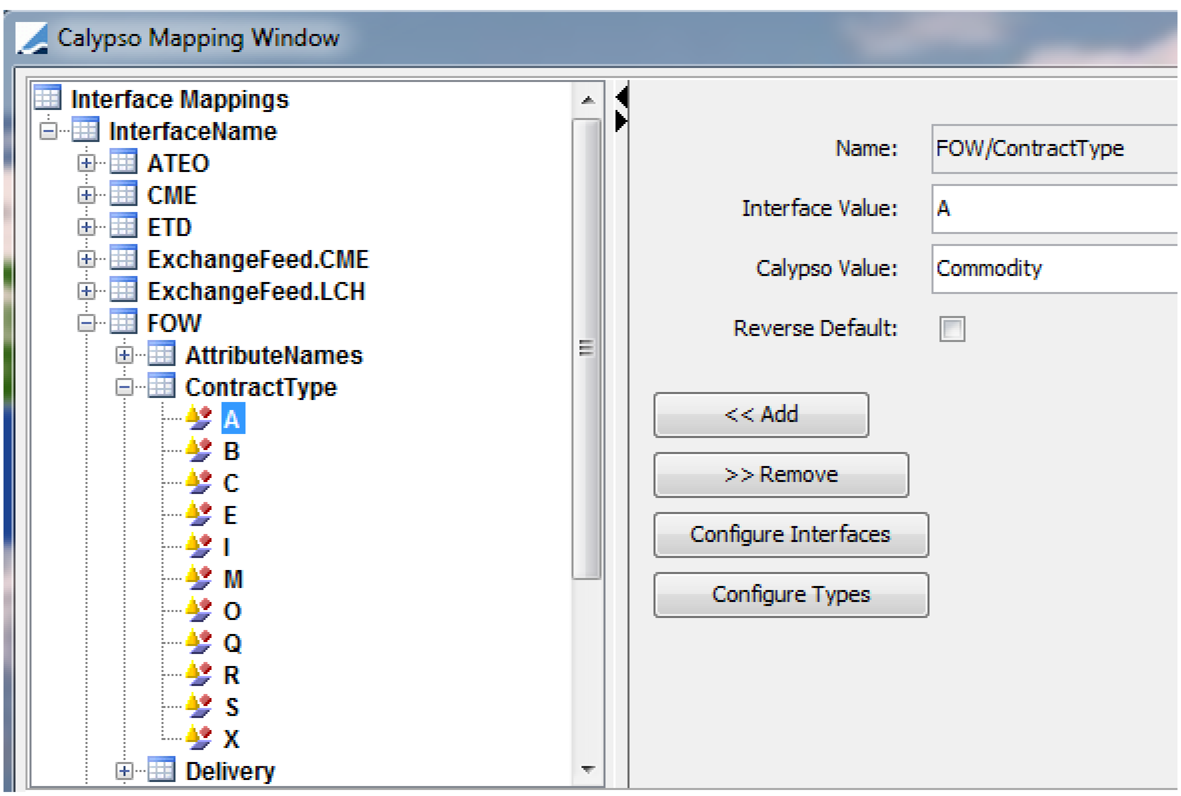
Example:

Interface Value = Future/EUREX/XEUR or Interface Value = Future or Interface Value = EUREX/XEUR

If the mapping is not present, Name Month is set to Prompt Month

3.6 Mapping Contract Types

Contract Types must also be mapped in order to associate a given contract to the correct product subtype in Calypso. The required configuration is shown in a table beneath the screenshot of the mapping window.



FOW Column	Column Value	Calypso Value
ContractType	A (Agricultural)	Commodity
ContractType	B (Bond Long Coupon)	Bond
ContractType	C (Currency)	FX
ContractType	E (Energy)	Commodity
ContractType	M (Metals)	Commodity
ContractType	Q (Equity)	Equity
ContractType	R (Bond Short Coupon)	MM
ContractType	S (Soft)	Commodity
ContractType	X	Equity Index
ContractType	O	Commodity

3.7 Mapping ProductType Attribute

You can map the ProductType attribute using the following mapping:

Name = FOW/ProductTypeAttributes

Interface Value = <ISOMIC>/<contract type>

Calypso Value = <ProductType attribute value>

Example:

Name = FOW/ProductTypeAttributes

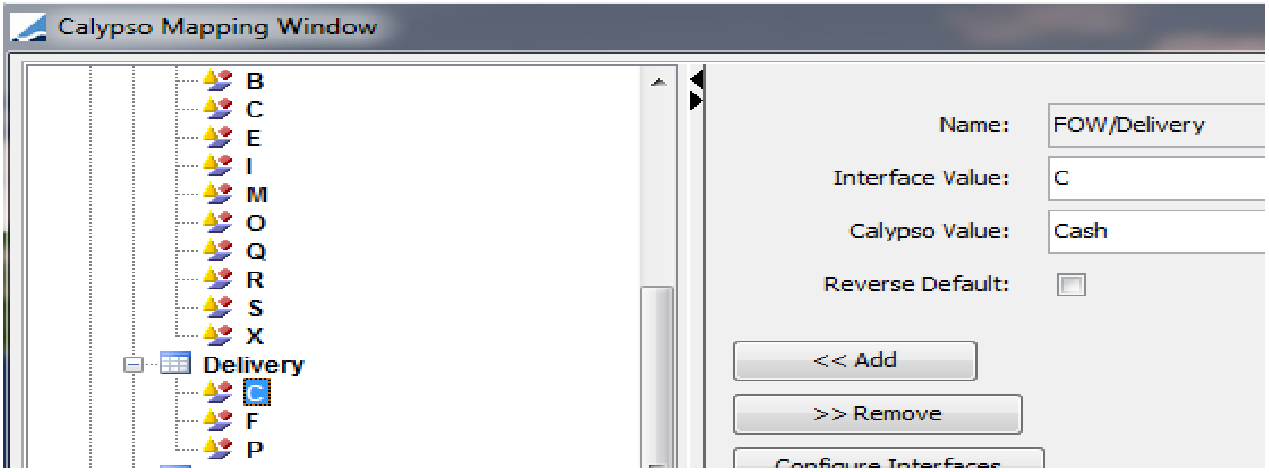
Interface Value = XEUR/Q

Calypso Value = OSTK

It defaults to the contract type otherwise.

3.8 Mapping Delivery Types

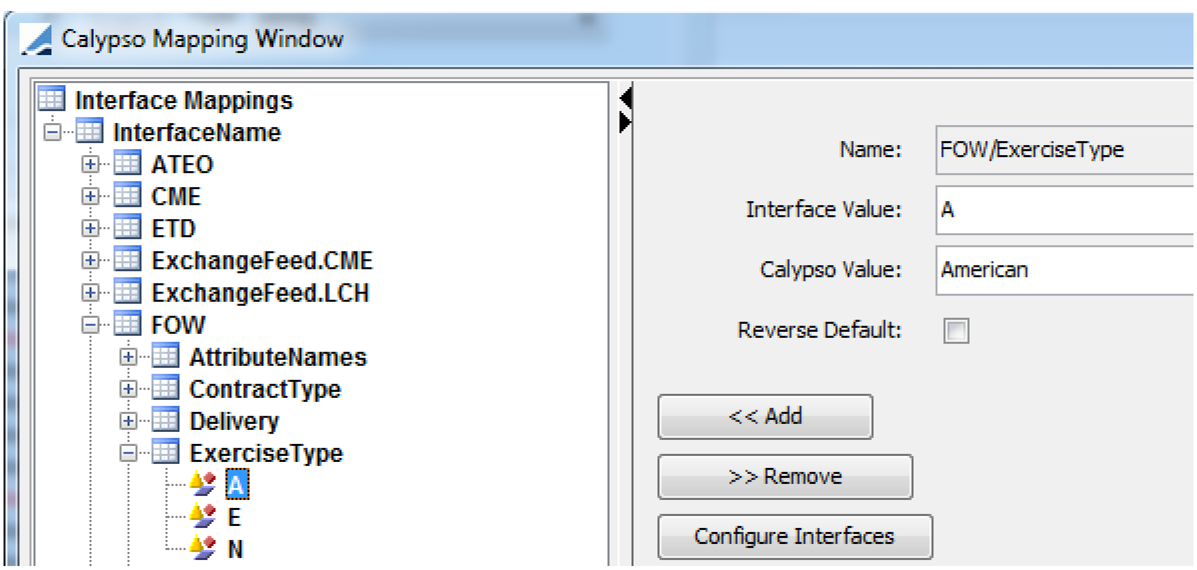
Cash or Physical delivery for futures and options is designated by the code in the FOW Delivery column. These codes need to be mapped under the FOW/Delivery node as shown below.



FOW Column	Column Value	Calypso Value
Delivery	C	Cash
Delivery	F	Physical (Delivers into Future)
Delivery	P	Physical (Delivers into Underlying)

3.9 Mapping Exercise Types

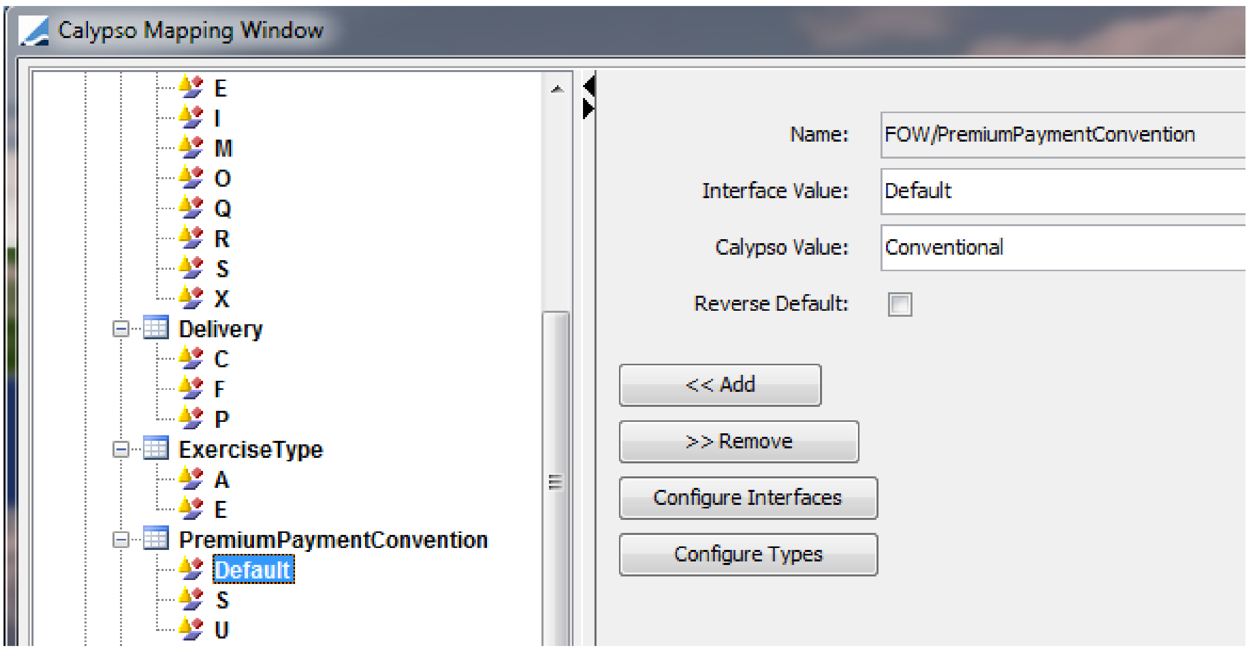
American or European exercise for options is designated by the code in the FOW ExerciseType column. These codes need to be mapped under the FOW/ExerciseType node as shown below.



FOW Column	Column Value	Calypso Value
ExerciseType	A	American
ExerciseType	E	European
ExerciseType	N	Asian

3.10 Mapping Premium Payment Types

Premium-paid or Premium-held options are identified by the FOW PremiumPayment column. To set these values correctly on the products, the following mapping is necessary under the FOW/PremiumPaymentConvention node.



FOW Column	Column Value	Calypso Value
PremiumPayment	Default	Conventional
PremiumPayment	S	VariationMargined
PremiumPayment	U	Conventional

3.11 Mapping Number of Contracts

You can configure the maximum number of contracts to be displayed using the following mapping:

Name = FOW/NumberOfContracts

Interface Value = <product type ETO, Future or FutureOption>

Calypso Value = <maximum number of contracts>

If the number of contracts in the file is below the maximum number of contracts, then the number of contracts in the file is used. Otherwise, the maximum number of contracts is used.

If there is no mapping, the number of contracts in the file is used.

3.12 Mapping Clearing Exchange Ticker

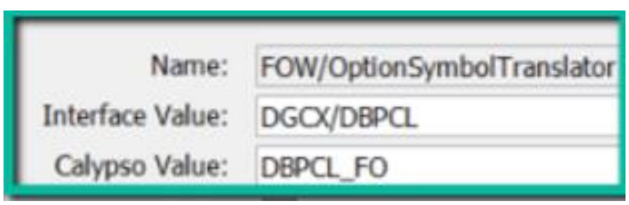
You can use the following mappings to determine the clearing exchange ticker.

Name = FOW/FutureSymbolTranslator and/or Name = FOW/OptionSymbolTranslator.

Interface Value = <MIC code>/<Ticker>

Calypso Value = <Ticker>

Examples:



3.13 Additional Fields - No Mapping Required

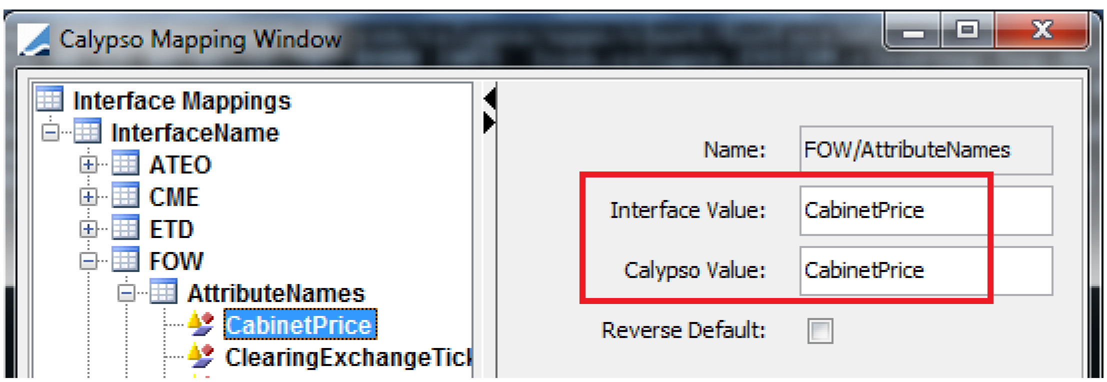
Other contract fields are populated through the design of the interface without the need for user mapping. These are described in this section.

Calypso Field	FOW Column	Population Logic
Tick Size	TickSize	Equal to the inverse of the value in the TickSize column
Contract Size	NumericContractSize	Equal to the value in the NumericContractSize column
Tick Value	TickValue	Equal to the value in the TickValue column
Minimum Move (Ticks)	TickSize	Equal to the value in the TickSize column

Calypso Field	FOW Column	Population Logic
Quote Decimals	TickSize	Equal to the number of significant digits in the TickSize value
Quote Type	MinorUnit	Y=PriceC N=Price Default is Price if not set.

3.14 Cabinet Options

Cabinet options are options that have fallen deep enough out of the money that the exchanges which support them allow for trading and settlement at prices below the standard minimum price fluctuation. Cabinet options are only used to close out open positions that have almost no chance of being exercised. In some cases, rather than providing the actual price of the option trade, an interface will send the price of an option trade as '99999' or something similar to designate that the trade was a 'cabinet trade'. In order to correctly capture the traded price in this scenario, we use the value stored in the Future Option or ETO attribute 'CabinetPrice' to determine the price. If an option settlement price is identified as a cabinet price, but the contract does not have a value in the Cabinet Price attribute, the logic should reference the contract's Minimum Move (Ticks) field, which is the minimum allowable price in standard trading, and use its value to populate the closing quote.



To populate this value when importing contracts through the FOW interface, we map this attribute to the CabinetPrice column in FOW and the value will be imported if populated.

FOW Stored Attribute:

AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM
TickSize	TickValue	TickNumerator	TickDenominator	PercentageIndicator	ACN	MaturityType	STDToGMT	DSTToGMT	DSTStart	DSTEnd	UnderlyingSymbol	CabinetPrice
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025
0.05	5	5	100	N	500	S	0	1	2.01603E+13	2.0151E+13		0.0025

Calypso Result:

Clear | Domain Setup | Reload Attributes (Domain)

Name	Value
ACN	500
Cabinet Price	0.0025
ClearingExchangeTicker	T
ContractCode	LIFFE42
ContractLongName	Feed Wheat
DateFormat	
ElectronicExchangeTicker	T
PremiumPaymentConvention	VariationMargined
Quote Decimals	2
UnderlyingSymbol	

When capturing a Cabinet Option trade, either manually or from an interface, we populate the CabinetType attribute of the trade with one of the values below.

Fixed – When the Trade Price is equal to the value in the CabinetPrice attribute

Variable – When the cabinet price is given in terms of the total premium, rather than the price per lot

Zero – When the option price is given as zero, and the CabinetPrice attribute is used to populate the price field

3.15 Mapping for Corporate Actions

The following mappings apply to corporate actions.

You can configure the swift code specific column mapping as below. You can configure the column value to pick up value from the file or a constant value.

Name:	FOWCA/SPLF.ColumnMapping
Interface Value:	ANNOUNCEMENT_DATE
Calypso Value:	date10
Reverse Default:	☐

Name:	FOWCA/DVCA.ColumnMapping
Interface Value:	BY_TRADE_DATE_B
Calypso Value:	CONSTANT=TRUE
Reverse Default:	☐

Configure CA Attributes specific to Swift code as below.

Name:	FOWCA/SPLF.CAAttributes
Interface Value:	Adjustment Factor
Calypso Value:	RatioNew
Reverse Default:	☐

Name:	FOWCA/DVCA.CAAttributes
Interface Value:	Adjustment Factor
Calypso Value:	CONSTANT=1
Reverse Default:	☐

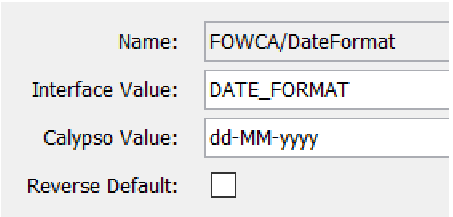
Configure DateFormat as below. It can be at set as <swift code>.<field>

Name:	FOWCA/DateFormat
Interface Value:	SPLF.ANNOUNCEMENT_DATE
Calypso Value:	yyyyMMdd
Reverse Default:	☐

Field level <field>

Name:	FOWCA/DateFormat
Interface Value:	EX_DATE
Calypso Value:	yyyyMMdd
Reverse Default:	☐

Generic level



3.16 Locking Contract Fields using Calypso Mapping

The following mappings allow locking contract fields so that the information is not overwritten when uploading FOW files.

This can be applied to the following fields:

Future contract	Future Option contract	ETO contract
Type	Type	Strike Quote Type
Quote Decimals	Quote Decimals	Tick Value
Is Contract Size Variable	Exercise Type	Minimum move(ticks)
Contract Size	AutoExercise	Contract Size
Settle Type	Settle Type Option	Exercise Type
Last CCP Date lag	Is Contract Size Variable	AutoExercise
Long Name	Contract Size	Last Trading Time
Tick Size	Settle Type	Last Exercise Time
Minimum move(ticks)	Last CCP Date lag	Last Trade Rule
Tick Value	Long Name	Last Exercise Rule
Holidays	Premium Payment Convention	Expiration Rule
Last Trading Time	Tick Size	Holidays
Daylight Saving Time	Minimum move(ticks)	Prem pmt conv
Expiration Date Schedule	Tick Value	Quote Decimals
Last Trade Date Schedule	Holidays	Settle Type
First Delivery Date Schedule	Last Trading Time	

Future contract	Future Option contract	ETO contract
First Delivery Use Prev Date	Expiration Date Schedule	
Last Delivery Date Schedule	Last Trade Date Schedule	
Last Delivery Use Prev Date	First Delivery Date Schedule	
First Notification Date Schedule	First Delivery Use Prev Date	
First Notification Use Prev Date	Last Delivery Date Schedule	
Last Notification Date Schedule	Last Delivery Use Prev Date	

Locking Field Updates for all Exchanges

Name = FOW/LockOverrideDetailTab

Interface Value = <field>

Calypso Vale = Yes

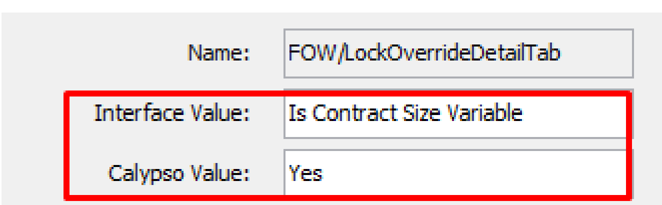
Note:

If there is no mapping under FOW/LockOverrideDetailTab, the field will be overwritten upon upload.

If there is a mapping under FOW/LockOverrideDetailTab and Calypso Value = Yes, the field will be locked and will not be overwritten upon upload

If there is a mapping under FOW/LockOverrideDetailTab and Calypso Value = No or not set, the field will be overwritten upon upload

Example:



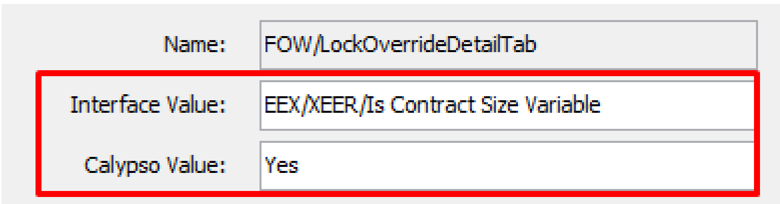
Locking Field Updates by Exchange

Name = FOW/LockOverrideDetailTab

Interface Value = <exchange>/<ISOMIC>/<field>

Calypso Value = Yes

Example:



Locking Field Updates by Product and Exchange

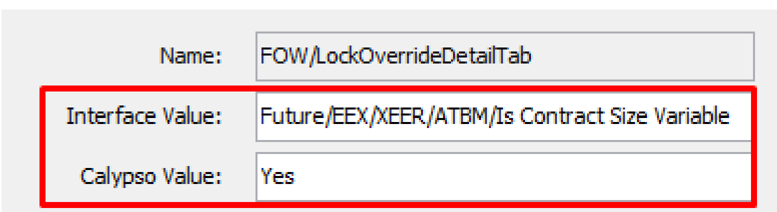
Name = FOW/LockOverrideDetailTab

Interface Value = <product>/<exchange>/<ISOMIC>/<field>

Calypso Value = Yes

<product> can be Future or Option.

Example:



Notes:

- If there is no mapping provided in Calypso under "Calypso Mapping Window - FOW/LockOverrideDetailTab" then the current behavior should incorporate.

- Exchange specific mapping is applicable when user mentions Exchange/ ISOMIC codes in interface value. If these values are missing, then it will be treated as a generic mapping for the respective field.

- Product specific mapping is applicable when user mentions Future or Option/Exchange/ ISOMIC/ClearingExchangeTicker codes in interface value. If these values are missing, then it will be treated as a generic mapping for the respective field.

- If “Create/Update” field value is selected as “UPDATE” under “Task Attributes” while running schedule task to upload FOW file, then above-mentioned mappings need to be considered prior to update the field values.

- If “Create/Update” field value is selected as “CREATE” under “Task Attributes” while running schedule task to upload FOW file, then mappings will be applicable only while updating existing product details and it will not be applicable for new products.

- If Create/Update field value is selected as “MIGRATION_UPDATE” or “UPDATE_DATES” under “Task Attributes” while running schedule task to upload FOW file, then the system should behave as per current process.

- The above mappings also applicable when FOW file is uploaded through the Data Uploader GUI and through Clearing Dashboard.

3.17 Setting Default Values by Contract

You can use the following mapping to set default values based on the contract name:

Name = FOW/DefaultStaticValue

Interface Value = <field name>/<contract name>

Calypso Value = <default field value>

This can be used for the following fields.

Future Contracts: Type, Currency, Quote Type, Quote Decimals, Is Contract Size Variable, Contract Size, Settle Type, Negative Price Liquidation, Future Name Month, Last CCP Date Lag, Tick Type, Tick Size, Minimum move, Tick Value, Nominal Calculator, Holidays, Last Trading Time, Daylight Saving Time

Future Option Contracts: Type, Currency, Quote Type, Quote Decimals, Exercise Type, AutoExercise, Settle Type Option, Underlying Exchange, Underlying Name, Underlying Currency, Underlying Dates, Future Option Name Month, Premium Payment Convention. Tick Type, Tick Size, Minimum move, Tick Vale, Date Format, Last Trading Time, Time Zone

ETO Contracts: Type, Currency, Quote Type, Strike Quote Type, Tick Value, Minimum move, Contract Size, Exercise Type, Last Trade Time, Last Exercise Time, Time Zone, Exercise Settlement Lag, Trade Settlement Lag, Holidays, Premium Payment Convention, Quote Decimals, Settle Type, Underlying, Name Month

Example:

Name = FOW/DefaultStaticValue

Interface Value = Type/XSFE-IR02-F

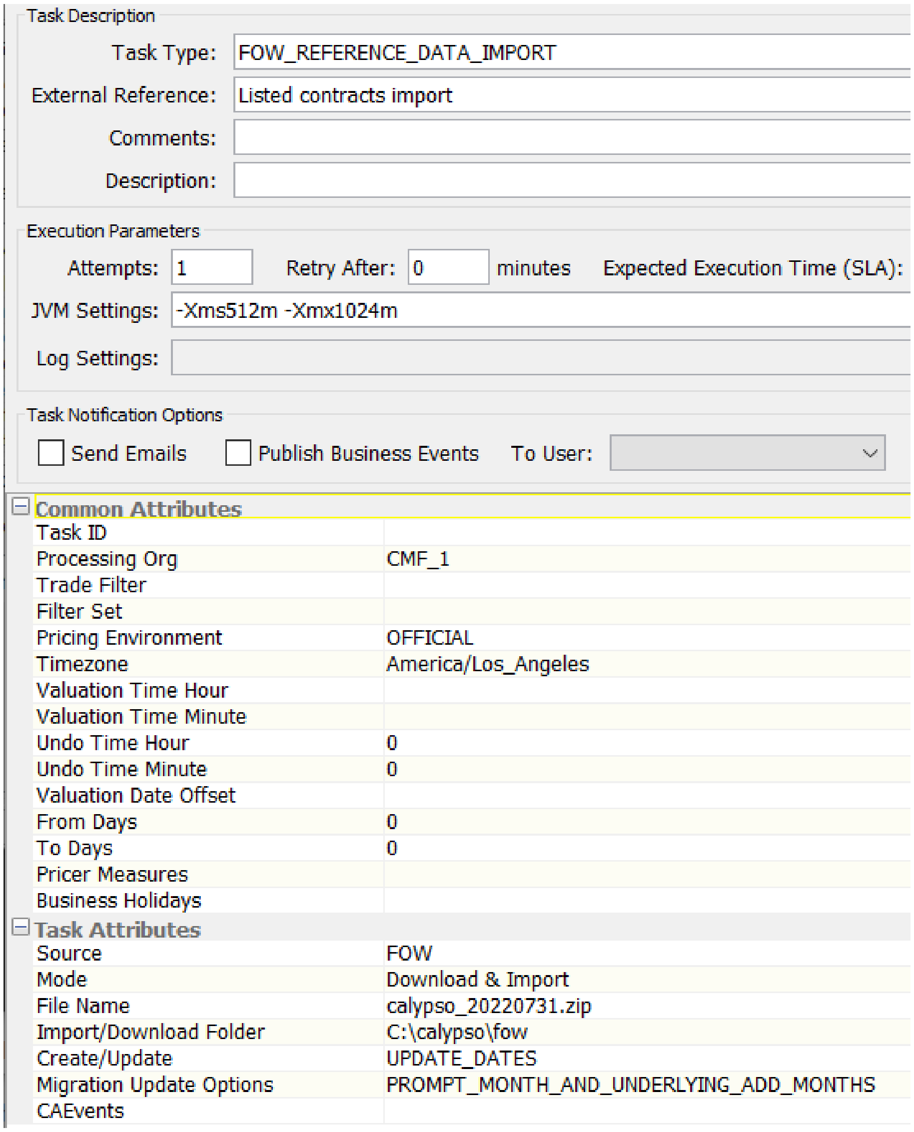
Calypso Value = MM

Upon import, the field “Type” will be set to MM for the XSFE-IR02-F contract.

Importing Contracts and Corporate Actions

4.1 Define Scheduled Task for Importing Contracts and Corporate Actions

Create a schedule task of type FOW_REFERENCE_DATA_IMPORT.



Task Description

Task Type: FOW_REFERENCE_DATA_IMPORT

External Reference: Listed contracts import

Comments:

Description:

Execution Parameters

Attempts: 1 Retry After: 0 minutes Expected Execution Time (SLA):

JVM Settings: -Xms512m -Xmx1024m

Log Settings:

Task Notification Options

Send Emails Publish Business Events To User:

Common Attributes	
Task ID	
Processing Org	CMF_1
Trade Filter	
Filter Set	
Pricing Environment	OFFICIAL
Timezone	America/Los_Angeles
Valuation Time Hour	
Valuation Time Minute	
Undo Time Hour	0
Undo Time Minute	0
Valuation Date Offset	
From Days	0
To Days	0
Pricer Measures	
Business Holidays	
Task Attributes	
Source	FOW
Mode	Download & Import
File Name	calypso_20220731.zip
Import/Download Folder	C:\calypso\fow
Create/Update	UPDATE_DATES
Migration Update Options	PROMPT_MONTH_AND_UNDERLYING_ADD_MONTHS
CAEvents	

You should select a processing organization (clearing broker), a pricing environment to source the closing prices, and the time zone of the clearing broker.

The task attributes are described below.

Source

Select FOW to import contracts or FOWCA to import corporate actions.

Mode

You can select:

- Download & Import: In this mode, when the scheduled task is executed, it will connect to FOW, and download the file to the folder specified in Import/Download Folder. It will then import the content of the file using the Data Uploader.
- Download: When the scheduled task is executed with this mode, it will connect to FOW, and download the file to the folder specified in Import/Download Folder.
- Import: When the scheduled task is executed with this mode, it will import the content of the already downloaded file using the Data Uploader.

File Name

Valid file names which should be downloaded from FOW. Below actions are performed based on the mode selected.

File name is optional. Leaving this field blank will process (Download and Import) calypso_yyyyddmm file for the date on which the scheduled task is run. Otherwise, you can indicate a specific file's name to process.

Allowed formats are archives and csv. Only a single file can be processed per run, single value.

- Download: If File Name is specified, it will only download the specified files from the "FOW.location" parameter (Multiple Files can be specified with comma separator).
- Import: If File Name specified, it will upload specified file from Import/Download Folder (Multiple Files can be specified with comma separator).
- Download & Import: If this mode is selected then first files are downloaded and then imported into the Calypso.

Import/Download Folder

Import/Download folder is optional. If mode,

- Download: This attribute points to a destination folder (the file downloaded will be stored here.)
- Import: This attribute points to a source folder (the file containing the contracts to import must be located here).
- Download & Import: This folder will be used as both the destination of the downloaded file as well as the source for the data to import.
- If no input provided then it will use the default directory from user defaults, single value.

Create/Update

Create/update is mandatory. If value selected,

- CREATE: It will create missing contracts, update existing ones, including date schedules (and maturities, when applicable).
- MIGRATION_UPDATE: Either update contract attributes or expiration date schedules
- UPDATE: Skip missing contracts, update existing ones, including date schedules (and maturities when applicable).
- UPDATE_DATES: Skip missing contracts, update existing ones, including date schedules (and maturities when applicable).

Migration Update Options

Migration update option is optional. If value selected,

- This option is applicable only if create/update = MIGRATION_UPDATE.
- If migration update options is contract attributes, only empty attributes on contract will be updated without touching other fields on the contract.
- If migration update option is prompt month and underlying add months, comment section in the expiration date schedule will be updated along with future option name month and underlying dates.

CAEvents

Only applies if Source = FOWCA.

You can select specific CA events or ALL.

See Corporate Actions for complete details.

4.1.1 Scheduled Task Behavior

The scheduled task imports the files provided daily by FOW Trade Data. Running the task will result in the update of contracts where there is new information but will not impact contracts where there is no delta from the previous day's file.

The scheduled task will log all contract imports that fail, giving a short description of the reason for failure, so that the user can debug any issues. It also generates exception tasks upon failure.

The task can be run by importing a file that contains any number of individual exchanges. There is currently no filtering available to allow the import of a partial file.

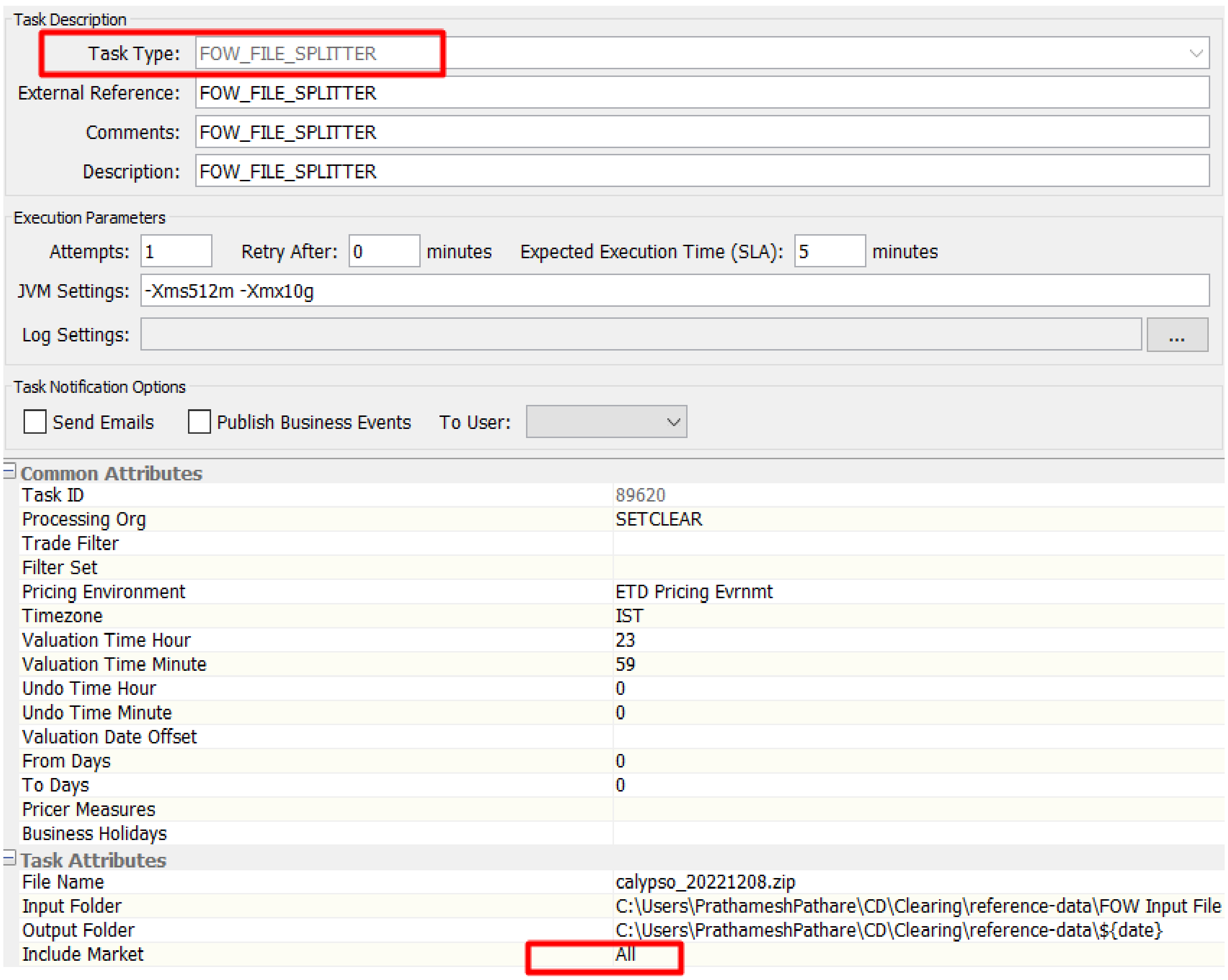
4.1.2 Known Gaps

The FOW interface has not been implemented in a way that supports the proper definition of every product contained in the Trade Data file. Some gaps do remain, some of which can be overcome by manual enrichment of the Trade Data file, and some which require manual editing of the contract in Calypso. These include:

- Import of future option contracts where the underlying future contract does not have the same contract name as the option. For example, Eurodollar mid-curve options.
- Import of Variable Tick Size Electricity Contracts
- Import of Daily LME Forward Contracts
- Balance of the Month (BOM) Futures

4.2 Importing Contracts by Exchange

The scheduled task FOW_FILE_SPLITTER splits the EuroMoneyTradeDATA file into multiple files by exchange.



The task attributes are described below.

File Name

Enter source file name.

Input Folder

Enter Source file path.

Output Folder

Enter the Path from where the output files are saved. The default path is “<user home>\Calypso\clearing\reference-data\yyyyMMDD”.

Include Market

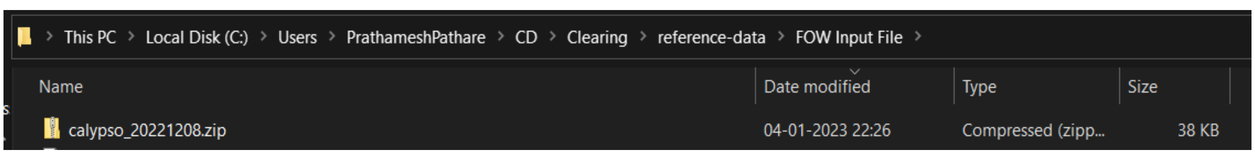
You can choose:

- All – All available market places in the EuroMoneyTradeDATA file are split into multiple files by exchange.
- Onboarded – The Legal Entity with role Marketplace is linked with MIC code and clearing house for those markets.

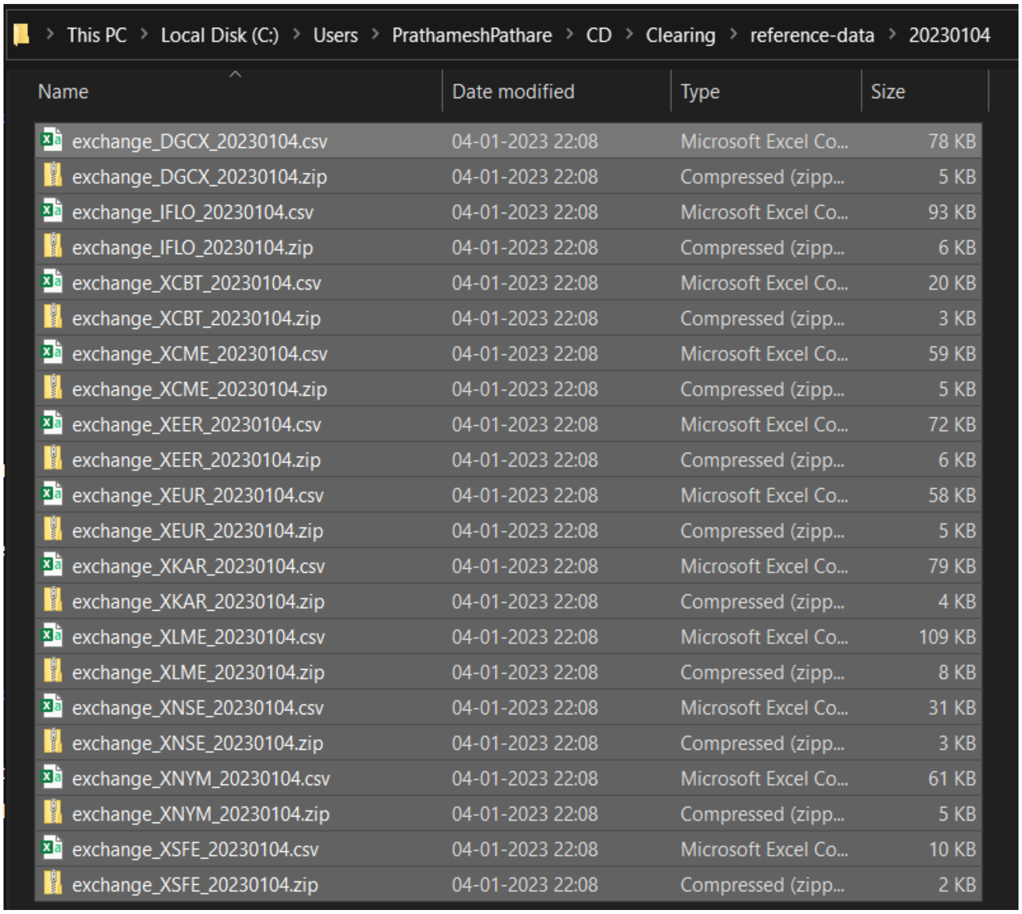
NOTE: In case of large files, you need to increase the memory of the scheduler – Recommended setting:

-calypso.scheduler.memory=15F

Sample EuroMoneyTradeDATA file



Sample output files



You can then import the files as needed to create the contracts.

Corporate Actions

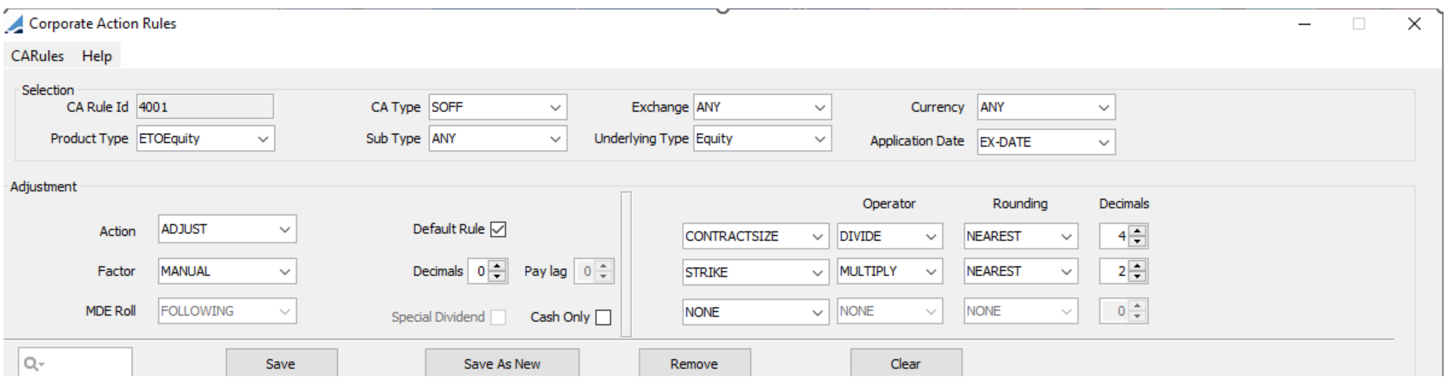
This section aims to describe Special Dividend, Share Split & Spinoff corporate action event creation on listed products (ETO) by utilizing the Euromoney data file, imported through Data Uploader and scheduled task.

All field mapping & combination of multiple fields and values Logic should be handled through Calypso Mapping.

5.1 Corporate Action Rule

Spinoff

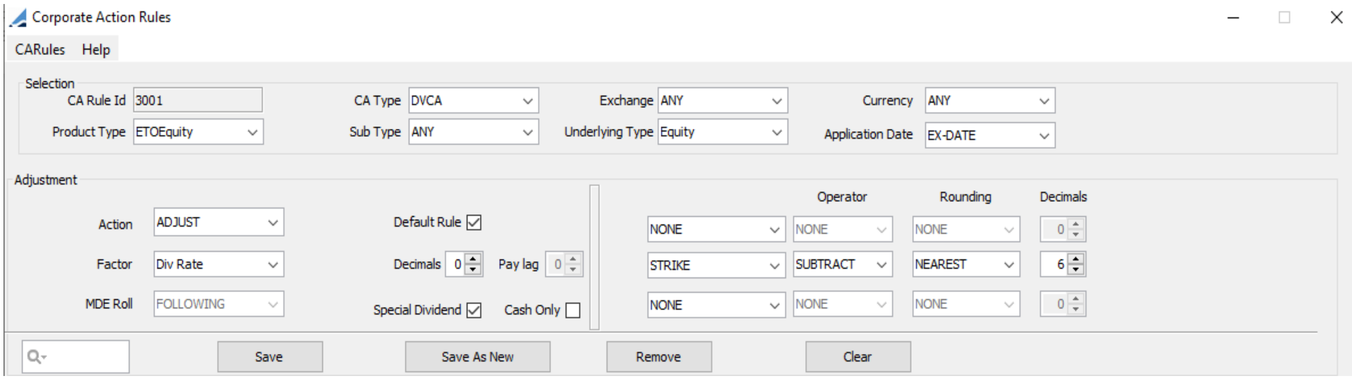
In Corporate Action Rule window, you need to select the following details for Spinoff event and save it.



- CA Type – SOFF
- Exchange – ANY
- Currency – ANY
- Product type – ETOEquity
- Sub Type – ANY
- Underlying Type – Equity
- Application date – EX-DATE
- Action – ADJUST
- Default Rule box checked.
- Factor – MANUAL
- Decimals – 0
- CONTRACTSIZE-DIVIDE-NEAREST-4
- STRIKE-MULTIPLY-NEAREST-2

Special Dividend

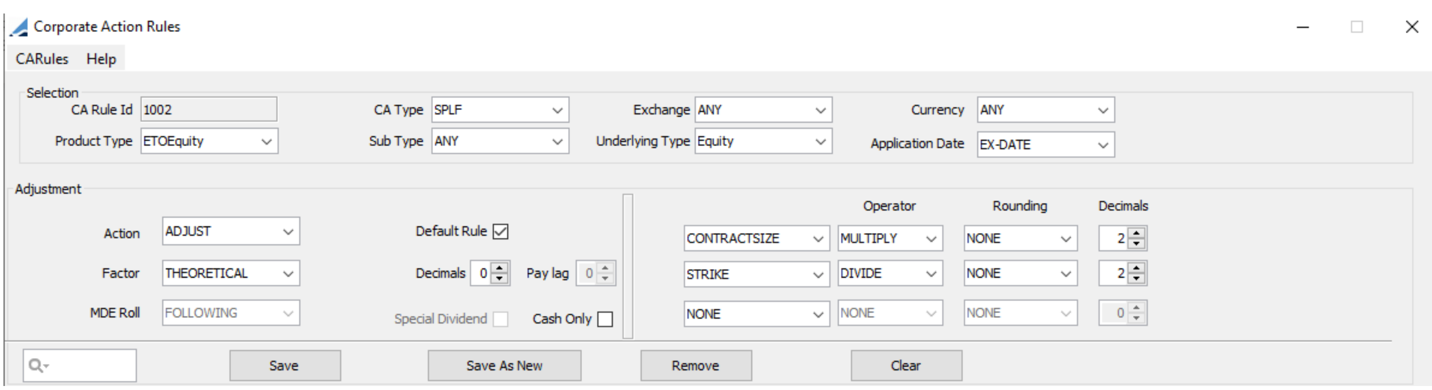
In Corporate Action Rule window, you need to select the following details for Special Dividend event and save it.



- CA Type – DVCA
- Exchange – ANY
- Currency – ANY
- Product type – ETOEquity
- Sub Type – ANY
- Underlying Type – Equity
- Application date – EX-DATE
- Action – ADJUST
- Default Rule box checked.
- Special Dividend box checked.
- Factor – Div Rate
- Decimals – 0
- STRIKE-SUBTRACT-NEAREST-6

Share Split

In Corporate Action Rule window, user need to select the following details for Share Split event and save it.



- CA Type – SPLF

- Exchange – ANY
- Currency – ANY
- Product type – ETOEquity
- Sub Type – ANY
- Underlying Type – Equity
- Application date – EX-DATE
- Action – ADJUST
- Factor – Theoretical
- Default Rule box checked.
- Decimals – 0
- CONTRACTSIZE-MULTIPLY-NONE-2
- STRIKE-DIVIDE-NONE-2

5.2 Calypso Mapping for CA Events

Following is the calypso mapping, which is required to process the Special Dividend, Share Split & Spinoff.

Interface Name	Type Name	CA Event	Interface value	Calypso Value
FOWCA	CAAttributes	Common	Theoretical Dilution Factor	RatioNew
FOWCA	CAAttributes	DVCA	Theoretical Dilution Factor	CONSTANT=1
FOWCA	CAAttributes	DVCA	Adjustment Factor	CONSTANT=1
FOWCA	CAAttributes	DVCA	Declared Rate	CONSTANT=0
FOWCA	CAAttributes	DVCA	Dividend Type	CONSTANT=SPEC
FOWCA	CAAttributes	DVCA	Fully Franked Rate	CONSTANT=0
FOWCA	CAAttributes	DVCA	Rate Type#Payment Gross Rate	CONSTANT=ACTU
FOWCA	CAAttributes	DVCA	Rate Type#Payment Net Rate	CONSTANT=ACTU
FOWCA	ColumnMapping	Common	BY_TRADE_DATE_B	CONSTANT=TRUE
FOWCA	ColumnMapping	Common	CURRENCY	pvcurrency
FOWCA	ColumnMapping	Common	EVENT_CHOICE	CONSTANT=MAND
FOWCA	ColumnMapping	Common	EX_DATE	date1
FOWCA	ColumnMapping	SOFF	MODEL	CONSTANT=SPINOFF
FOWCA	ColumnMapping	SPLF	MODEL	CONSTANT=TRANSFORMATION

Interface Name	Type Name	CA Event	Interface value	Calypso Value
FOWCA	ColumnMapping	DVCA	MODEL	CONSTANT=CASH
FOWCA	ColumnMapping	DVCA	AMOUNT	rate1
FOWCA	ColumnMapping	DVCA	ANNOUNCEMENT_DATE	date10
FOWCA	ColumnMapping	DVCA	EX_DATE	EffectiveDate
FOWCA	ColumnMapping	DVCA	SUB_TYPE	CONSTANT=DIVIDEND
FOWCA	ColumnMapping	SPLF	SUB_TYPE	CONSTANT=SPLIT
FOWCA	ColumnMapping	DVCA	SWIFT_EVENT_OPTION	CONSTANT=CASH
FOWCA	ColumnMapping	Common	PAYMENT_DATE	date3
FOWCA	ColumnMapping	Common	NEW_RATIO	RatioNew
FOWCA	ColumnMapping	Common	PRODUCT_CODE_TYPE	CONSTANT=ISIN
FOWCA	ColumnMapping	Common	PRODUCT_CODE_VALUE	UnderlyingISIN
FOWCA	ColumnMapping	Common	RECORD_DATE	date2
FOWCA	ColumnMapping	SOFF	SUB_TYPE	CONSTANT=SPINOFF
FOWCA	ColumnMapping	SOFF	SECURITY_PRODUCT_CODE_VALUE	To ISIN
FOWCA	ColumnMapping	Common	SWIFT_EVENT_OPTION	CONSTANT=SECU
FOWCA	DateFormat	Common	SOFF.ANNOUNCEMENT_DATE	yyyyMMdd
FOWCA	CAAttributes	Common	Adjustment Factor	RatioNew
FOWCA	ColumnMapping	Common	ANNOUNCEMENT_DATE	EffectiveDate
FOWCA	ColumnMapping	Common	OLD_RATIO	RatioOld
FOWCA	ColumnMapping	Common	RECORD_DATE_INCLUSIVE_B	CONSTANT=TRUE
FOWCA	ColumnMapping	SOFF	SECURITY_PRODUCT_CODE_TYPE	CONSTANT=ISIN
FOWCA	ColumnMapping	Common	SWIFT_CODE	Subject
FOWCA	DateFormat	Common	DATE_FORMAT	dd/MM/yyyy
FOWCA	DateFormat	Common	EX_DATE	yyyyMMdd
FOWCA	DateFormat	SPLF	SPLF.ANNOUNCEMENT_DATE	yyyyMMdd
FOWCA	SWIFT_CODE	DVCA	Special Dividend	DVCA
FOWCA	SWIFT_CODE	SPLF	Share Split	SPLF

Interface Name	Type Name	CA Event	Interface value	Calypso Value
FOWCA	SOFF.ColumnMapping	SOFF	SECURITY_PRODUCT_CODE_TYPE	CONSTANT=ISIN
FOWCA	SOFF.ColumnMapping	SOFF	SECURITY_PRODUCT_CODE_VALUE	To ISIN
FOWCA	SWIFT_CODE	SOFF	Spin Off	SOFF

5.3 Processing CA Events through Data Uploader

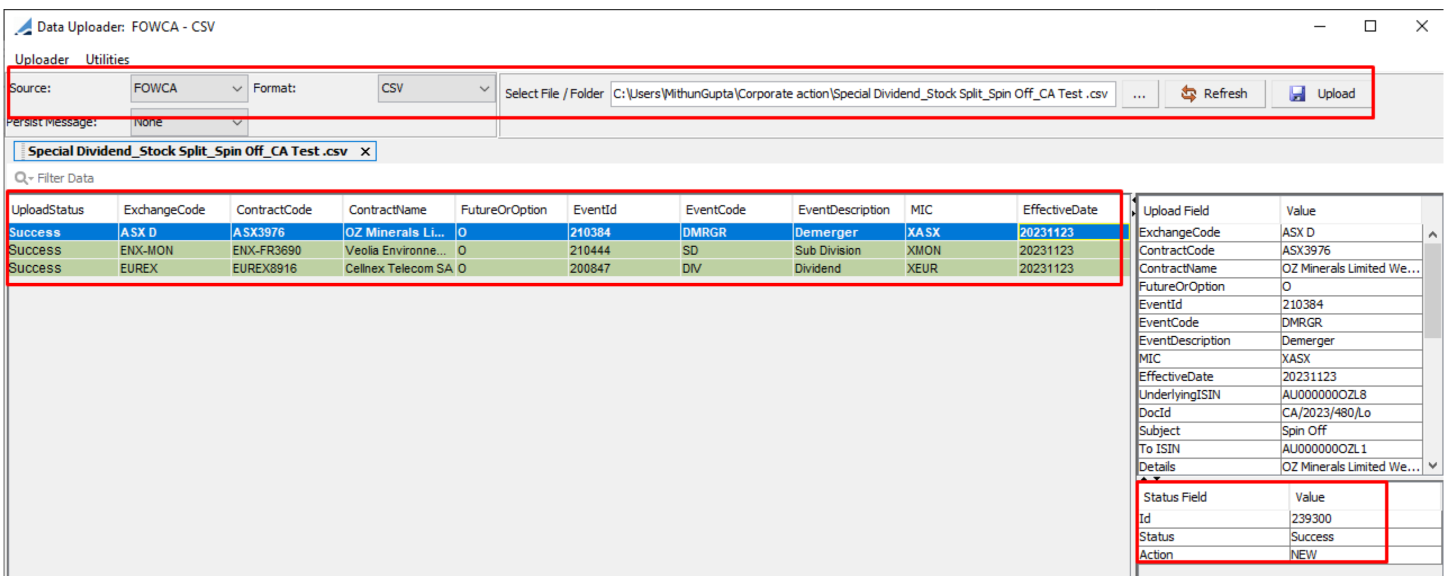
Euromoney trade data file

You should have FOW CA event file which is received from Euromoney trade data.

Data Uploader Details

Select the following details and upload the FOW csv file to create the Special Dividend, Share Split & Spinoff event.

- Source – FOWCA
- Format – CSV
- Select File/Folder – user define.

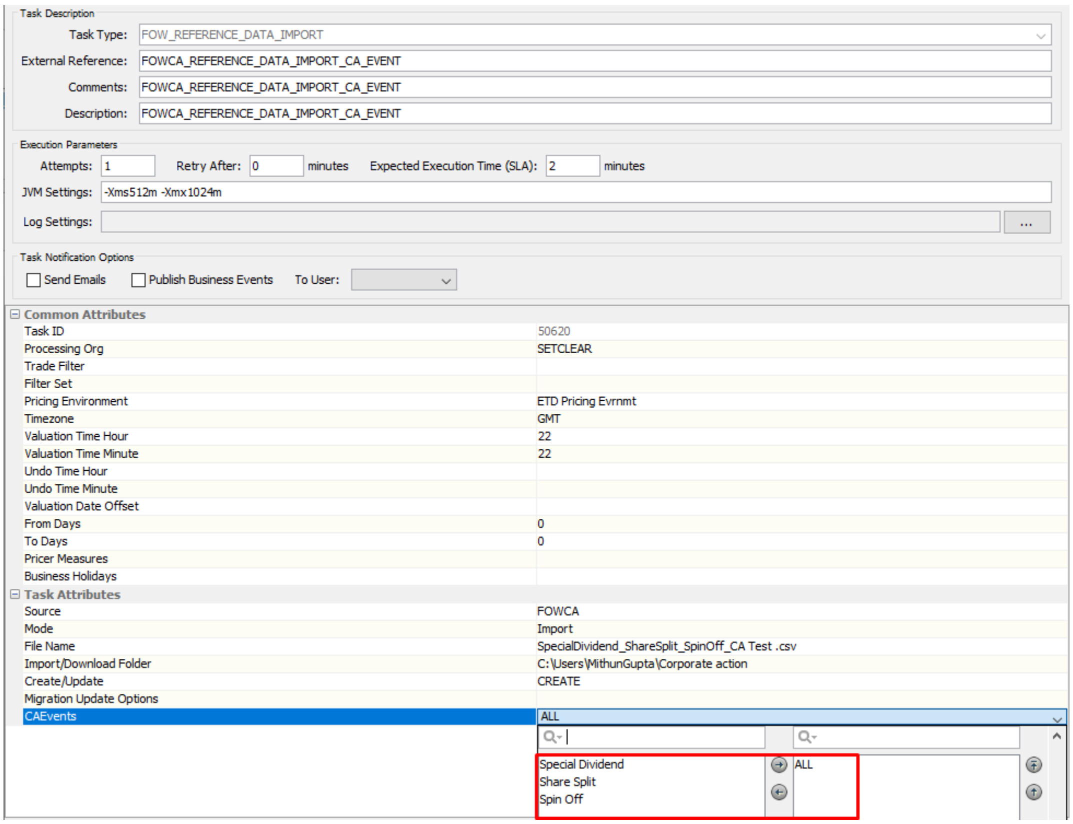


After upload, you would see success status for new CA event IDs.

5.4 Processing CA Events through Scheduled Task

Configure the FOW_REFERENCE_DATA_IMPORT scheduled task as per screenshot details and run the schedule task to create CA events

You can create all events by selecting ALL under CAEvents.



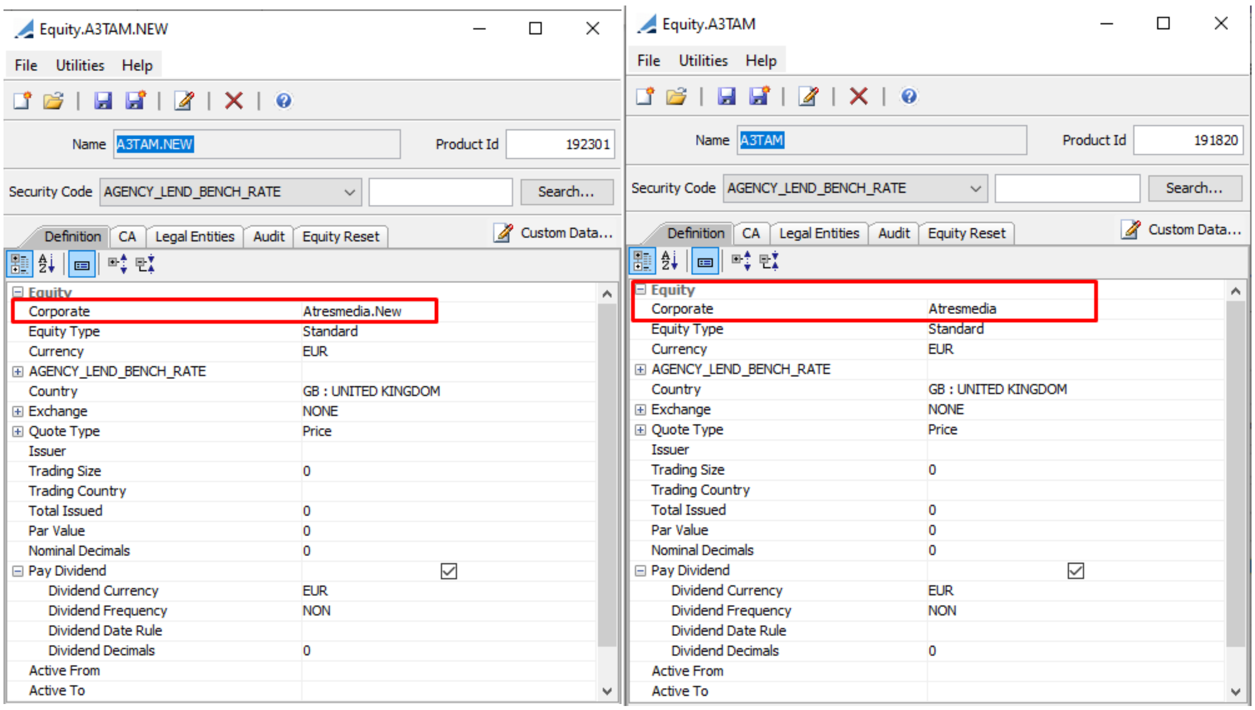
5.5 Manual Corporate Actions Processing

1. Create new underlying equity and contract should have positions.
2. Attach the underlying equity to the contract.
3. Create CA rule as per event.
4. Create corporate action as per details mentioned in FOW csv file.
5. Transform the CA event through CA adjustment window.
6. Verify contract adjustment and validate.
7. Post validation apply the CA event and save it, make sure new trades should create to close out the old position.

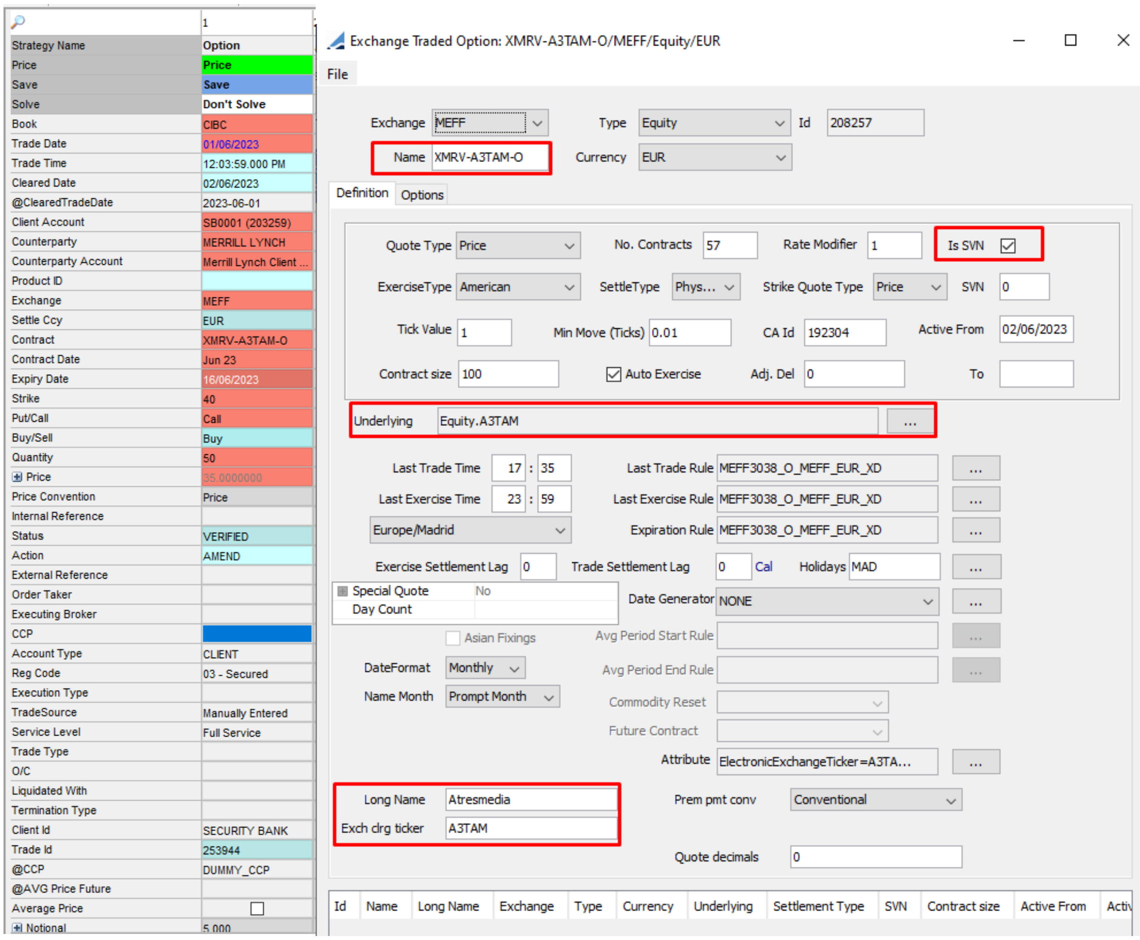
Note: If contract details SVN box checked then post CA event new contract will have SVN 1 and If contract details SVN box unchecked then post CA event old contract will have # in front of name.

5.5.1 Spinoff Process

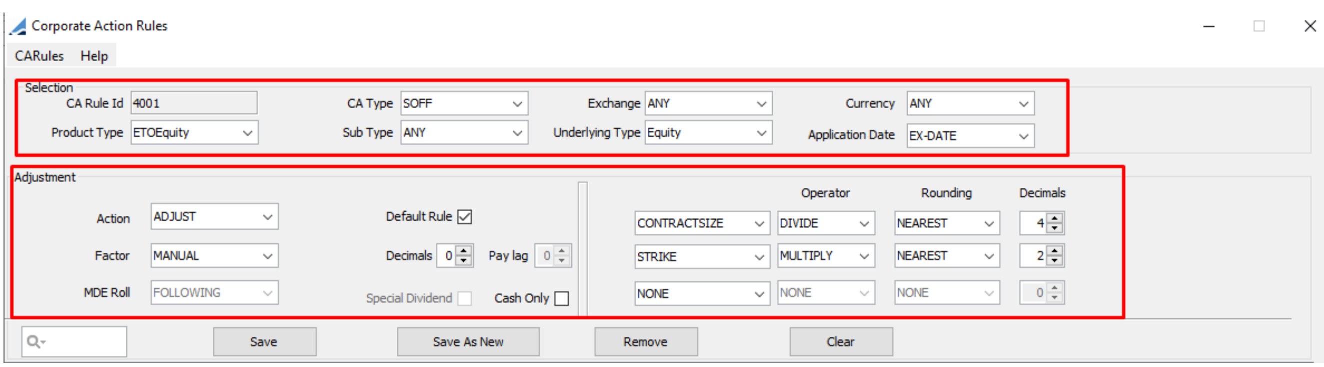
New underlying Equity A3TAM.NEW / Old underlying Equity A3TAM



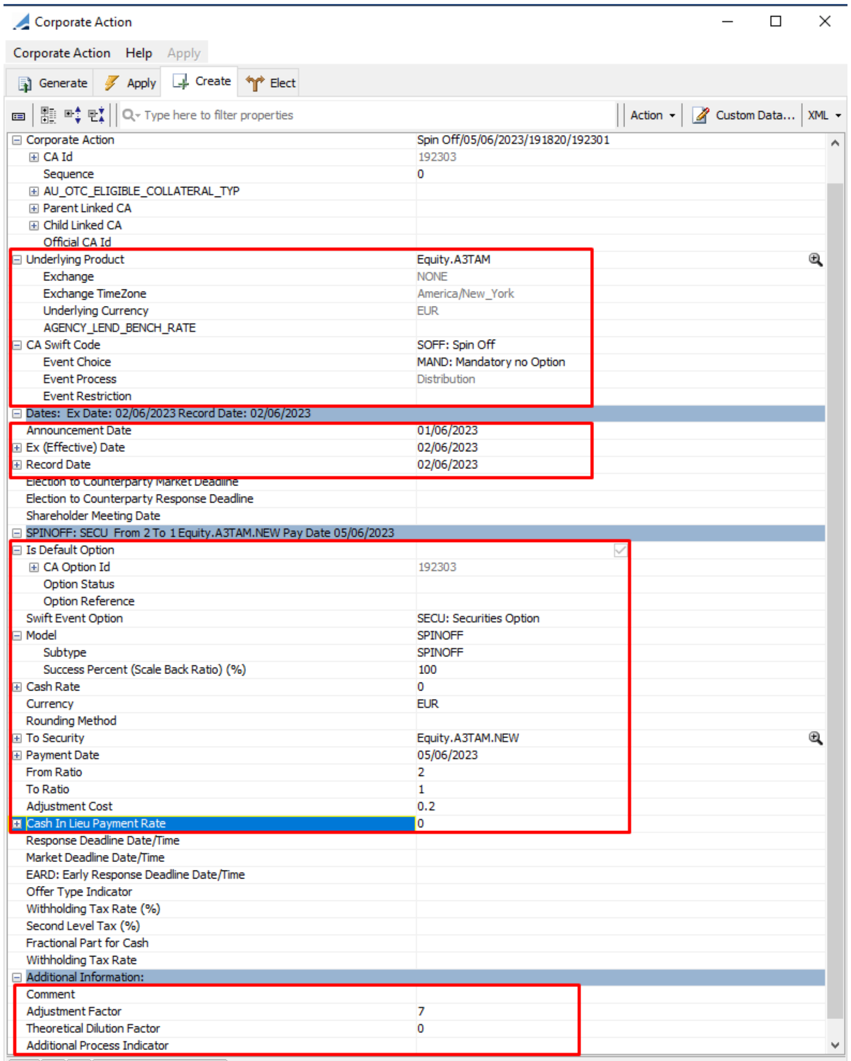
Position details / Contract details XMRV-A3TAM-O



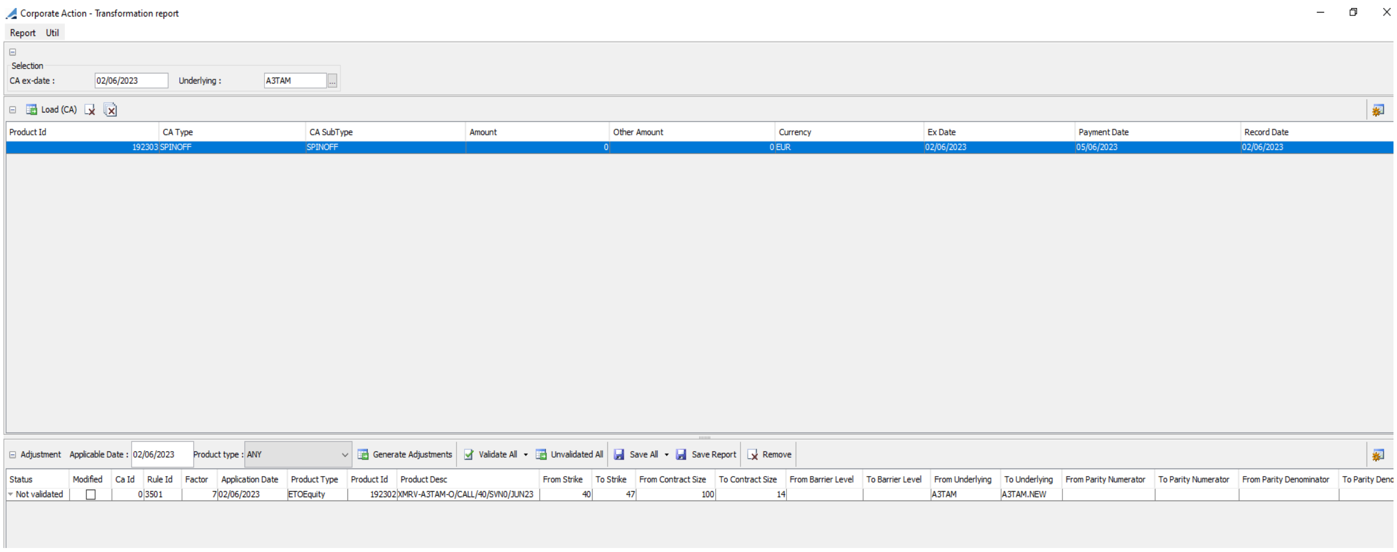
CA Rule window for Spinoff



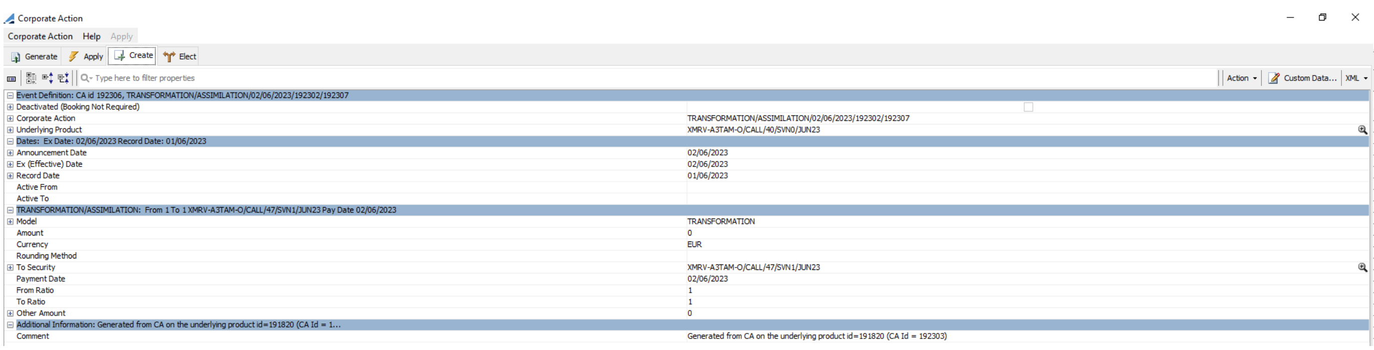
Corporate action details for Spinoff



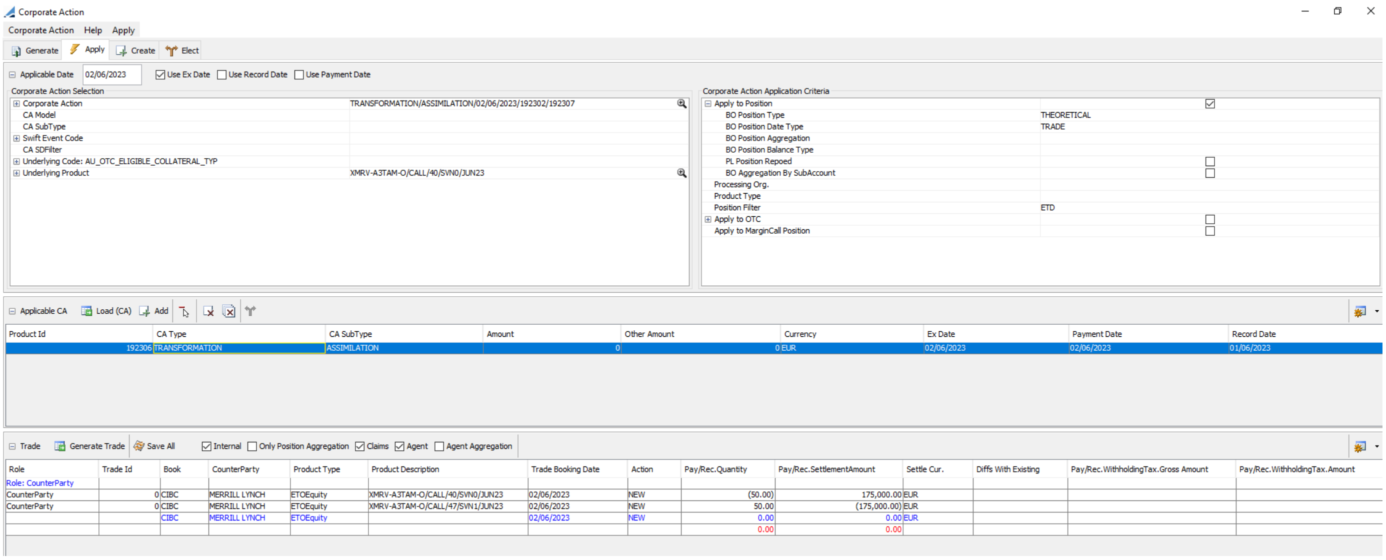
CA adjustment window and the adjustment of Strike, contract size & Underlying



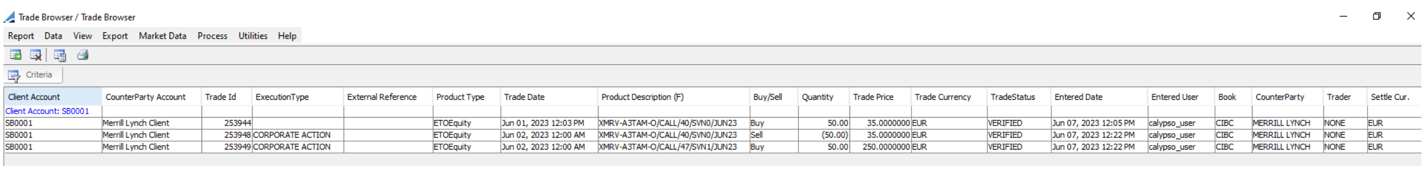
Transformation window to apply the assimilation



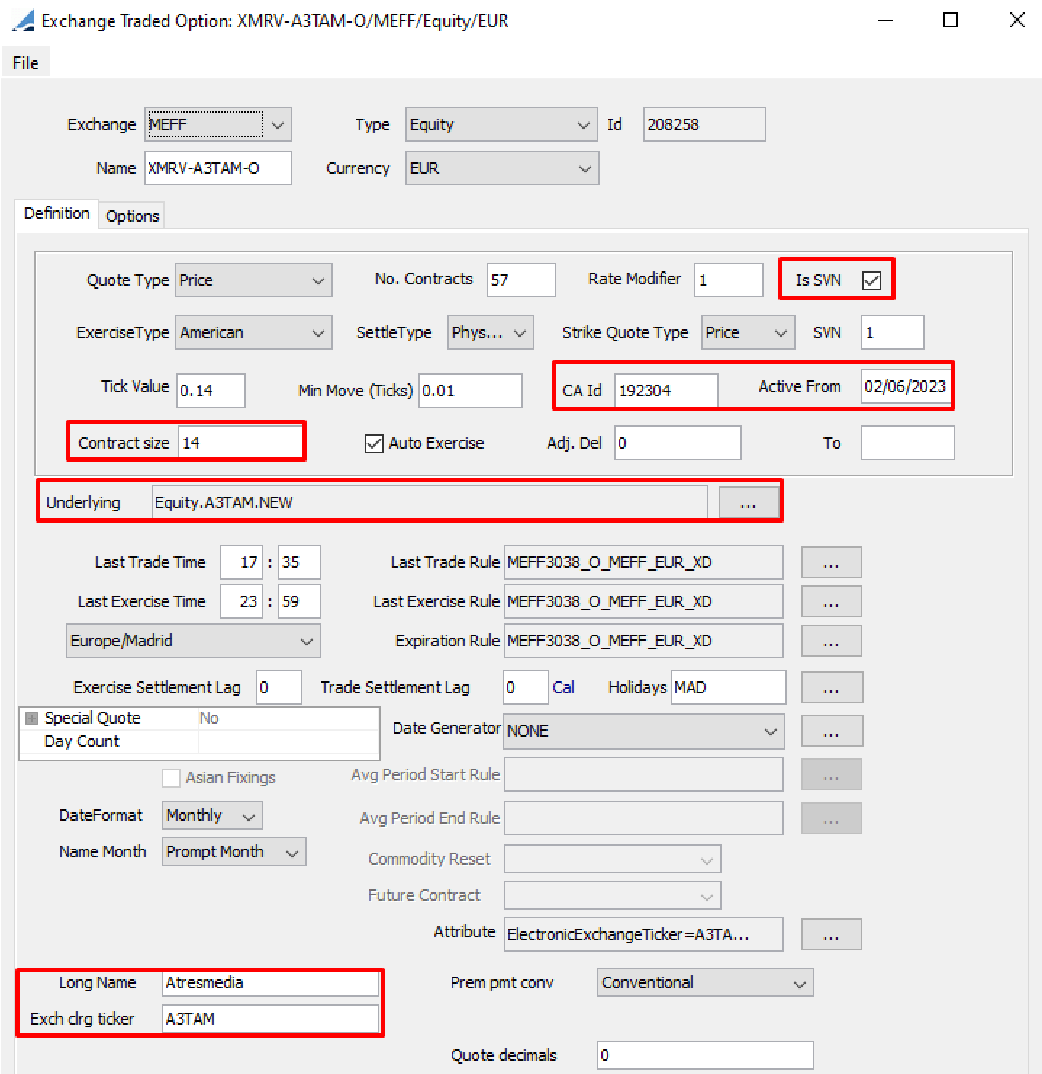
Post apply the Assimilation user need to generate and save the new trades.



Post Corporate action Trade browser details with new positions

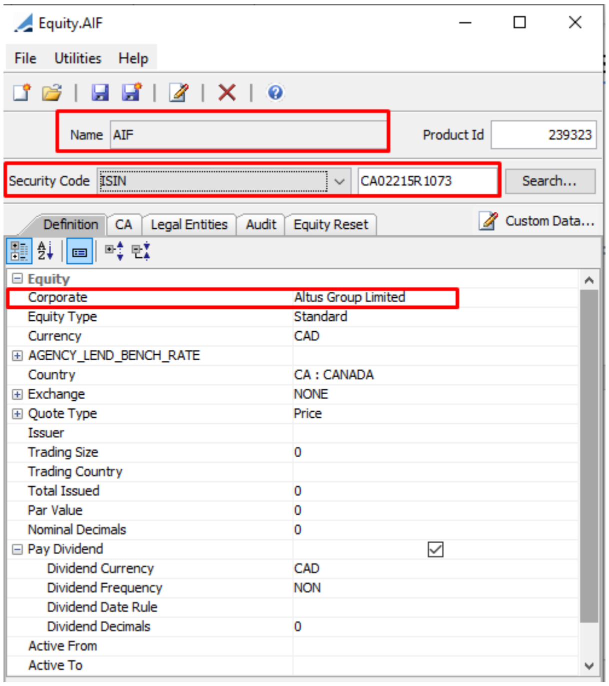


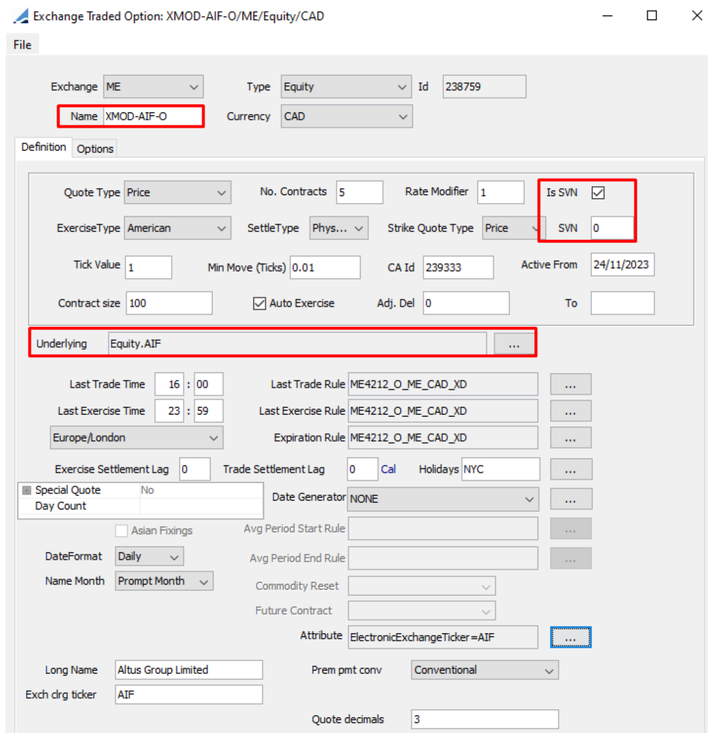
Post corporate action new contract details with new contract size, Underlying, CA Id, is SVN 1 and Activate from.



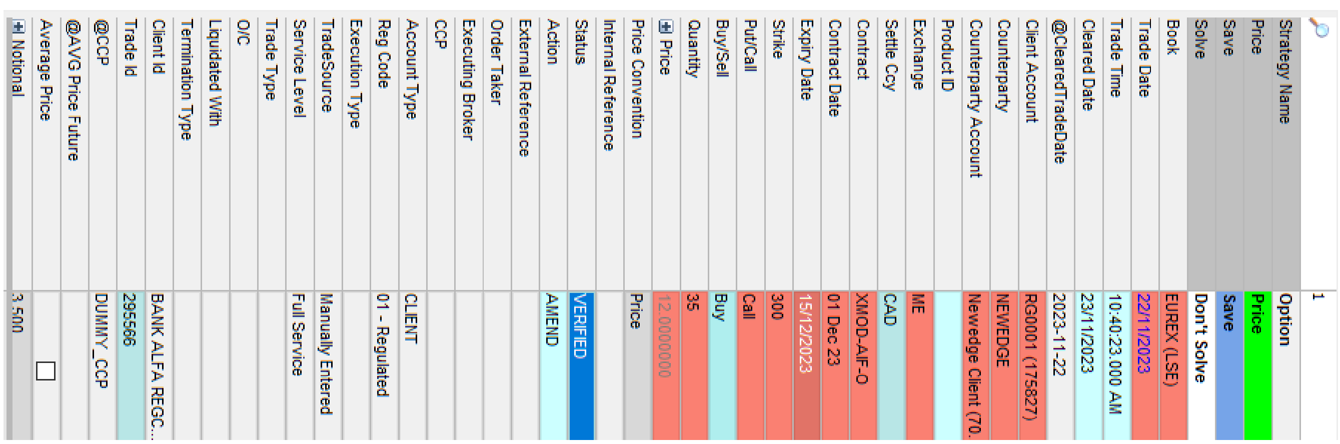
5.5.2 Special Dividend Process

Underlying details Equity AIF / Contract details XMOD-AIF-O

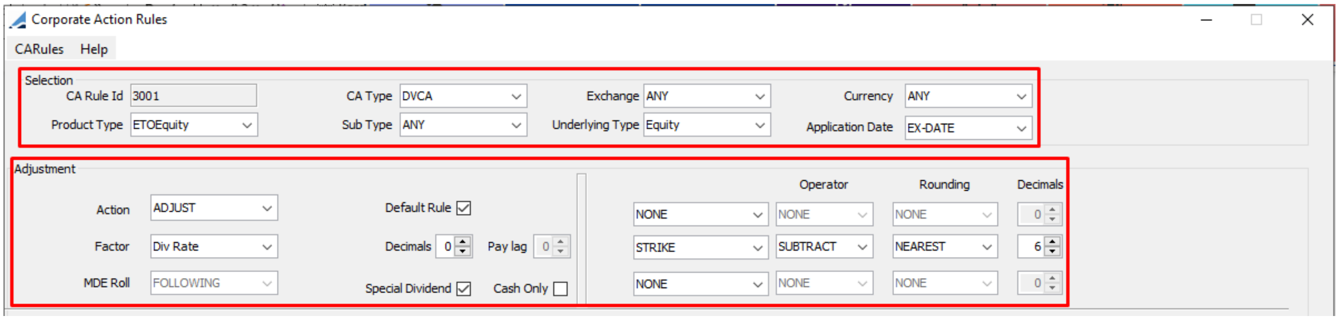




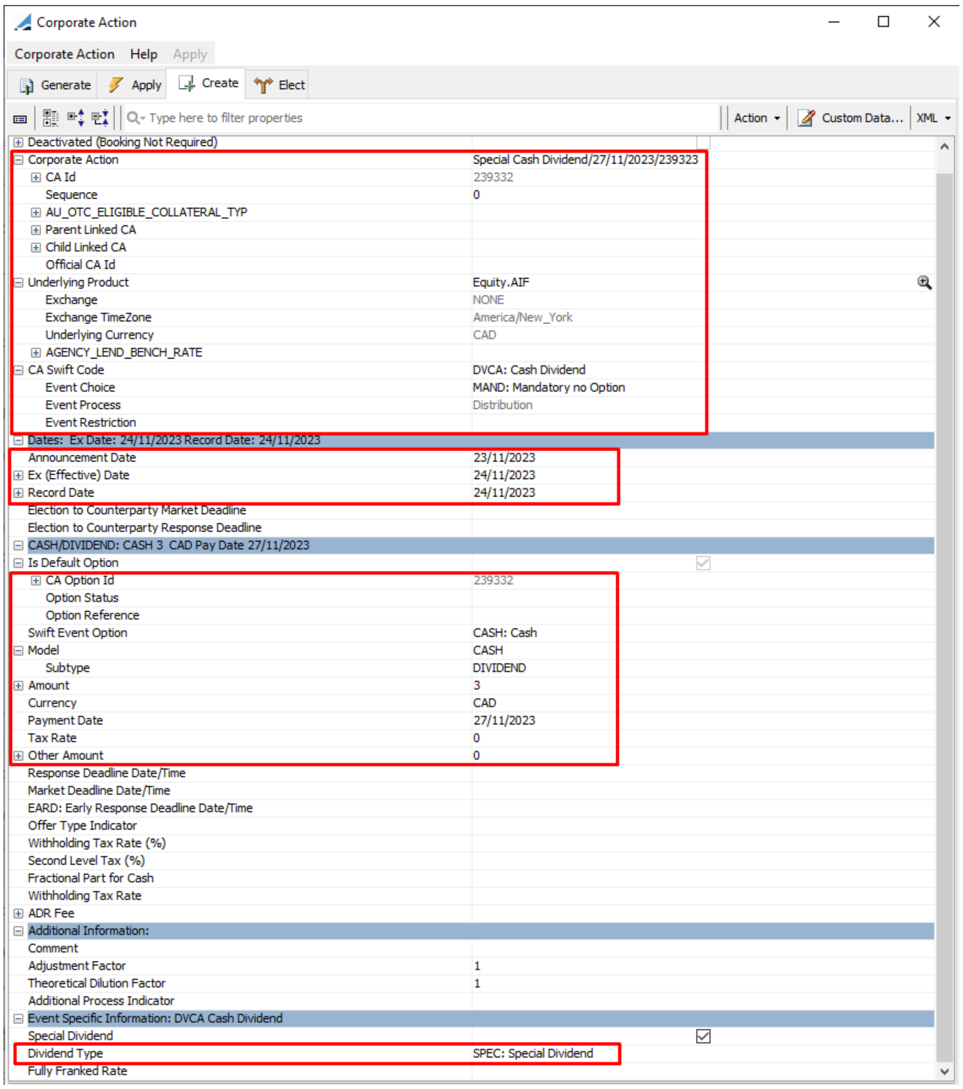
Position details



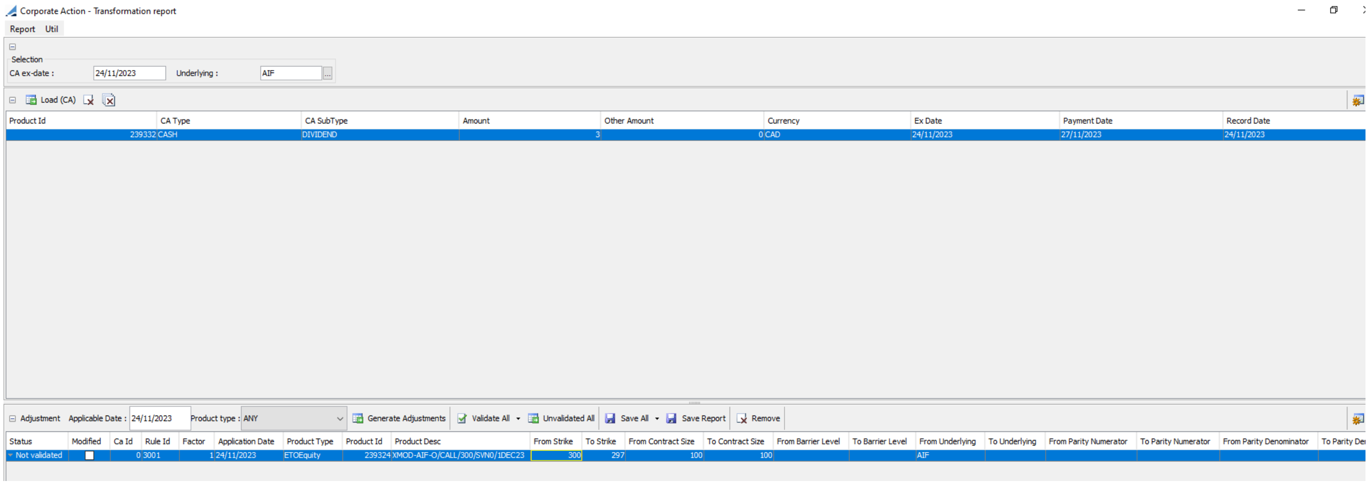
CA Rule window for Special Dividend details



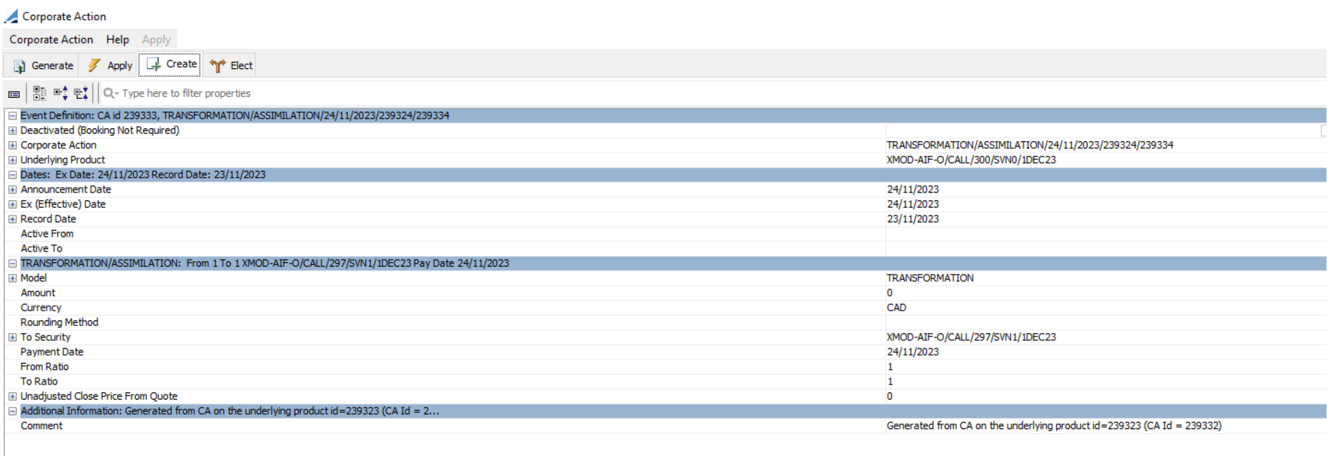
Corporate action details for Special Dividend



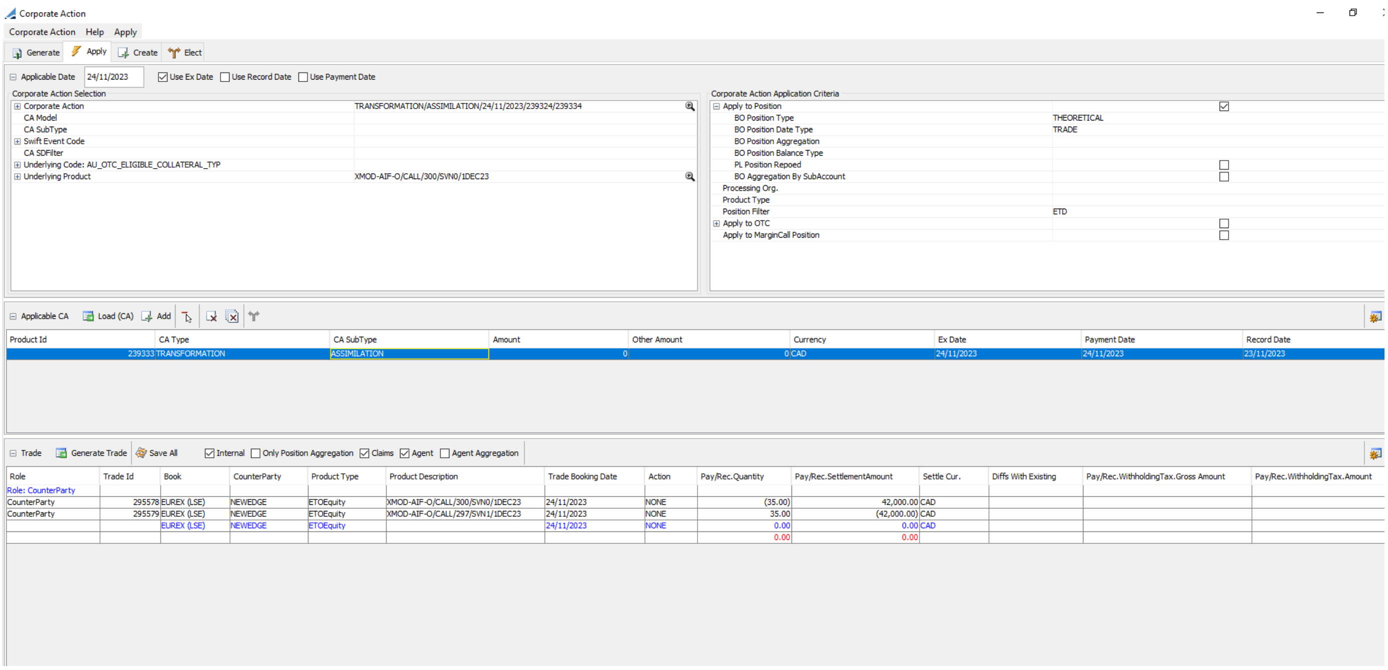
CA adjustment window and the adjustment of Strike



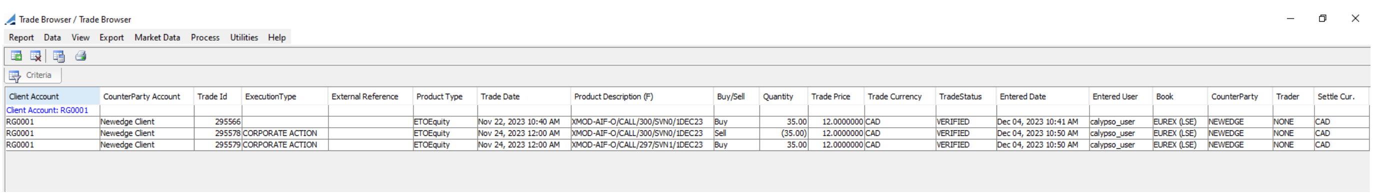
Transformation window to apply the assimilation



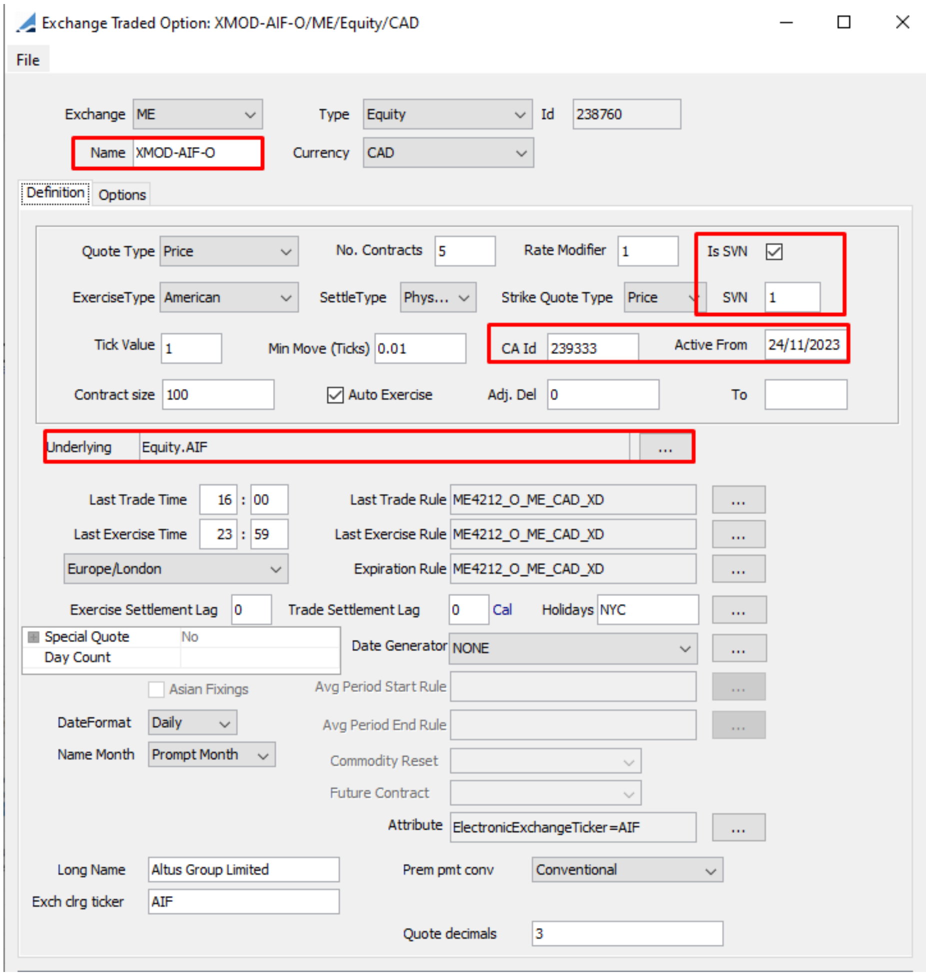
Post apply the Assimilation user need to generate and save the new trades.

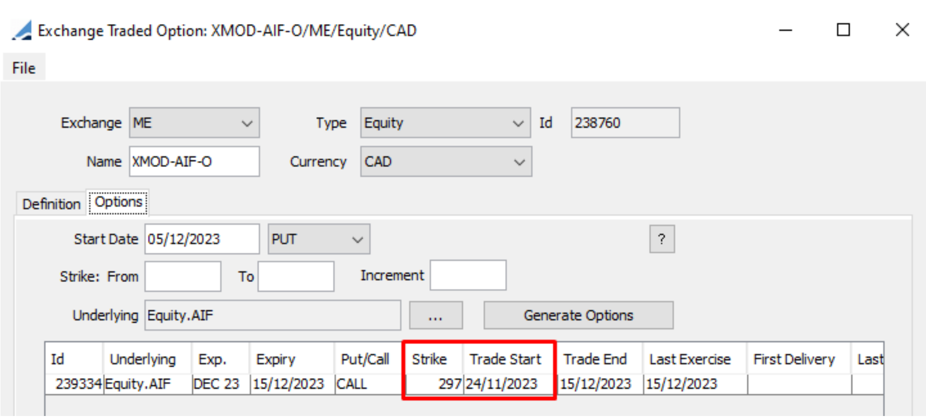


Post Corporate action Trade browser details with new positions



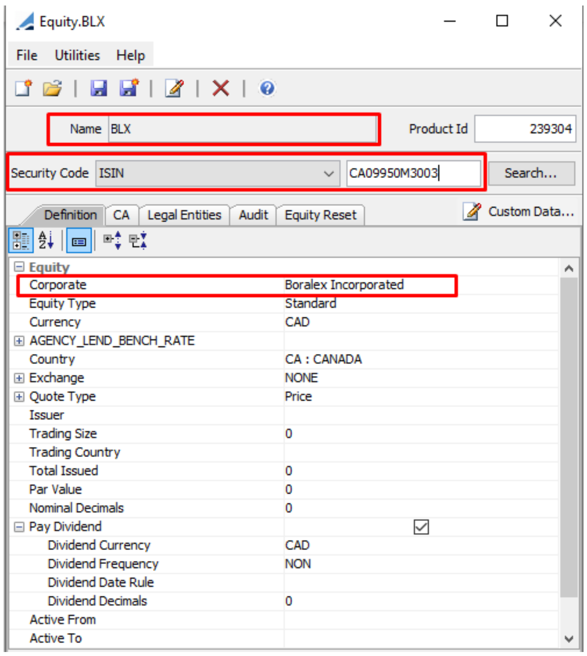
Post corporate action new contract details with new Strike, CA Id, is SVN 1 and Activate from.

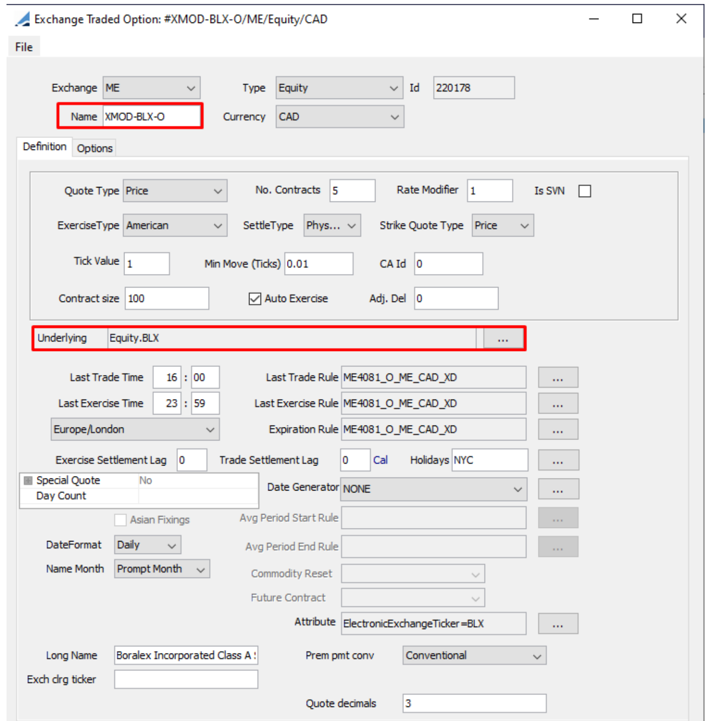




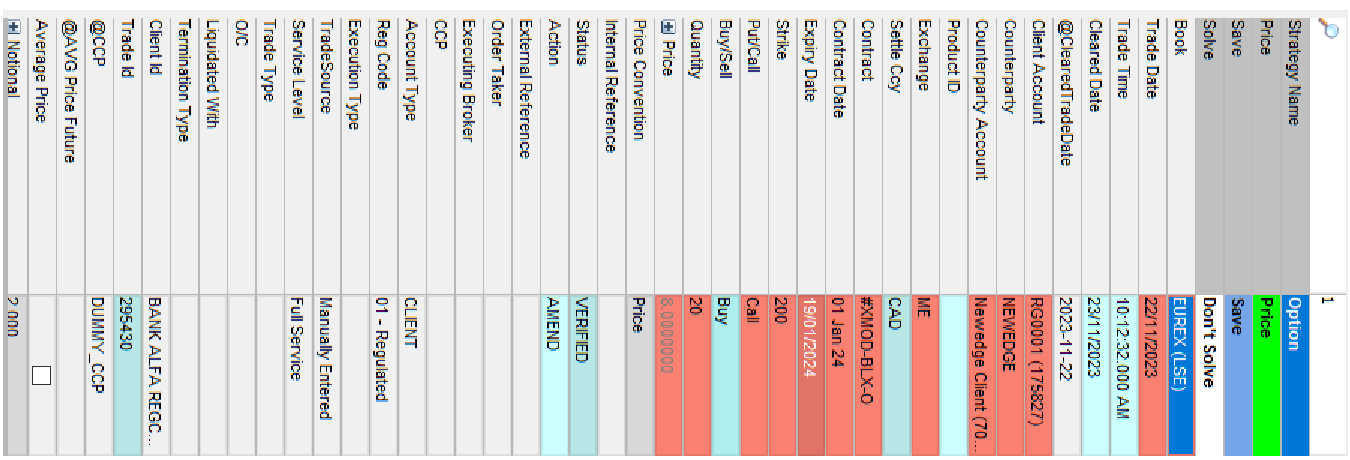
5.5.3 Share Split Process

Underlying details Equity **BLX** / Contract details **XMOD-BLX-O**

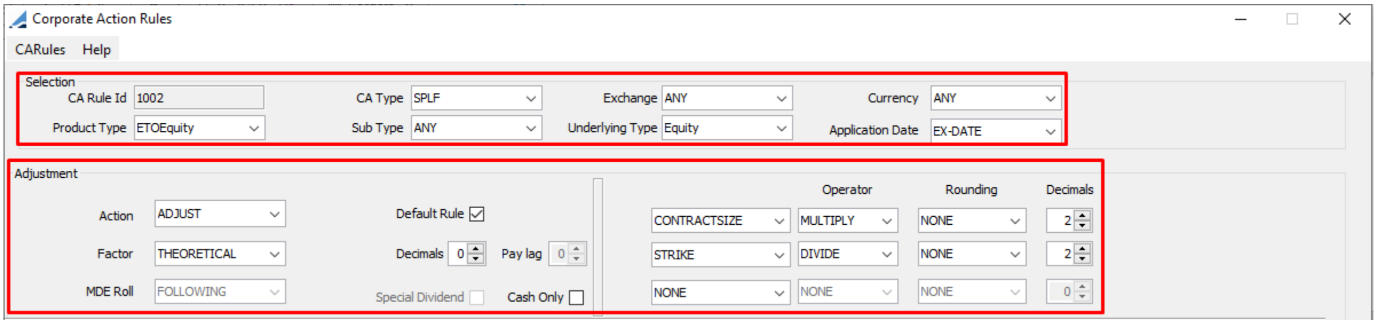




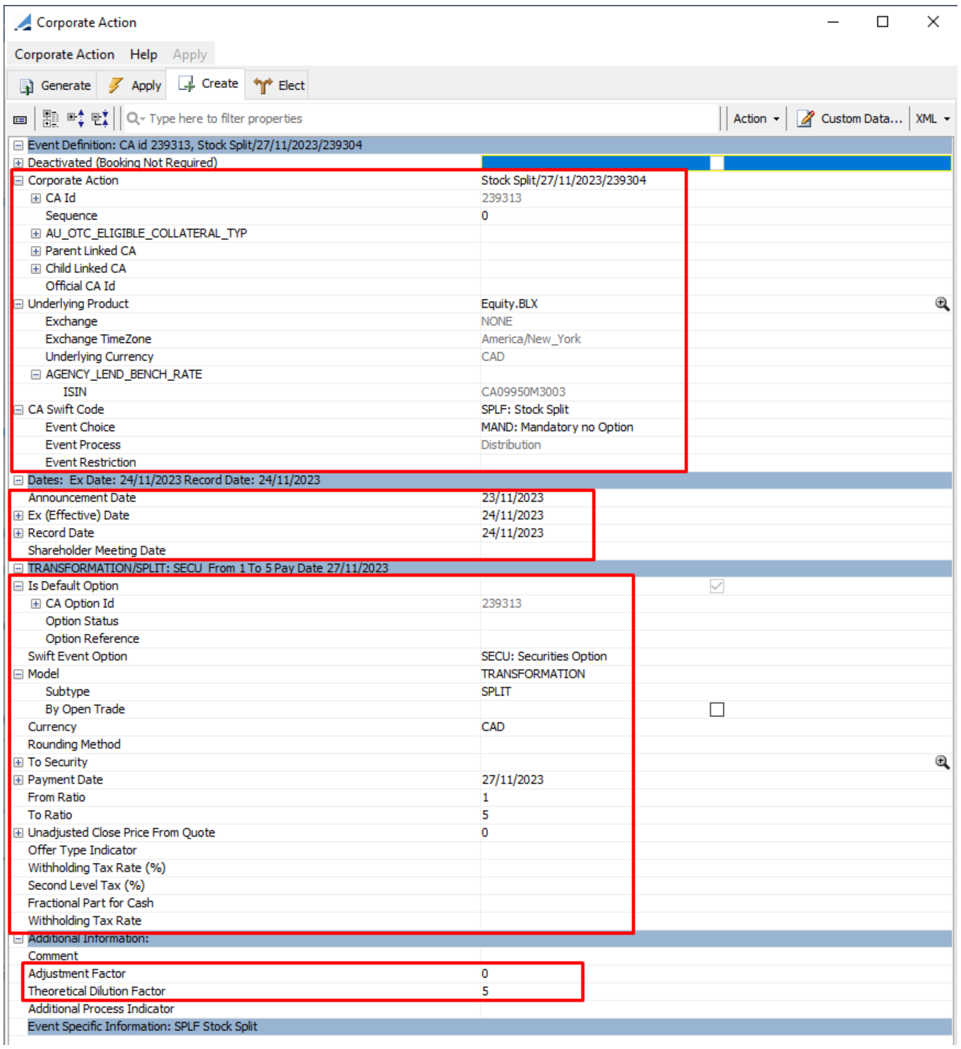
Position details



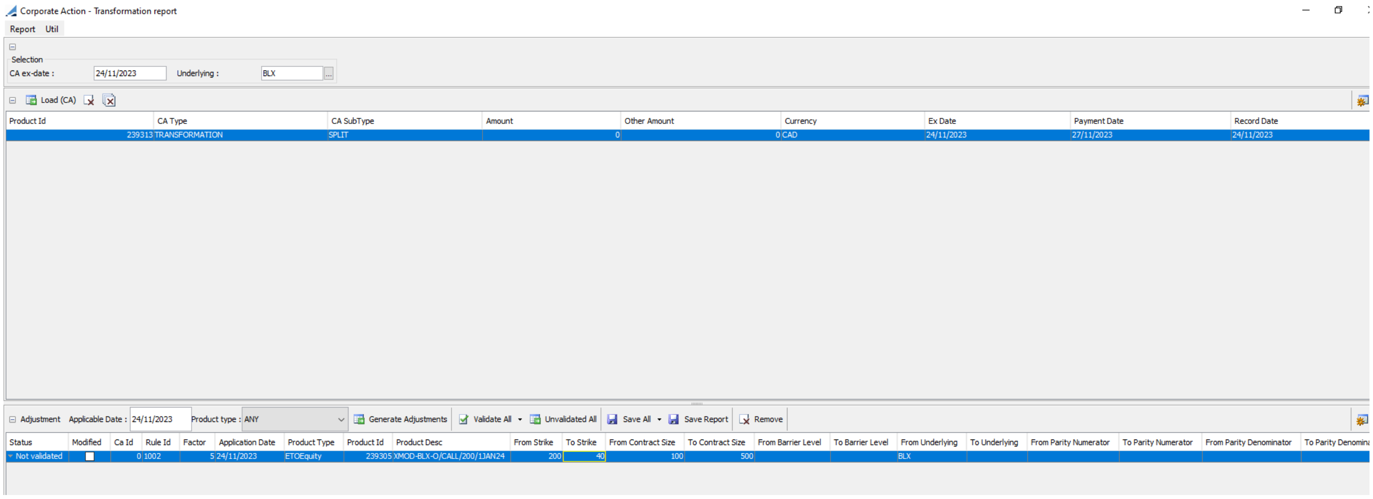
CA Rule window for Share Split details



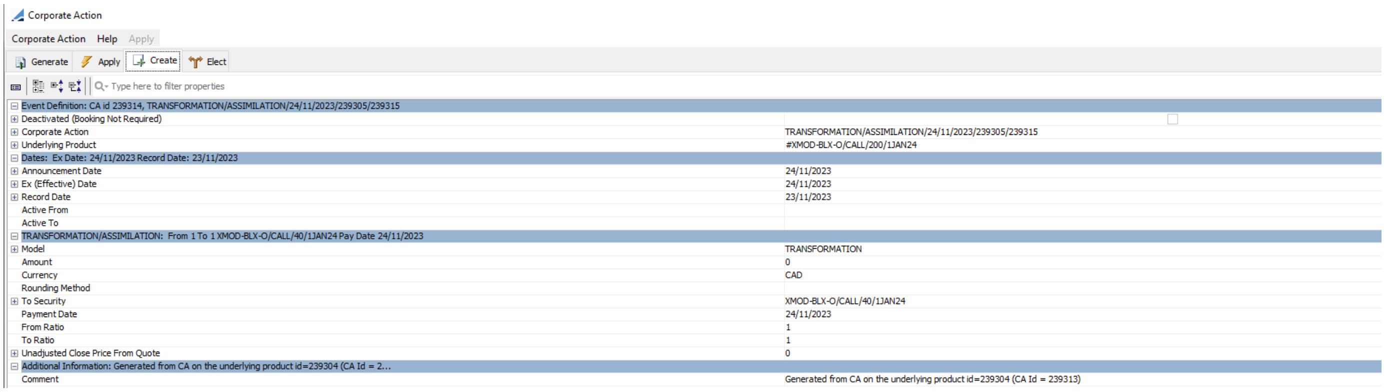
Corporate action details for Share split



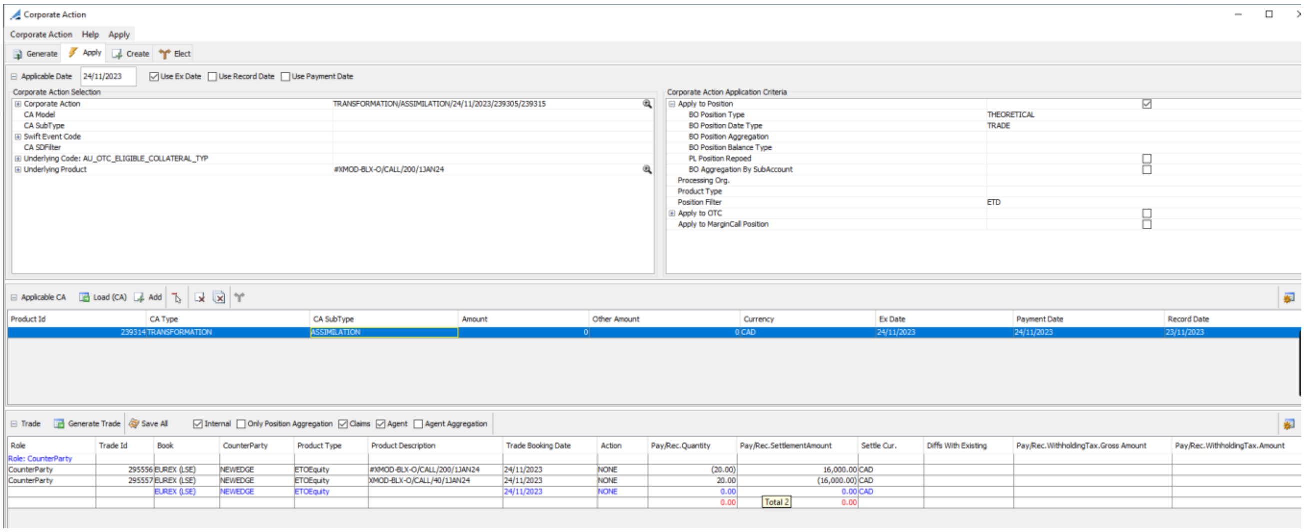
CA adjustment window and the adjustment of Contract size



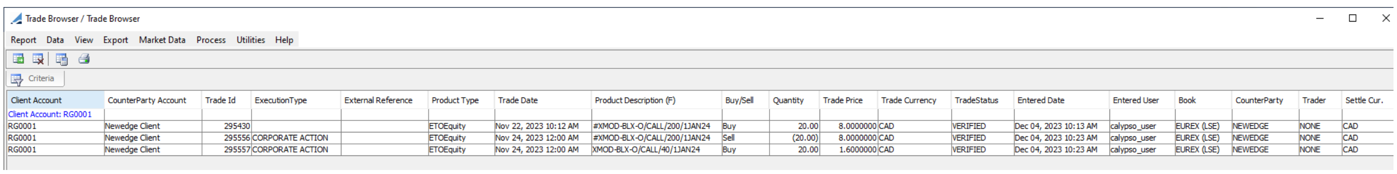
Transformation window to apply the assimilation



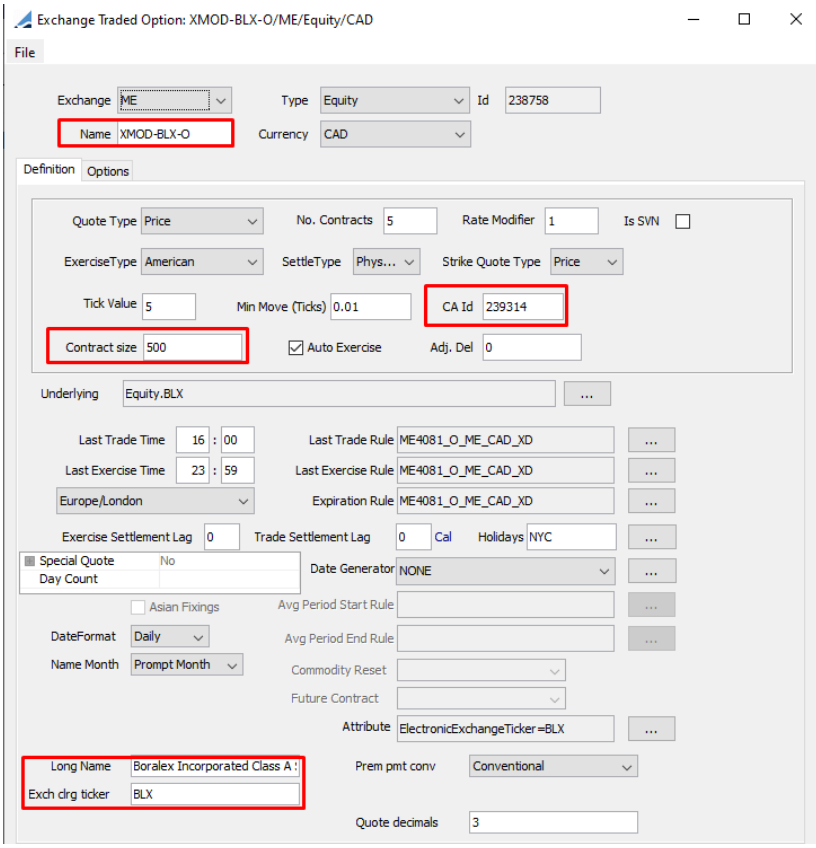
Post apply the Assimilation user need to generate and save the new trades.

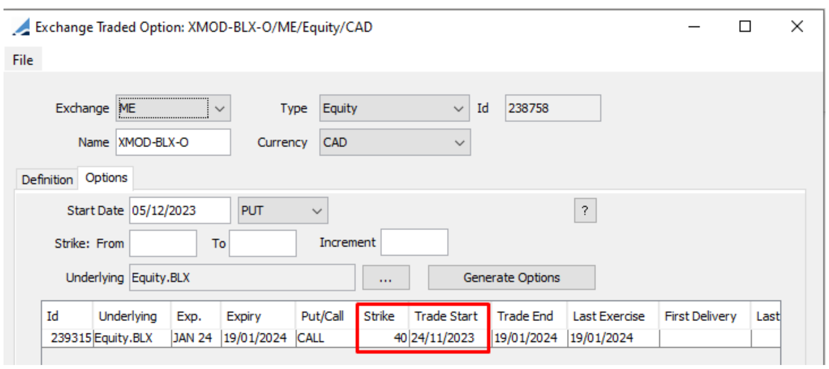


Post Corporate action Trade browser details with new positions



Post corporate action new contract details with new Strike, Contract size, CA Id and Activate from.


Exchange Traded Option: XMOD-BLX-O/ME/Equity/CAD
File
Exchange ME
Type Equity
Id 238758
Name XMOD-BLX-O
Currency CAD
Definition
Options
Quote Type Price
No. Contracts 5
Rate Modifier 1
Is SVN
ExerciseType American
SettleType Phys...
Strike Quote Type Price
Tick Value 5
Min Move (Ticks) 0.01
CA Id 239314
Contract size 500
Auto Exercise
Adj. Del 0
Underlying Equity.BLX
Last Trade Time 16 : 00
Last Trade Rule ME4081_O_ME_CAD_XD
Last Exercise Time 23 : 59
Last Exercise Rule ME4081_O_ME_CAD_XD
Europe/London
Expiration Rule ME4081_O_ME_CAD_XD
Exercise Settlement Lag 0
Trade Settlement Lag 0
Cal
Holidays NYC
Special Quote No
Day Count
Date Generator NONE
Asian Fixings
Avg Period Start Rule
DateFormat Daily
Avg Period End Rule
Name Month Prompt Month
Commodity Reset
Future Contract
Attribute ElectronicExchangeTicker=BLX
Long Name Boralex Incorporated Class A
Exch clrg ticker BLX
Prem pmt conv Conventional
Quote decimals 3


Exchange Traded Option: XMOD-BLX-O/ME/Equity/CAD
File
Exchange ME
Type Equity
Id 238758
Name XMOD-BLX-O
Currency CAD
Definition
Options
Start Date 05/12/2023
PUT
?
Strike: From
To
Increment
Underlying Equity.BLX
Generate Options
Id
Underlying
Exp.
Expiry
Put/Call
Strike
Trade Start
Trade End
Last Exercise
First Delivery
Last
239315
Equity.BLX
JAN 24
19/01/2024
CALL
40
24/11/2023
19/01/2024
19/01/2024