Nasdaq Calypso

Portfolio Swaps Corporate Actions

Version 18

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Approved

Document History

Revision	Published	Summary of Changes
1.0	February 2024	First edition for version 18

This document describes the various outcomes on Portfolio Swaps positions after Corporate Actions.

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Introduction

The aim of this document is to describe the different outcomes on Portfolio Swap positions following Corporate Actions (CAs) involving stock distribution and reorganization.

The following CAs are managed for Portfolio Swap positions:

- ACCRUAL.BONUS
- ACCRUAL.STOCK_DIV
- ACQUISITION.STOCK_OFFER
- ACQUISITION.CASH_OFFER
- CASH.DIVIDEND
- EXPIRY.EXPIRY
- MERGER.RIGHTS_CALL
- REDEMPTION.REDEMPTION
- REDEMPTION.TERMINATION
- SPINOFF.SPINOFF
- TRANSFORMATION.FUNDING
- TRANSFORMATION.PRICE_CHANGE
- TRANSFORMATION.ROLLOVER
- TRANSFORMATION.SPLIT

The list of the CA SWIFT codes that refer to those models & subtypes are listed in the CA Swift Event Code window.

C A Swift Event Code Attributes

Swift Code	CASwiftEventChoice	CAIPAForElection	CAIncludeSwiftInformation	CASwiftEventProcess	CAModelSubtype	CATradeBasis.CUM	CATradeBasis.EX	SpecialDividend	CASubjectToScaleBack
BONU: Bonus/capitalization issue	MAND	☐	...	Distribution	ACCRUAL.BONUS.SECU...	CBNS	XBNS	☐	☐
RHDI: Intermediate securities distribution	MAND	☐	...	Distribution	ACCRUAL.RIGHTS_CPN.SECU...	SPCU	SPEX	☐	☐
DVSC: Script Dividend/ Payment	MAND	☐	...	Distribution	ACCRUAL.STOCK_DIV.SECU...	CDIV	XDIV	☐	☐
DVSE: Stock Dividend	MAND	☐	...	Distribution	ACCRUAL.STOCK_DIV.SECU...	CDIV	XDIV	☐	☐
EXOF: Exchange Offer	MAND; CHOS; VOLU	☐	...	Reorganisation	ACQUISITION.CASH_OFFER.CASH...			☐	☑
DLST: Trading status delisted	MAND; CHOS	☐	...	Reorganisation	ACQUISITION.CASH_OFFER.CASH...			☐	☑
LIQU: Liquidation dividend/Payment	MAND	☐	...	Reorganisation	ACQUISITION.CASH_OFFER.CASH...			☐	☐
TEND: Tender/acquisition/Takeover/Purchase offer/ Buyback	VOLU	☐	...	Reorganisation	ACQUISITION.CASH_OFFER.CASH...	SPCU	SPEX	☐	☑
MRGR: Merger	MAND; CHOS	☐	...	Reorganisation	ACQUISITION.STOCK_OFFER.CASE...	SPCU	SPEX	☐	☑
DTCH: Dutch Auction	VOLU	☐	...	Reorganisation	ACQUISITION.STOCK_OFFER.SECU...			☐	☐
NOOF: Non-Official Offer	MAND; CHOS; VOLU	☐	...	Reorganisation	ACQUISITION.STOCK_OFFER.SECU...			☐	☐
BIDS: Repurchase offer/Issuer bids/Reverse Rights	VOLU	☐	...	Reorganisation	ACQUISITION.STOCK_OFFER.SECU...			☐	☐
DRIP: Dividend Reinvest	CHOS; MAND	☐	...	Distribution	CASH.DIVIDEND.CASH...	CDIV	XDIV	☑	☐
DVOP: Dividend Option	CHOS; MAND	☐	...	Distribution	CASH.DIVIDEND.CASH...	CDIV	XDIV	☑	☐
DVCA: Cash Dividend	MAND; CHOS	☐	...	Distribution	CASH.DIVIDEND.CASH...	CDIV	XDIV	☑	☐
INCR: Increase in value	MAND	☐	...	General	CASH.DIVIDEND.CASH...			☐	☐
SHPR: Share premium Dividend	MAND; CHOS	☐	...	Distribution	CASH.DIVIDEND.CASH...	CDIV	XDIV	☑	☐
EXRI: Call on intermediate securities	CHOS; VOLU	☐	...	Reorganisation	MERGER.RIGHTS_CALL.EXER...	CRTS	XRTS	☐	☑
BPUT: Put Redemption	VOLU	☑	...	General	REDEMPTION.REDEMPTION.CASH...			☐	☐
DRCA: Cash Distribution From Non-Eligible Securities Sales	MAND; CHOS	☐	...	Distribution	REDEMPTION.REDEMPTION.LAPS...			☐	☐
REDM: Final Maturity	MAND	☐	REDEMPTION.REDEMPTION.SECU...	Reorganisation	REDEMPTION.REDEMPTION.SECU...			☐	☐
ACTV: Trading Status active	MAND	☐	...	General	REDEMPTION.REDEMPTION.SECU...			☐	☐
BRUP: Bankruptcy	MAND	☐	...	Reorganisation	REDEMPTION.REDEMPTION.SECU...			☐	☐
WRTH: Worthless	MAND	☐	...	Reorganisation	REDEMPTION.REDEMPTION.SECU...			☐	☐
INTR: Interest Payment	MAND	☐	CASH.INTEREST.CASH...	Distribution	CASH.INTEREST.CASH...	CCPN	XCPN	☐	☐
TREC: Tax Reclaim	MAND	☐	...	Distribution	CASH.INTEREST.CASH...			☐	☐
ODLT: Odd lot sale/purchase	MAND; VOLU	☐	...	Reorganisation	CASH.ODD_LOT.CASH...			☐	☐
EXRI: Call on intermediate securities	CHOS; VOLU	☐	...	Reorganisation	MERGER.RIGHTS_CALL.EXER...	CRTS	XRTS	☐	☑
MCAL: Full Call/ Early Redemption	MAND; VOLU	☐	REDEMPTION.CALL_REDEMPTION....	Reorganisation	REDEMPTION.CALL_REDEMPTION.SECU...			☐	☐
PCAL: Partial Redemption With Reduction of Nominal Value	MAND; VOLU	☐	REDEMPTION.CALL_REDEMPTION....	Reorganisation	REDEMPTION.CALL_REDEMPTION.SECU...			☐	☐
BPUT: Put Redemption	VOLU	☑	...	General	REDEMPTION.REDEMPTION.CASH...			☐	☐
DRCA: Cash Distribution From Non-Eligible Securities Sales	MAND; CHOS	☐	...	Distribution	REDEMPTION.REDEMPTION.LAPS...			☐	☐
REDM: Final Maturity	MAND	☐	REDEMPTION.REDEMPTION.SECU...	Reorganisation	REDEMPTION.REDEMPTION.SECU...			☐	☐
ACTV: Trading Status active	MAND	☐	...	General	REDEMPTION.REDEMPTION.SECU...			☐	☐
SOFF: Spin Off	MAND; CHOS	☐	...	Distribution	SPINOFF.SPINOFF.SECU...	SPCU; CBNS	SPEX; XBNS	☐	☑
SPLF: Stock Split	MAND	☐	...	Distribution	TRANSFORMATION.SPLIT.SECU...	SPCU	SPEX	☐	☐
SPLR: Reverse Stock Split	MAND	☐	...	Reorganisation	TRANSFORMATION.SPLIT.SECU...	SPCU	SPEX	☐	☐

This document describes the process using the Corporate Action window, but you can also use the CORPORATE_ACTION scheduled task.

Positions with Liquidation Attributes

For all CA events:

When there is a no liquidation position aggregation (Liq. Aggregation ID is null), the CA trades are created against the counterparty to create the transfers and update the P&L at book level.

When there is a liquidation position aggregation due to liquidation attributes, the CA trades are created per liq. Aggregation ID against the PO to update the P&L at book/liquidation attributes levels.

For cash dividend, the CA trade against counterparty will only generate the DIVIDEND transfers and the CA trades against the PO will update the P&L at book level (CA trade P&L with null liq. aggregation ID) and at liquidation attributes levels (CA trades P&L with liq. aggregation ID not null).

1.1 Settings

Corporate Actions by Trade Date

"By Trade Date" should be checked for portfolio swaps.

You also need to add the following values to the domain "generateCA.PortfolioSwap” with Comment = true to generate the corresponding CAs by trade date:

CASH.DIVIDEND.setIsByTradeDate

TRANSFORMATION.PRICE_CHANGE.setIsByTradeDate

Is Ex-Date Inclusive

You can add the following values to the domain “generateCA.PortfolioSwap” with Comment = true to generate the corresponding CAs with Ex Dividend Date inclusive:

CASH.DIVIDEND.setIsExDateInclusive

TRANSFORMATION.PRICE_CHANGE.setIsExDateInclusive

TRANSFORMATION.SPLIT.setIsExDateInclusive

SPINOFF.SPINOFF.setIsExDateInclusive

Normally trades entered on the payment end date of the Equity Leg are not considered for price change and reset. These trades are considered as part of next cashflow (Payment End is the Payment Begin date of next cashflow).

If the trades entered on payment end date are to be considered for reset, then on execution of Price Change CA - 'Ex-Date' Checkbox should be selected and domain 'exDateTradePreviousCF' should be set as 'True'. The default value of 'exDateTradePreviousCF' is 'False'. If the domain is kept as 'False' (or not Set) then on execution of Price Change CA - 'Ex-Date' Checkbox should not be selected.

FX Rate

For a PortfolioSwapPosition CA, with Settle Currency different from Trade Currency, the following logic is applied:

- If Liquidation is by Trade Open Quantity, pick up the FX Rate from Initial FX from linked trade

- If Liquidation is not by Trade Open Quantity, pick up the FX Rate from Quotes at End of Day Ex Date

Realized P&L Transfers

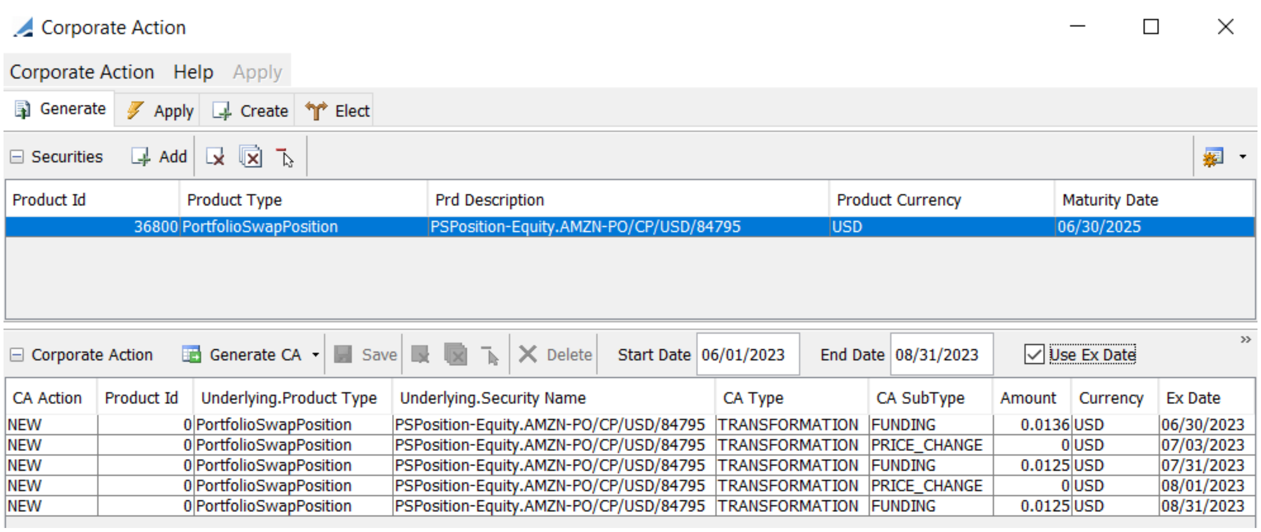
In order to generate realized P&L transfers on the close out trades when applying PRICE_CHANGE and FUNDING corporate actions, you need to set the environment property:

XFER_PL_ON_CLOSE_TRADE = true

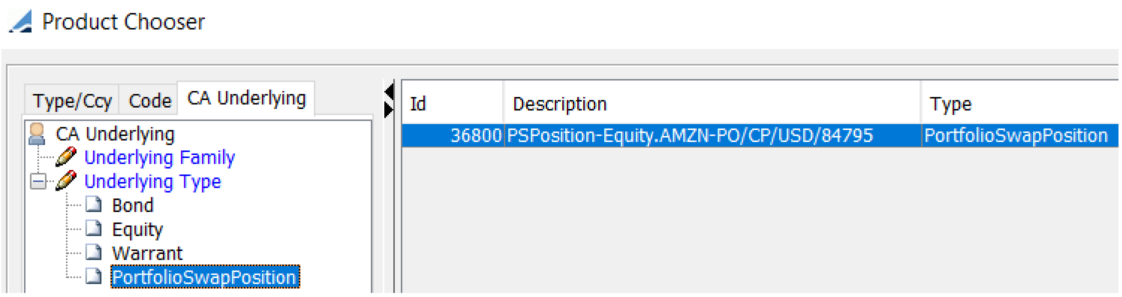
1.2 Generating Corporate Actions

Depending on the type of corporate action, PortfolioSwapPosition corporate actions are generated based on the performance schedule, the portfolio swap contract and the underlying product CAs using the Generate tab in the Corporate Action window.

Example:



Make sure that you select the underlying type PortfolioSwapPosition when adding a security:



If it is not available for selection, double-click the Underlying Type label and add PortfolioSwapPosition.

You should check or uncheck “Use Ex Date” depending on the domain “PortfolioSwap ” previously described.
following domain values.

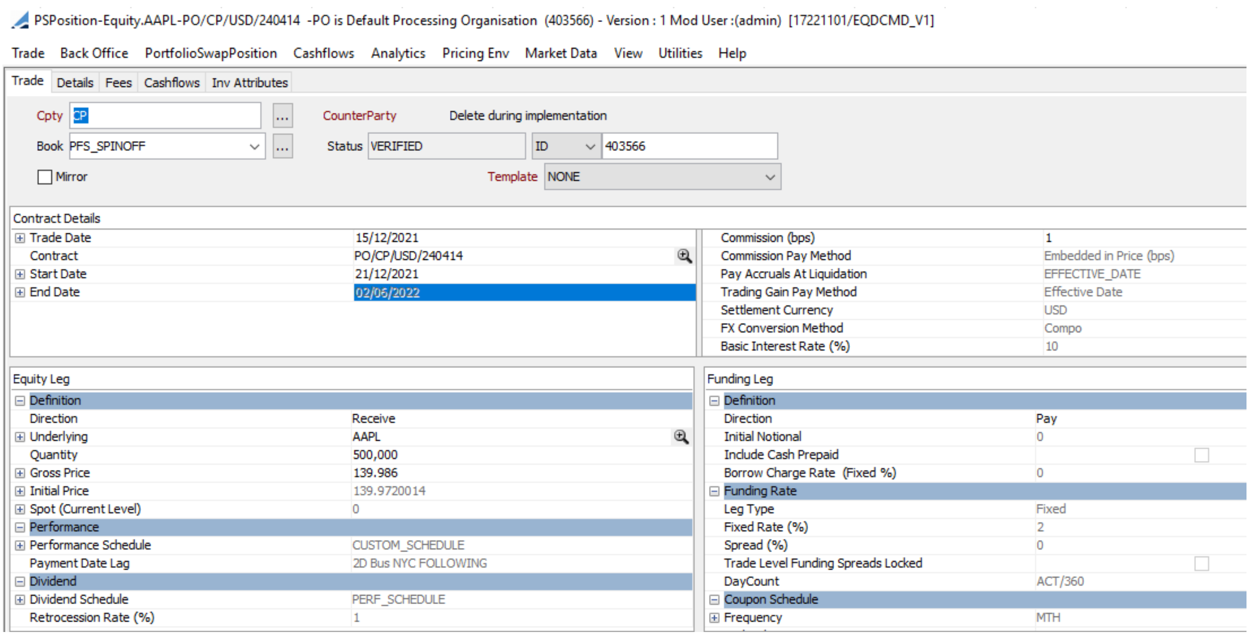
The process is described below for each type of corporate action.

Applying Corporate Actions

2.1 ACCRUAL.BONUS and ACCRUAL.STOCK_DIV

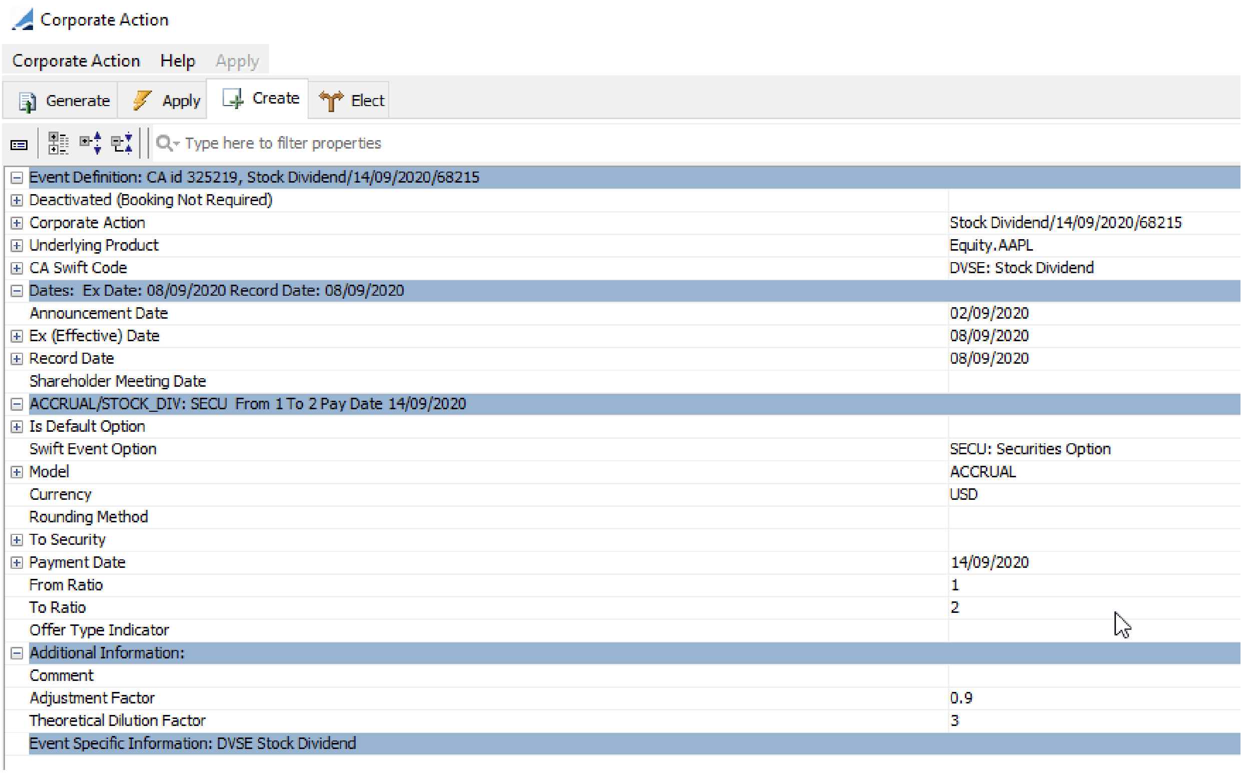
The PortfolioSwapPosition CAs are based on the underlying CAs.

Sample trade:



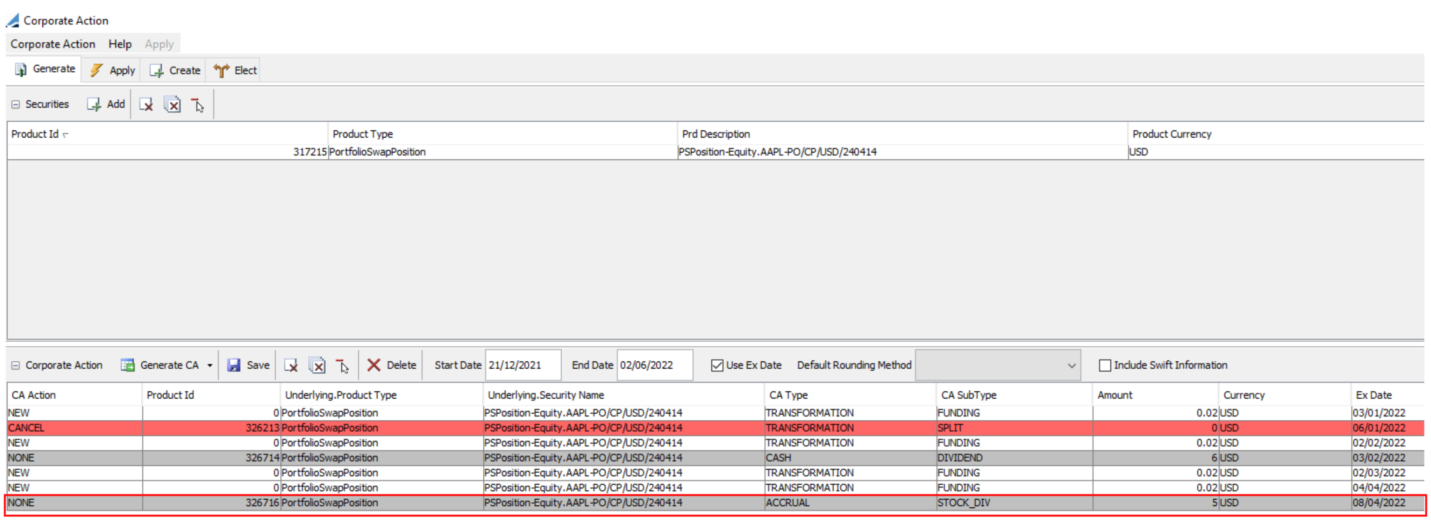
Step 1 - Create / generate the underlying Equity CA.

Example for STOCK_DIV (it is similar for BONUS):

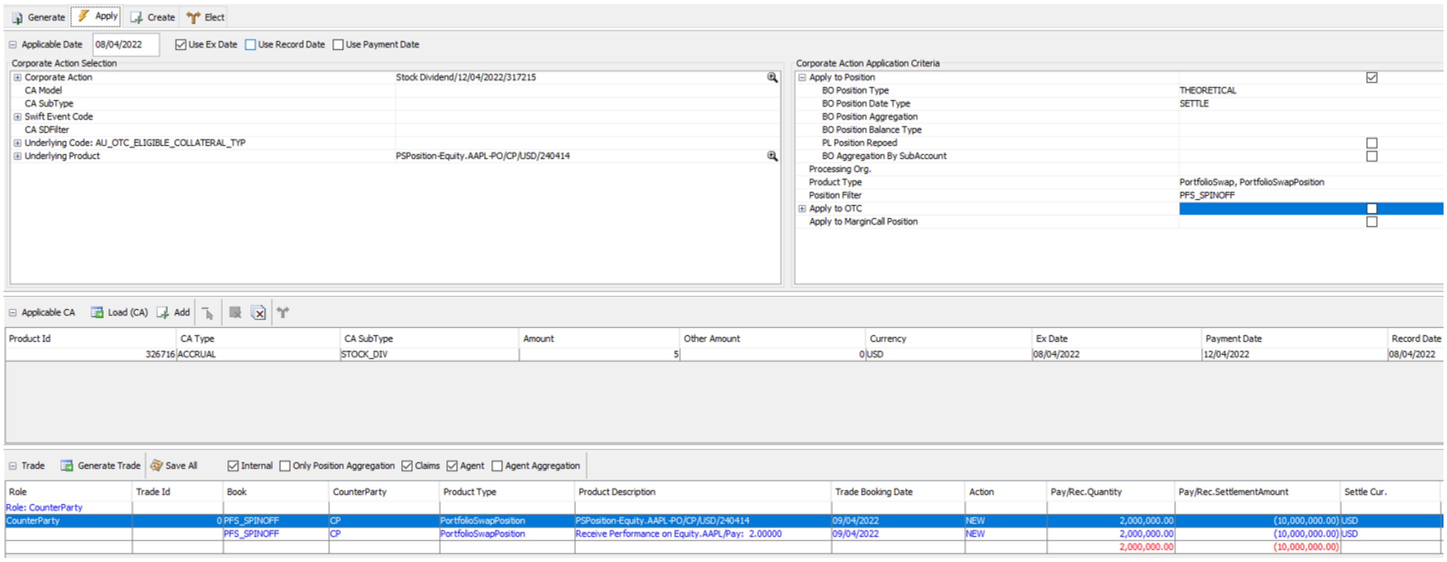


Step 2 - Generate the corresponding PortfolioSwapPosition CA.

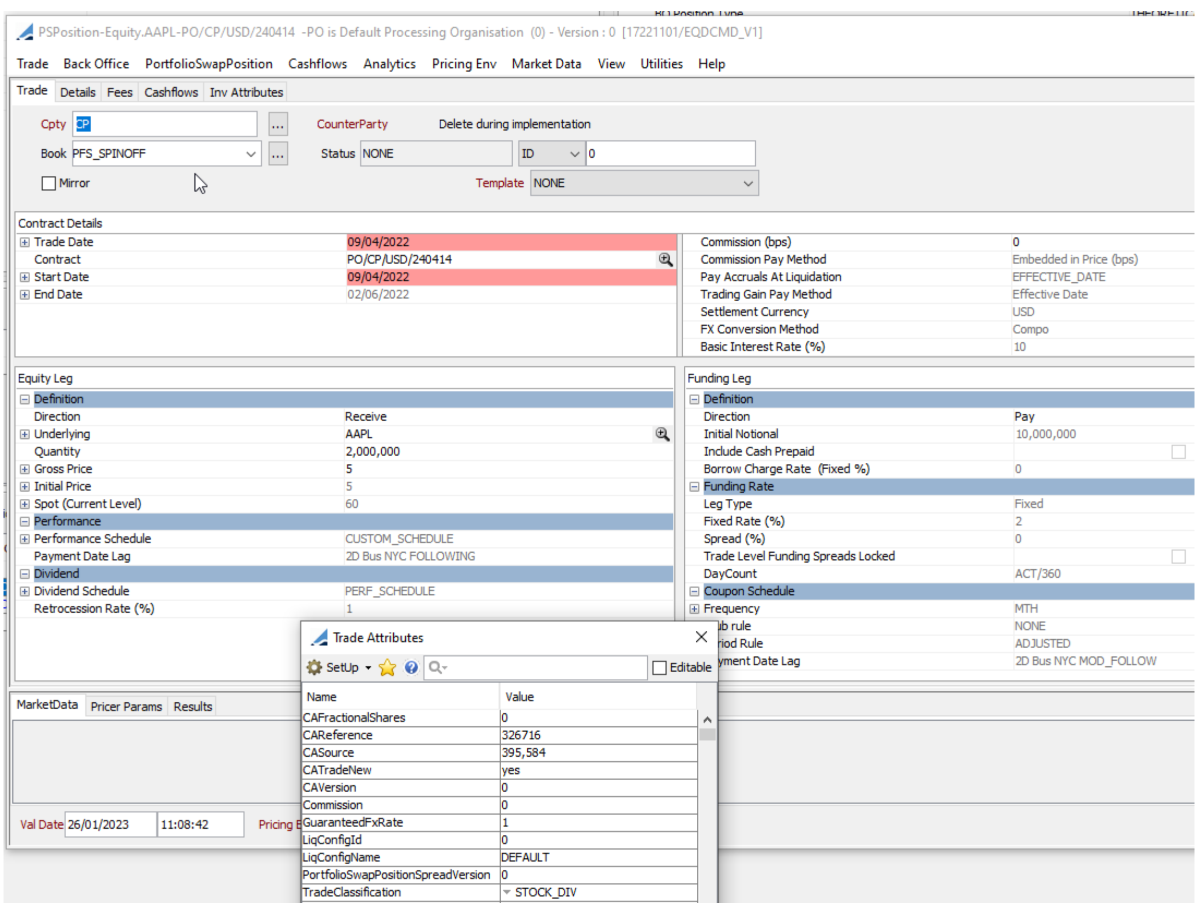
The corporate actions are created using the Generate tab in the Corporate Action window for the PortfolioSwapPosition product.



Step 3 - Then apply the corporate actions from the Apply tab.



It creates a new PortfolioSwapPosition trade.

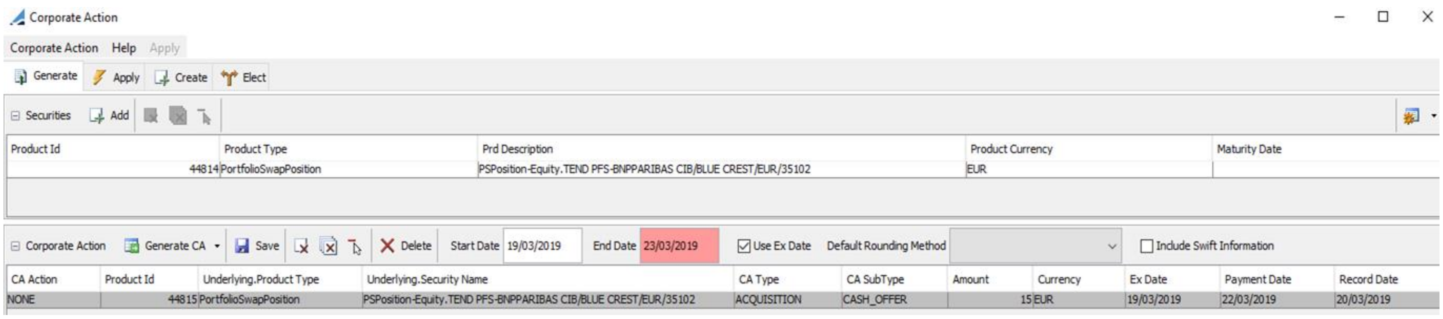


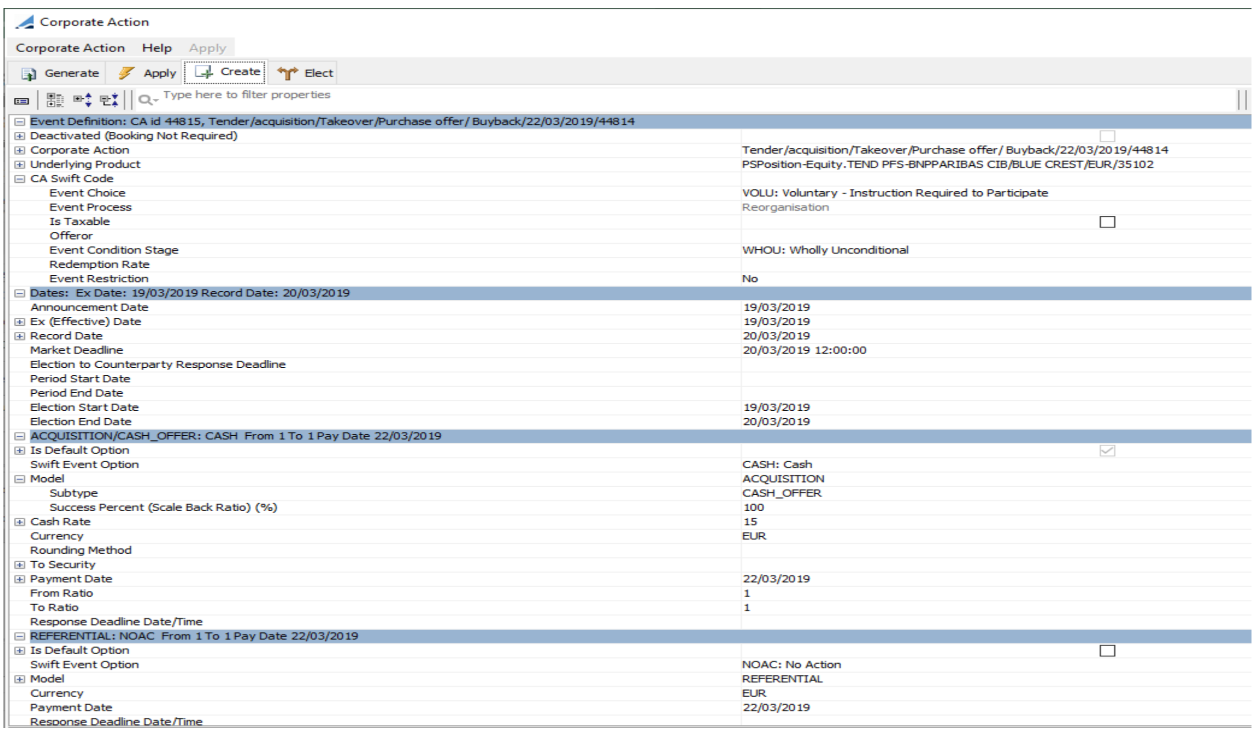
2.2 ACQUISITION.CASH_OFFER and ACQUISITION.STOCK_OFFER

The PortfolioSwapPosition CAs are based on the underlying CAs.

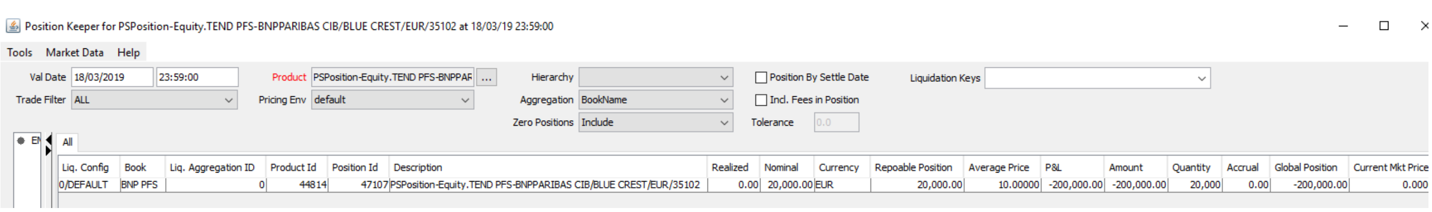
2.2.1 CASH_OFFER

Generating the CA event TEND (tender offer) on PortfolioSwapPosition based on underlying equity CA:

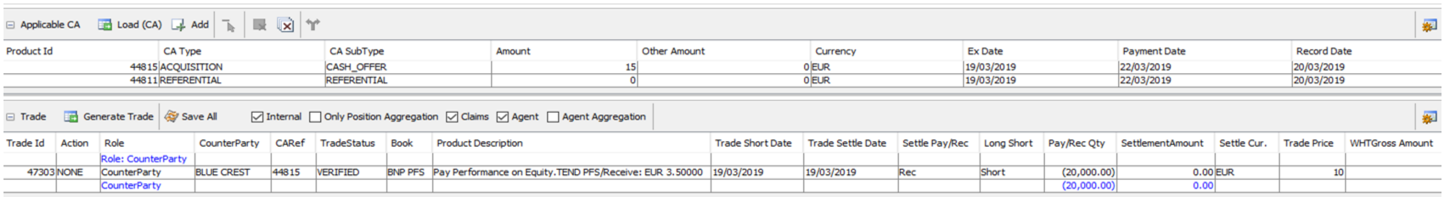




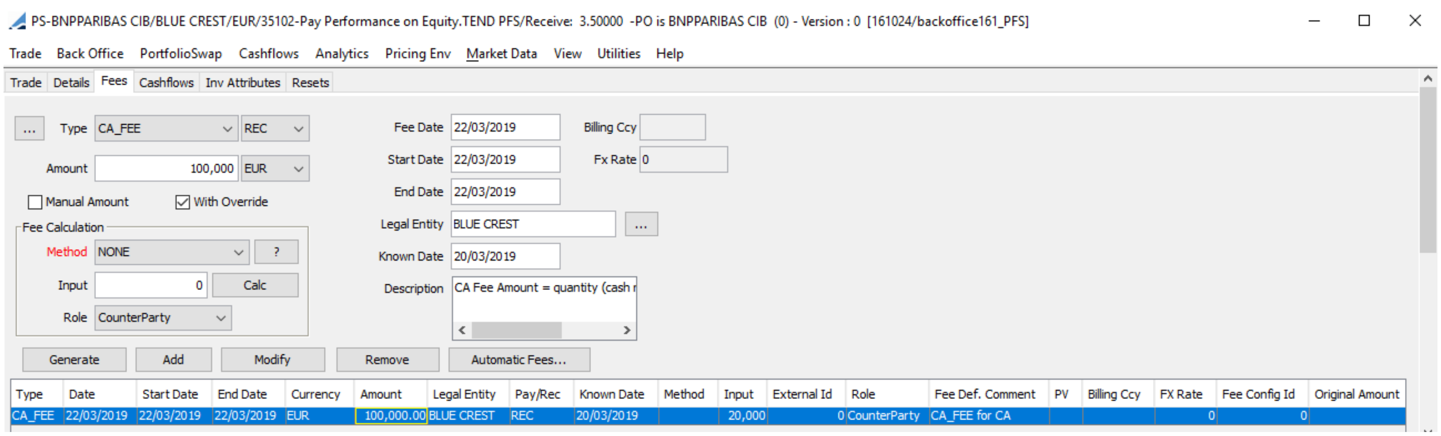
P&L position at XD-1 EOD:

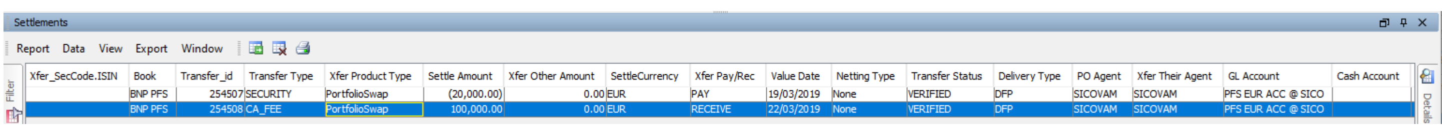


Applying the Default option CASH:



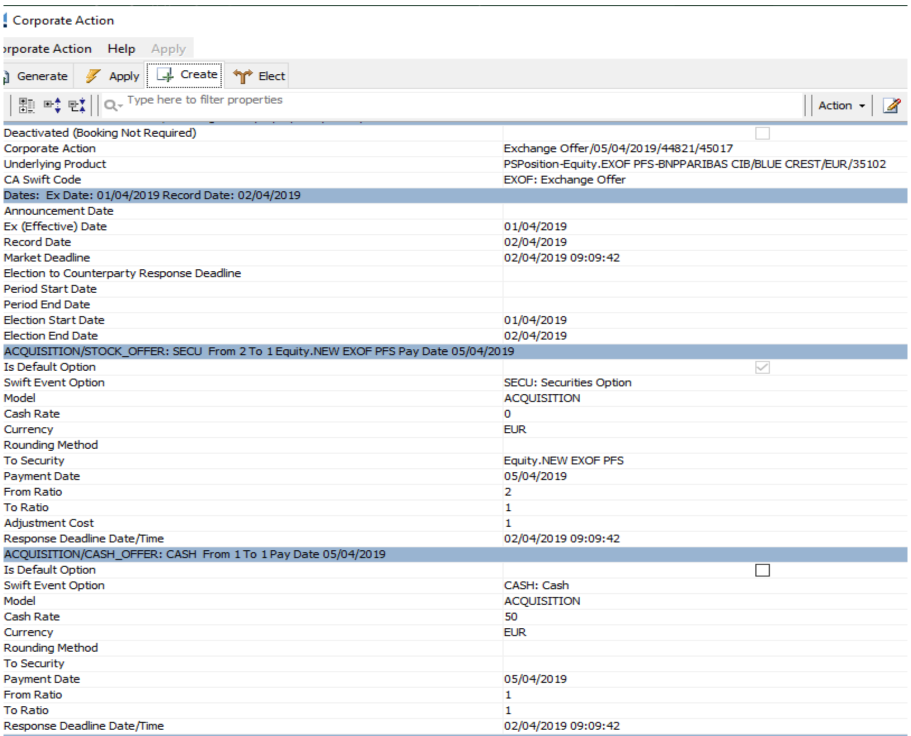
Closing position on PFS against CA_FEE calculated as (Average Price – CA product cash rate) * Position



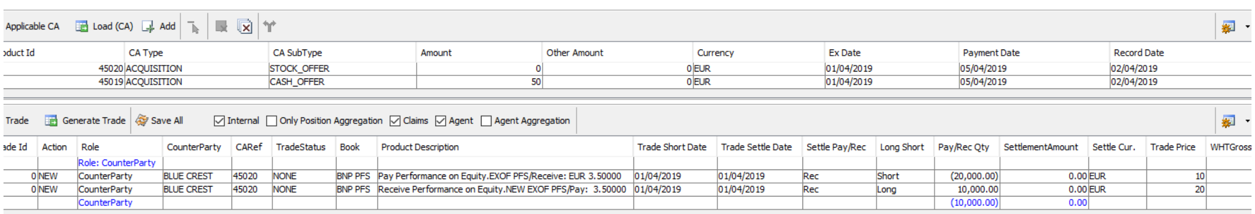


2.2.2 STOCK_OFFER

Generating the CA event on PortfolioSwapPosition based on underlying equity CA:



Applying the option SECU:



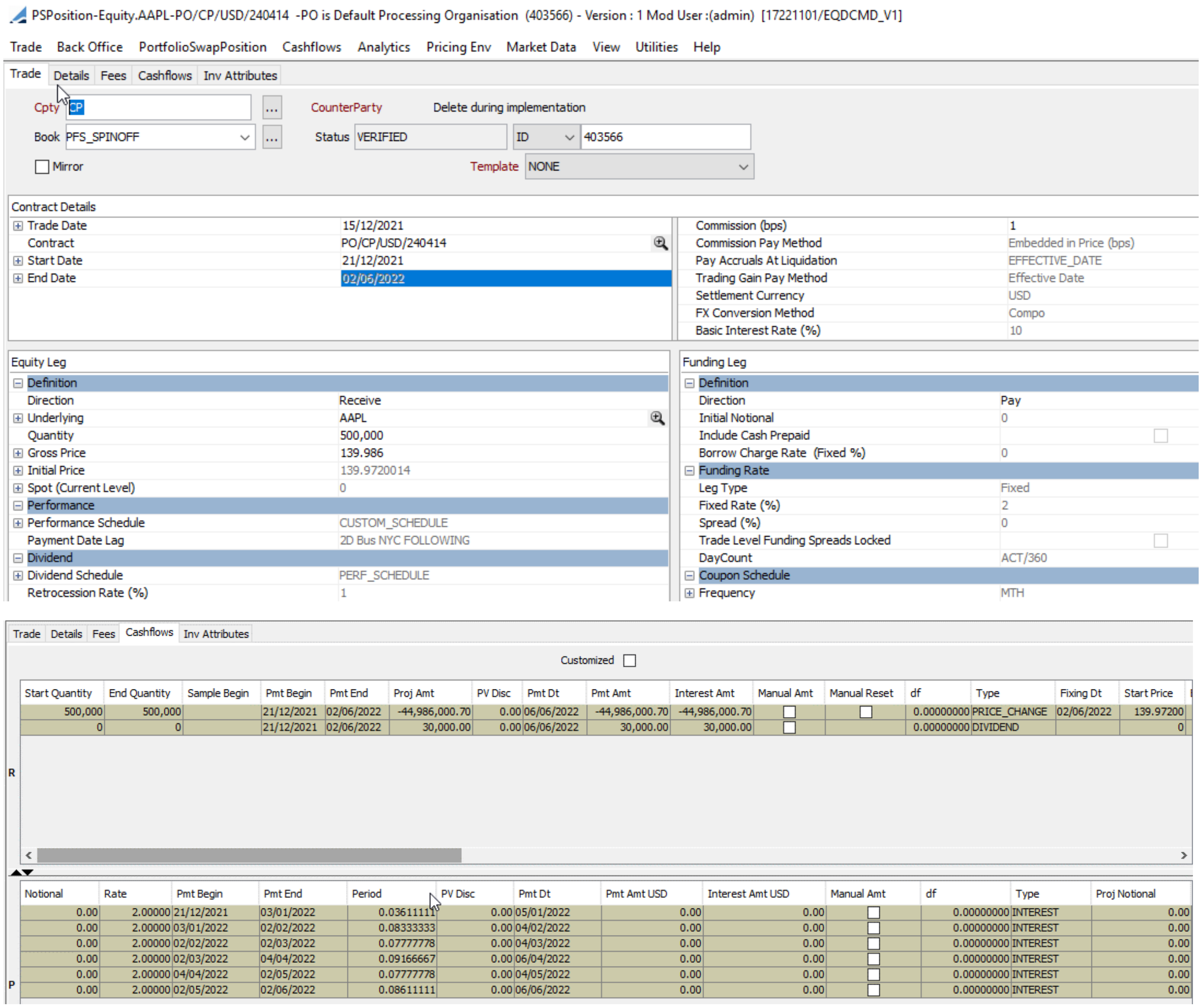
Where the CA trades are created for:

- Closing PFS position at original price
- Opening PFS position on 'to product' PFS NEW EXOF PFS using from/to ratio 2 for 1 and cash rate to determine the price. (10 - 8) * (20000/10000) = 4

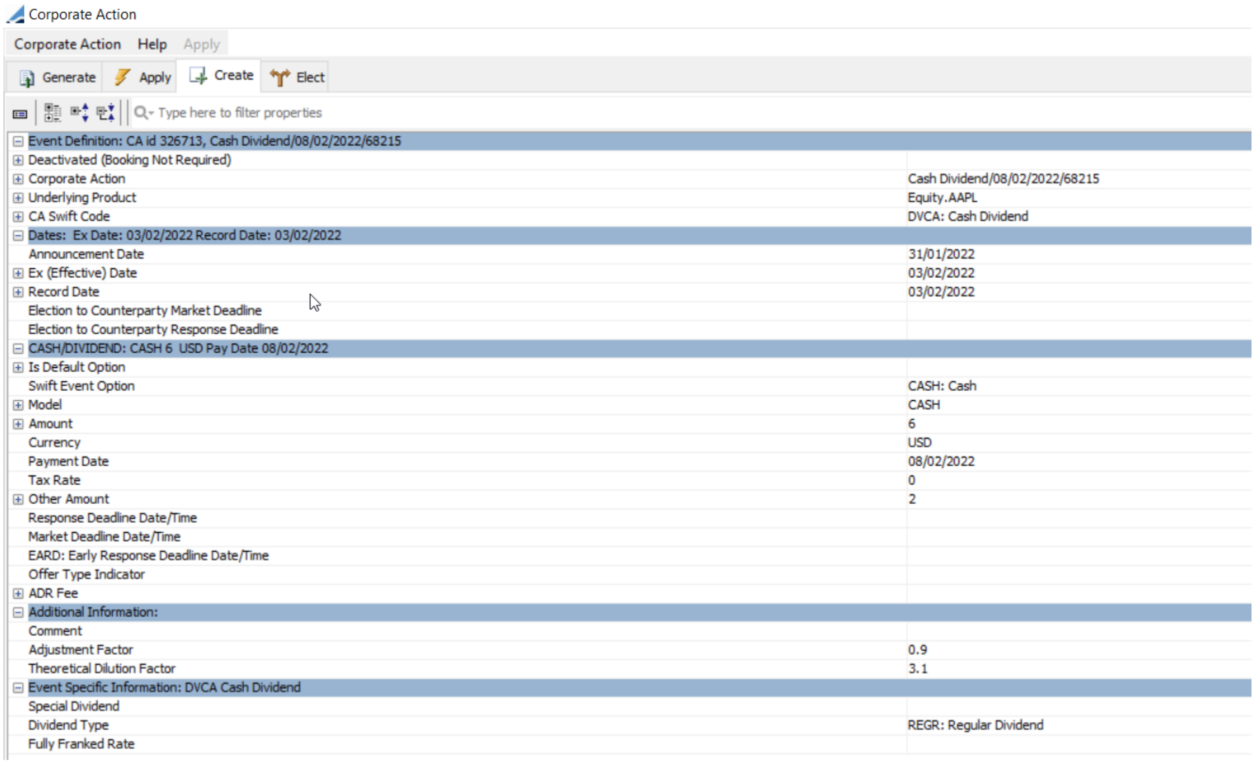
2.3 CASH.DIVIDEND

The PortfolioSwapPosition CAs are based on the underlying CAs.

Sample trade:



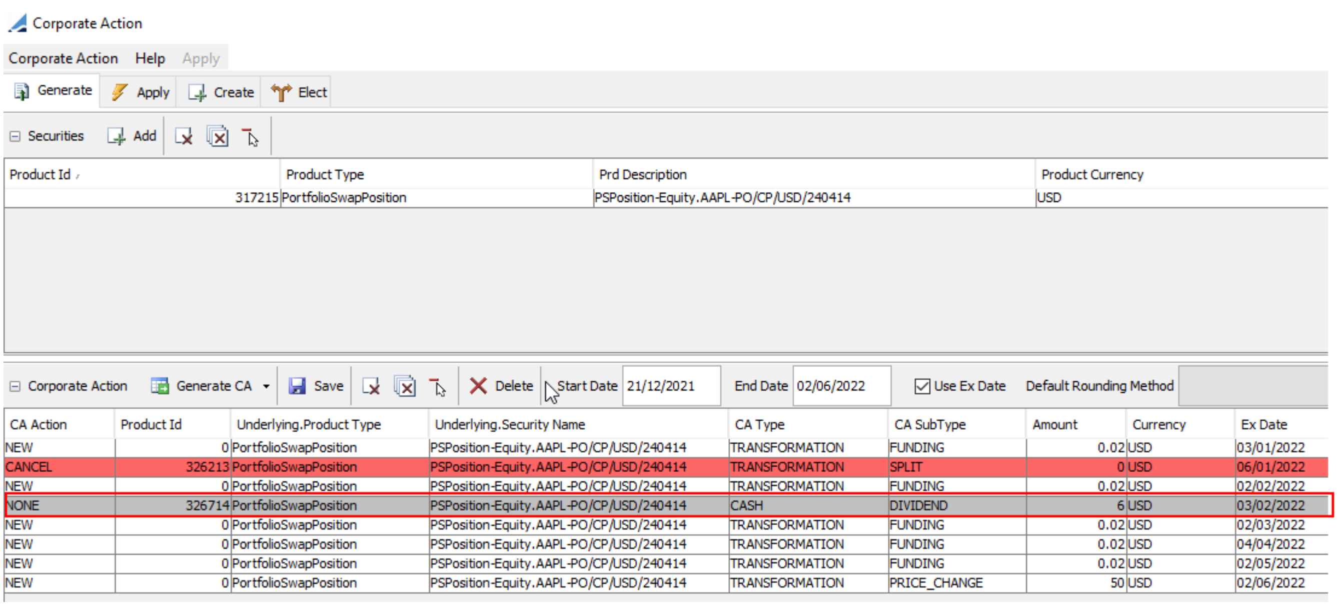
Step 1 - Create / generate the underlying Equity CA.


Corporate Action
Corporate Action Help Apply
Generate Apply Create Elect
Type here to filter properties

Event Definition: CA id 326713, Cash Dividend/08/02/2022/68215	
Deactivated (Booking Not Required)	
Corporate Action	Cash Dividend/08/02/2022/68215
Underlying Product	Equity.AAPL
CA Swift Code	DVCA: Cash Dividend
Dates: Ex Date: 03/02/2022 Record Date: 03/02/2022	
Announcement Date	31/01/2022
Ex (Effective) Date	03/02/2022
Record Date	03/02/2022
Election to Counterparty Market Deadline	
Election to Counterparty Response Deadline	
CASH/DIVIDEND: CASH 6 USD Pay Date 08/02/2022	
Is Default Option	
Swift Event Option	CASH: Cash
Model	CASH
Amount	6
Currency	USD
Payment Date	08/02/2022
Tax Rate	0
Other Amount	2
Response Deadline Date/Time	
Market Deadline Date/Time	
EARD: Early Response Deadline Date/Time	
Offer Type Indicator	
ADR Fee	
Additional Information:	
Comment	
Adjustment Factor	0.9
Theoretical Dilution Factor	3.1
Event Specific Information: DVCA Cash Dividend	
Special Dividend	
Dividend Type	REGR: Regular Dividend
Fully Franked Rate	

Step 2 - Generate the corresponding PortfolioSwapPosition CA.

The corporate actions are created using the Generate tab in the Corporate Action window for the PortfolioSwapPosition product.

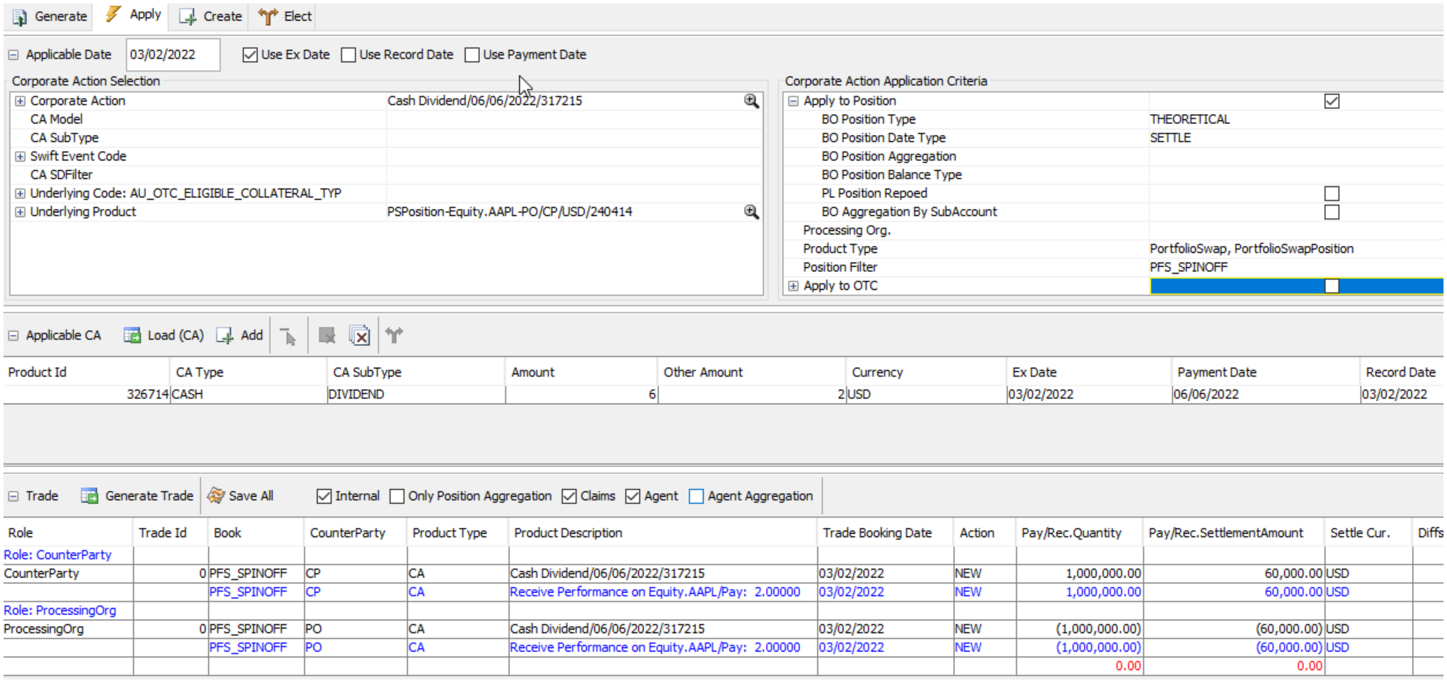

Corporate Action
Corporate Action Help Apply
Generate Apply Create Elect
Securities Add

Product Id	Product Type	Prd Description	Product Currency
317215	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	USD

Corporate Action Generate CA Save Delete Start Date 21/12/2021 End Date 02/06/2022 Use Ex Date Default Rounding Method

CA Action	Product Id	Underlying.Product Type	Underlying.Security Name	CA Type	CA SubType	Amount	Currency	Ex Date
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	FUNDING	0.02	USD	03/01/2022
CANCEL	326213	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	SPLIT	0	USD	06/01/2022
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	FUNDING	0.02	USD	02/02/2022
NONE	326714	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	CASH	DIVIDEND	6	USD	03/02/2022
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	FUNDING	0.02	USD	02/03/2022
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	FUNDING	0.02	USD	04/04/2022
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	FUNDING	0.02	USD	02/05/2022
NEW	0	PortfolioSwapPosition	PSPosition-Equity.AAPL-PO/CP/USD/240414	TRANSFORMATION	PRICE_CHANGE	50	USD	02/06/2022

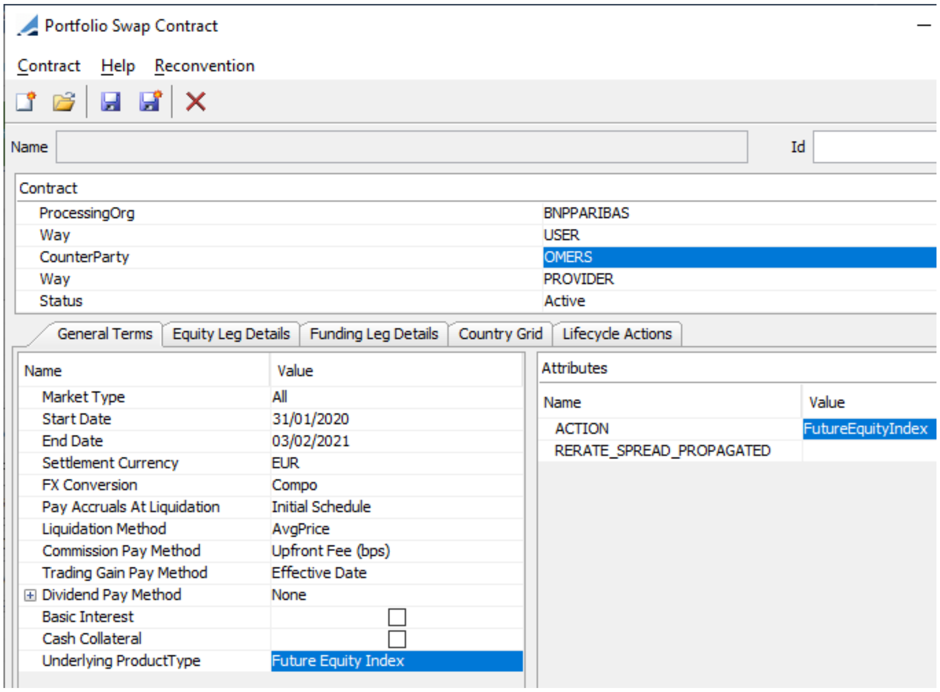
Step 3 - Then apply the corporate actions from the Apply tab.



2.4 EXPIRY.EXPIRY

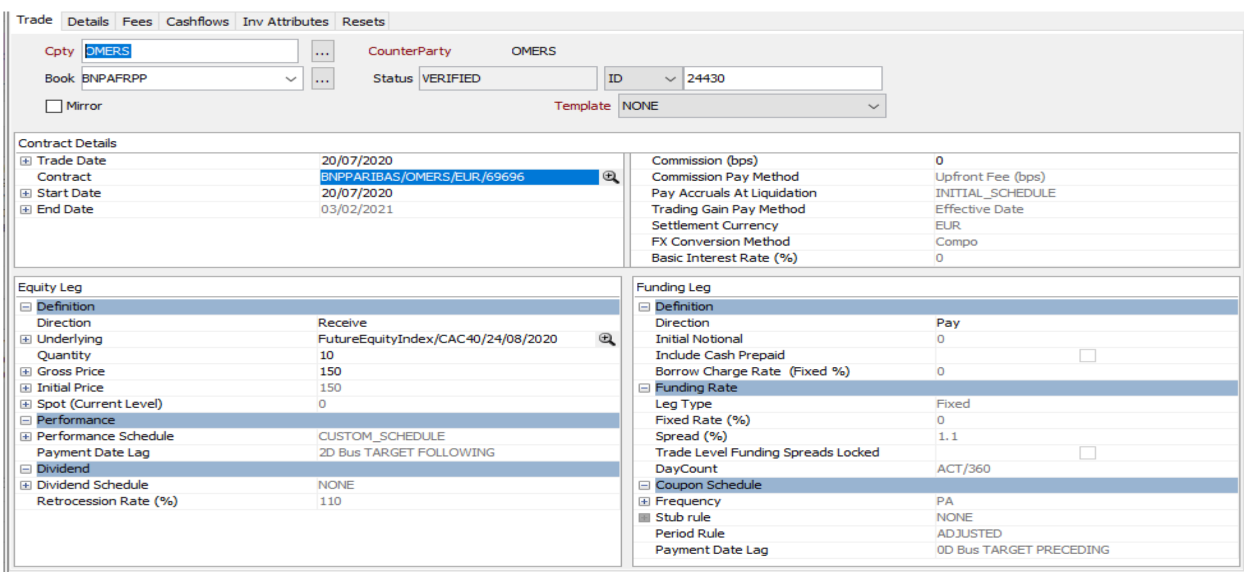
For PortfolioPositionSwap trades on Future Equity Index, when the Future Equity Index expires before the PFS Contract, a CA event EXPIRY is generated and processed to close the PFS Position on that Future contract.

PFS Contract definition:

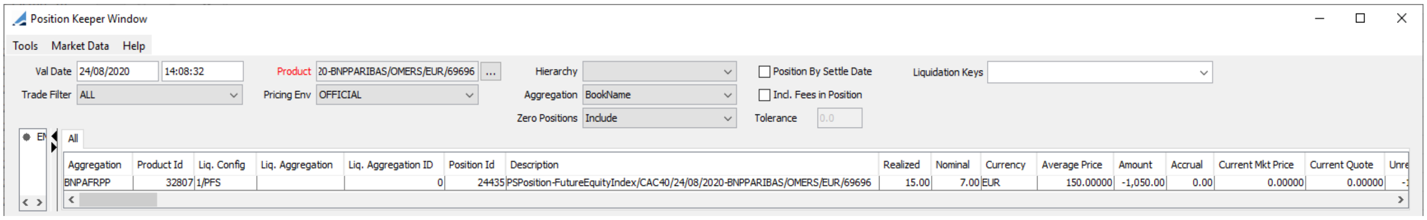


Note that PFS contract on Future Equity Index has a funding leg defined with 0%

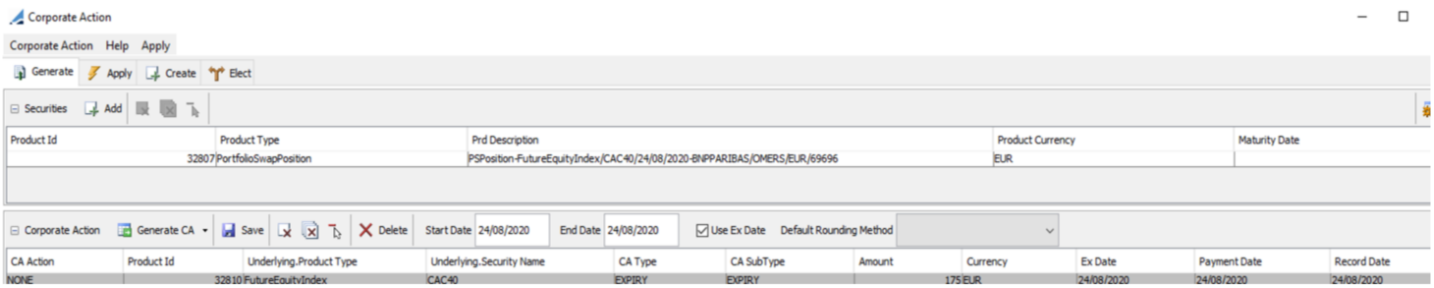
PFS Trade using Future Equity Index - Expiration date 24/08/2020:

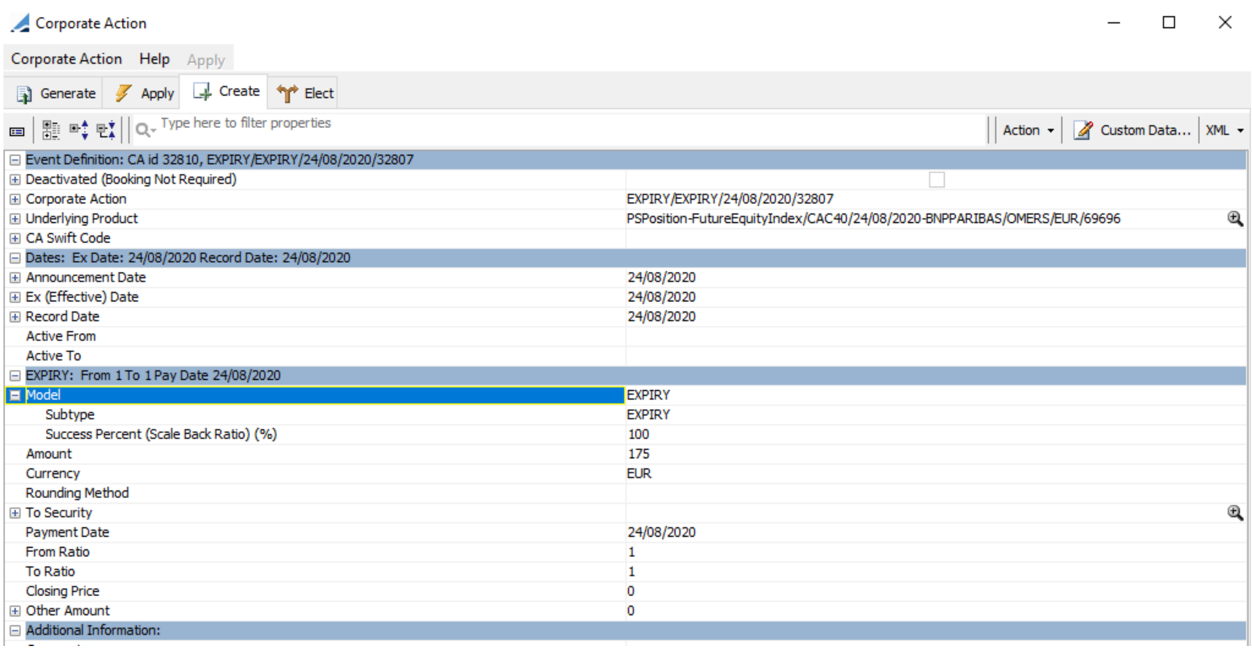


P&L PFS position at expiration date



Generation of Corporate Action at Future Equity Index expiry date 24/08/2020 using market price at expiry date:





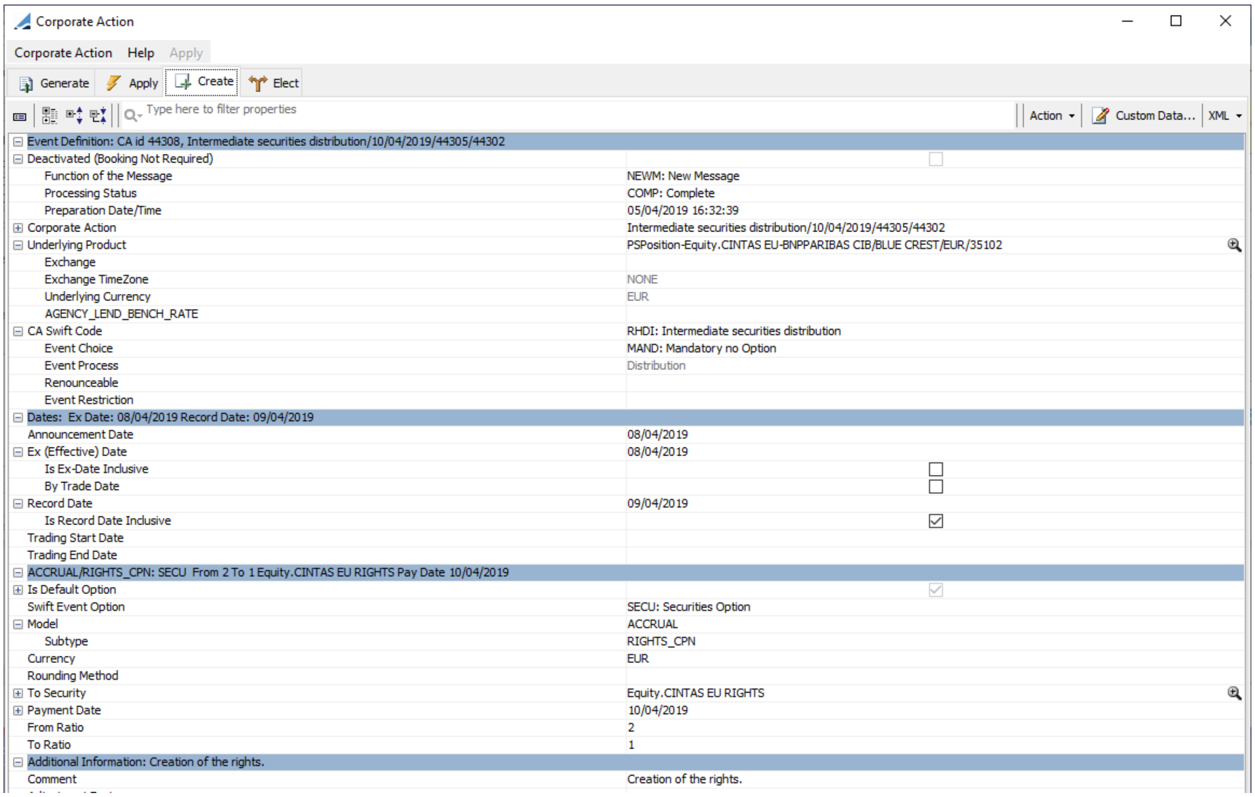
Applying the CA event creates the following outcomes:

Closing the PFS Position on Future Equity Index at market price and generating realized P&L on the CA trade against counterparty.

2.5 MERGER.RIGHTS_CALL

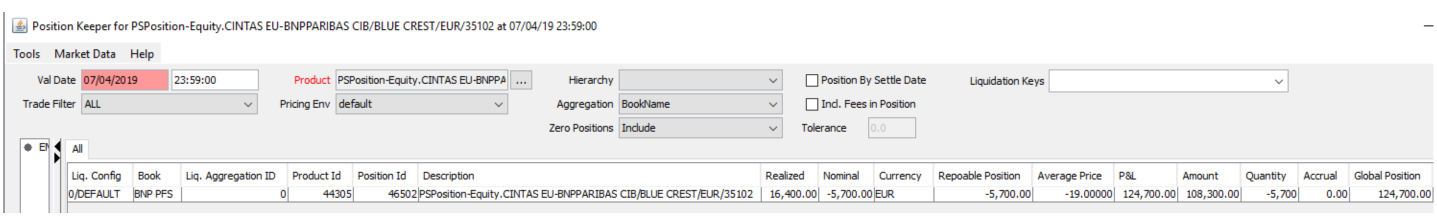
The PortfolioSwapPosition CAs are based on the underlying CAs.

Generating the CA event on PortfolioSwapPosition based on underlying equity CA:

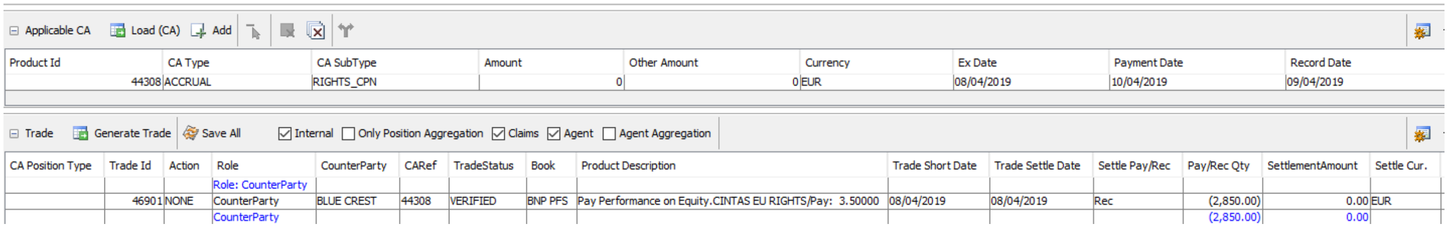


"To Security" - It is the application of the CA event that will create the PortfolioSwapPosition on Equity.CINTAS EU RIGHTS. In this field, we keep the 'To product' on the underlying equity.

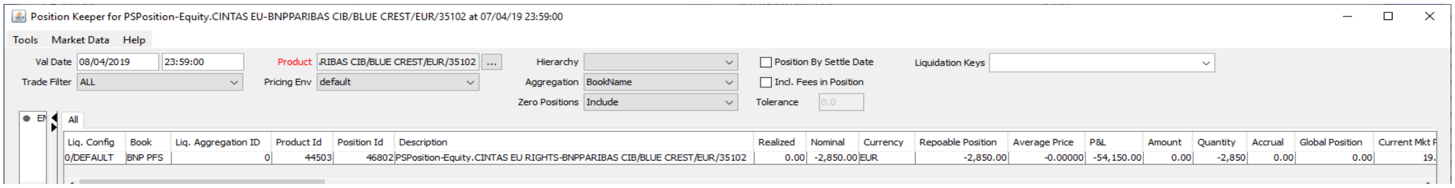
P&L and Inventory PFS position before applying the CA event:

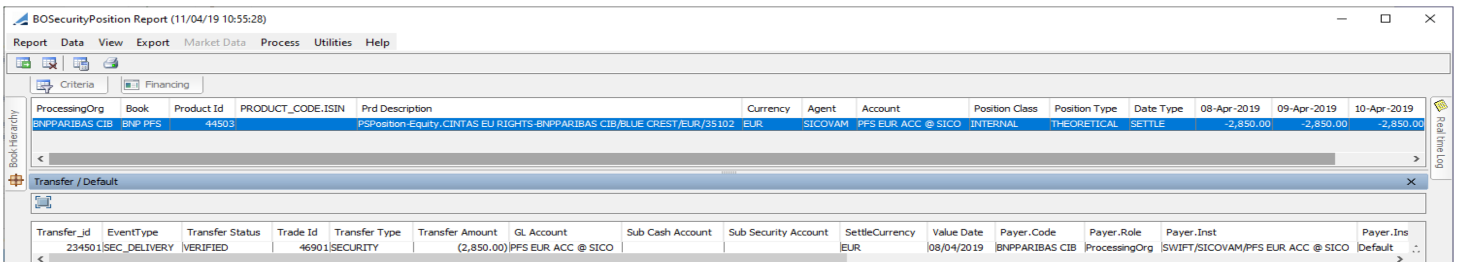


Application of the CA event:

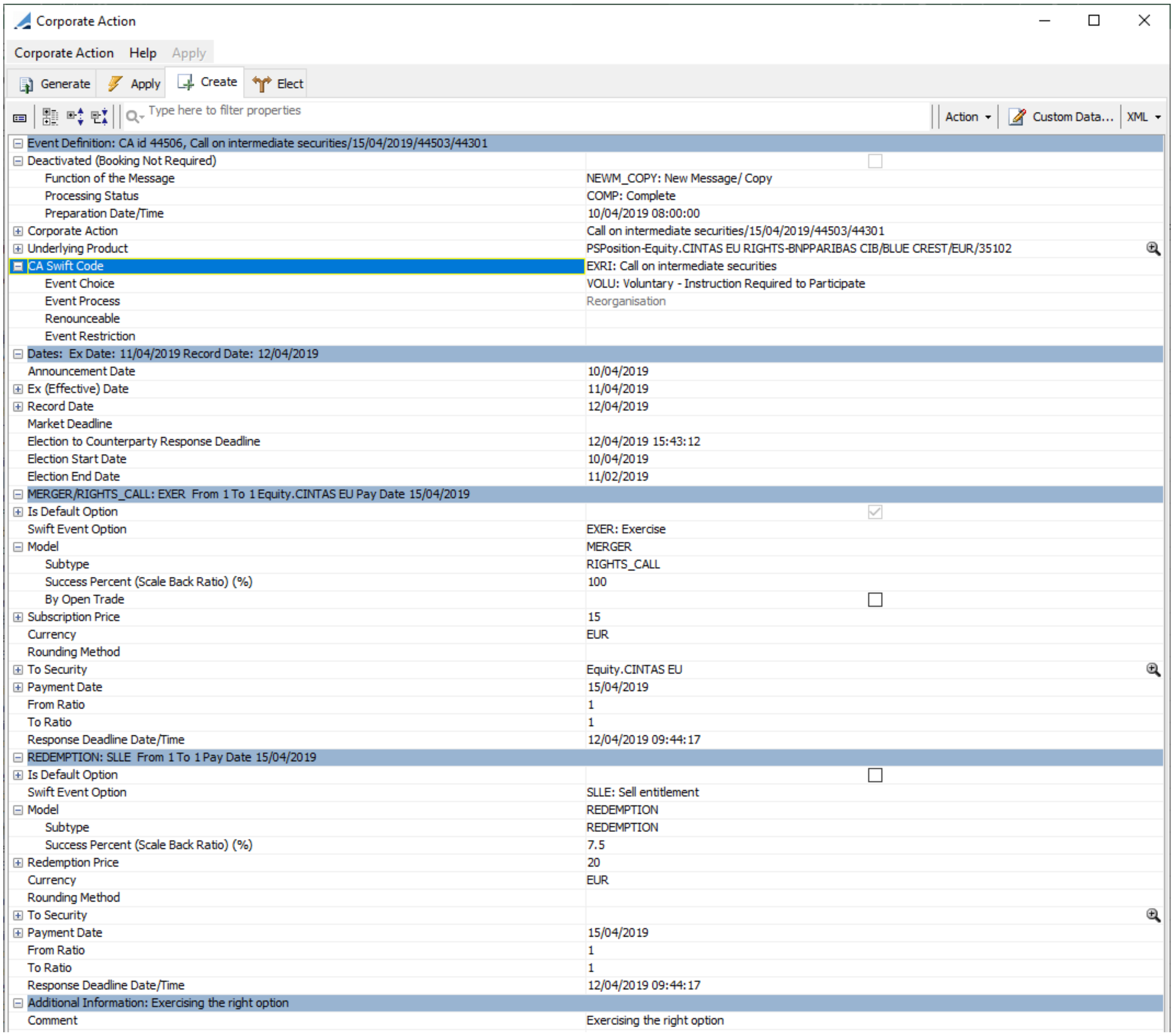


which creates a P&L position & inventory on product type = PortfolioSwapPosition.CINTAS EU RIGHTS:

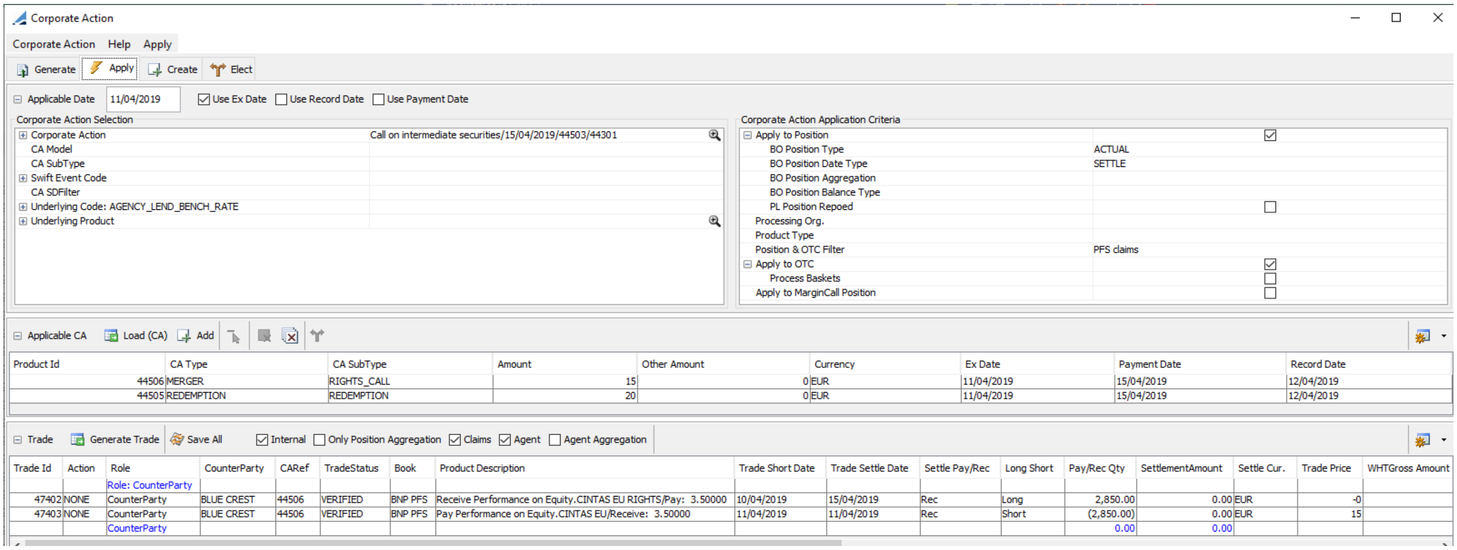




Generate CA event EXRI for exercising the rights on underlying equity:

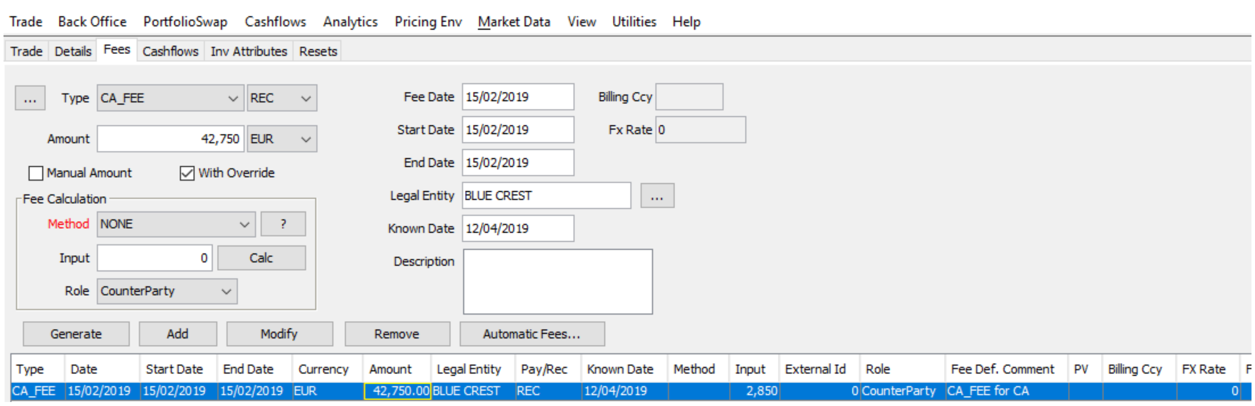


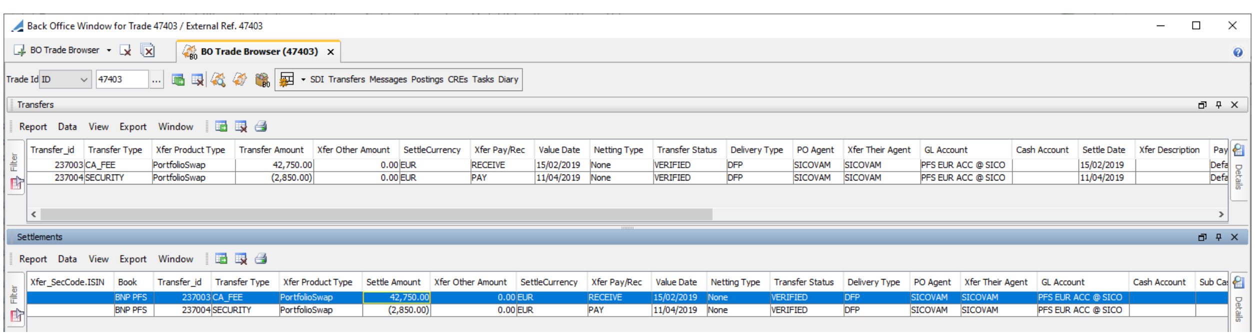
Application of the CA event option EXER:



Where:

- closing the short position I had on rights
- adding the rights on the short position of underlying PFS equity CINTAS EU
- attached the CA_FEE for the settlement of the rights



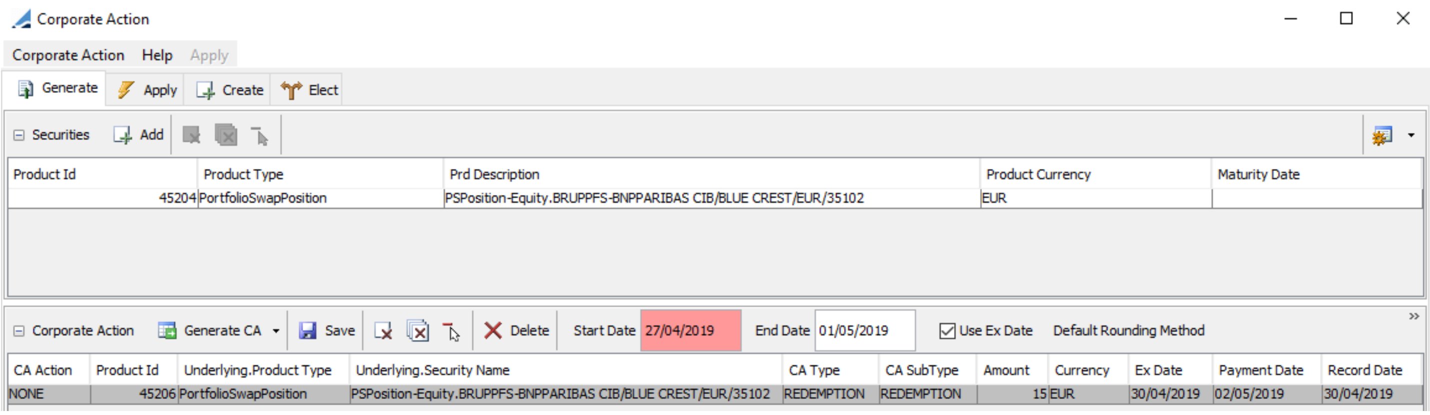


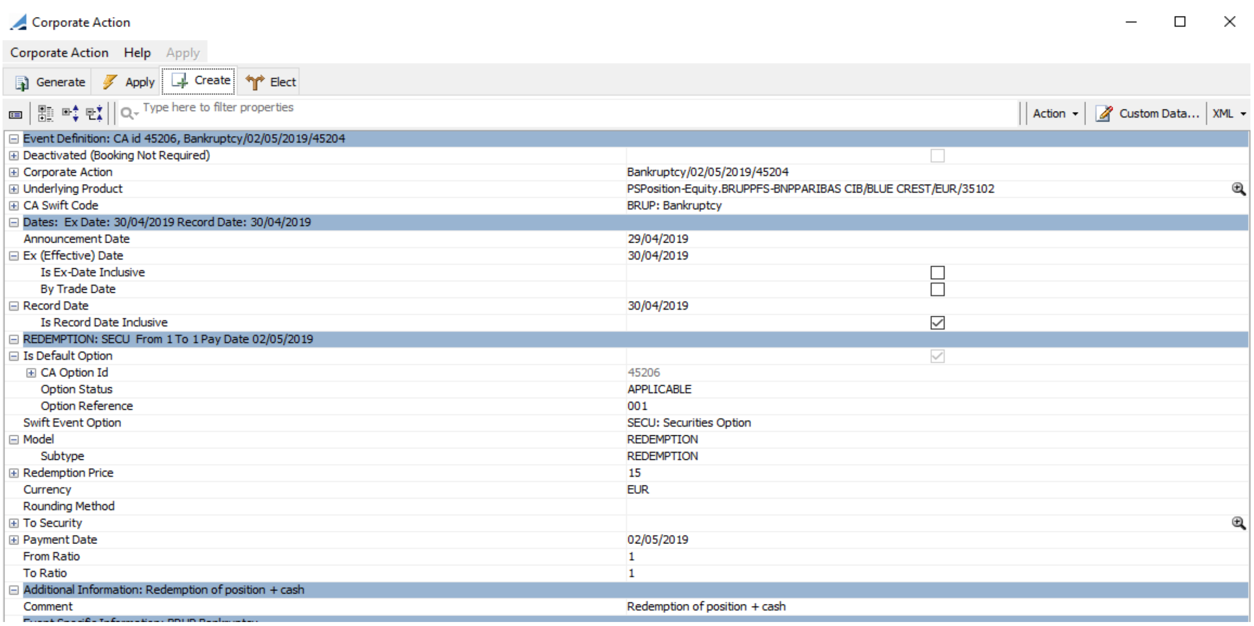
You can use the corporate action of type MERGER/MERGER with CHAN CA Swift Code to change the ISIN code of a Portfolio Swap position. When applied, the position is closed and a new position is opened with a new underlying (CA.ToProduct).

2.6 REDEMPTION.REDEMPTION

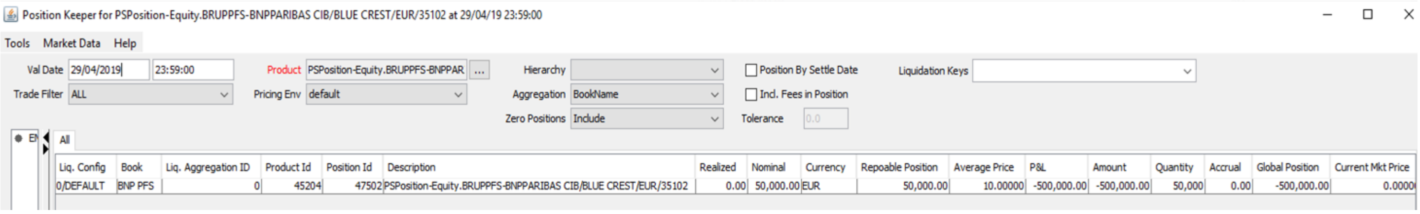
The PortfolioSwapPosition CAs are based on the underlying CAs.

Generating the CA event on PortfolioSwapPosition based on underlying equity CA:

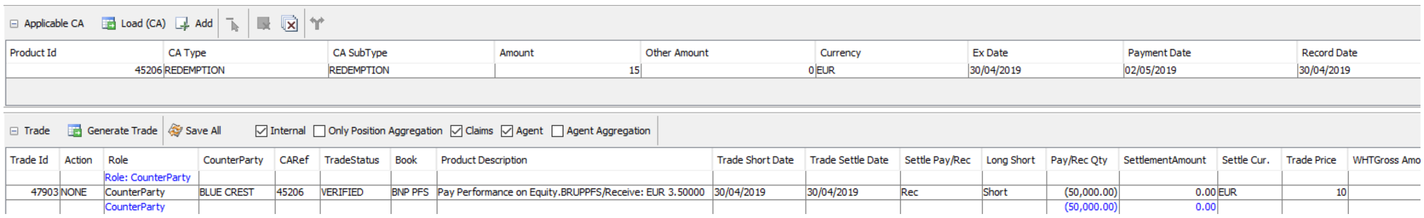


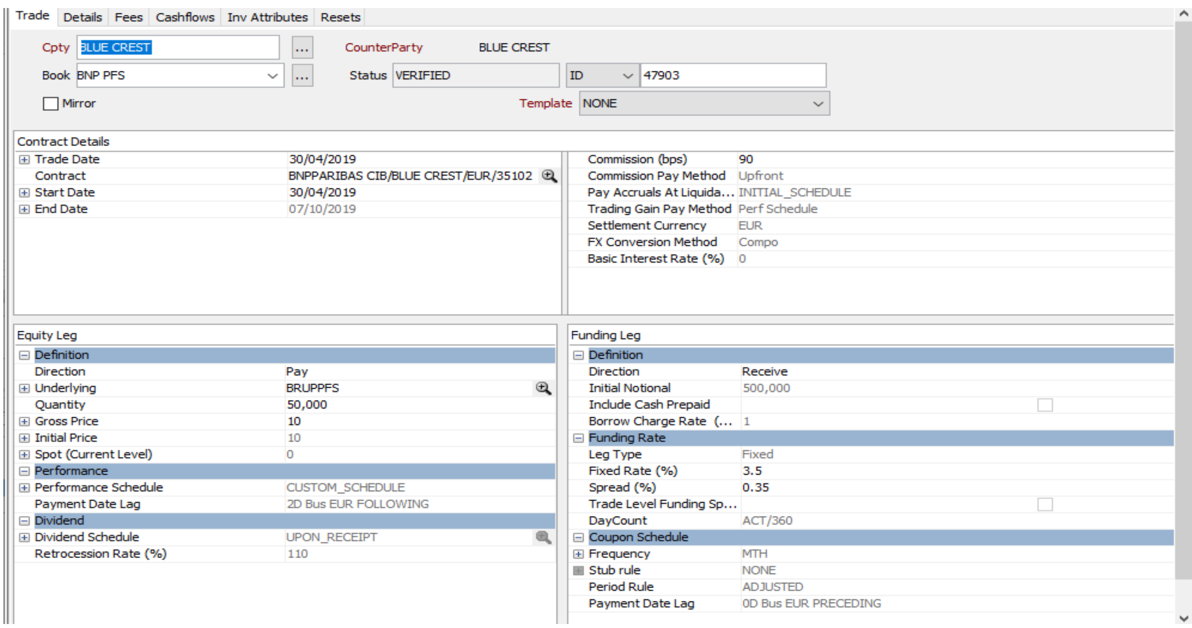


P&L position:

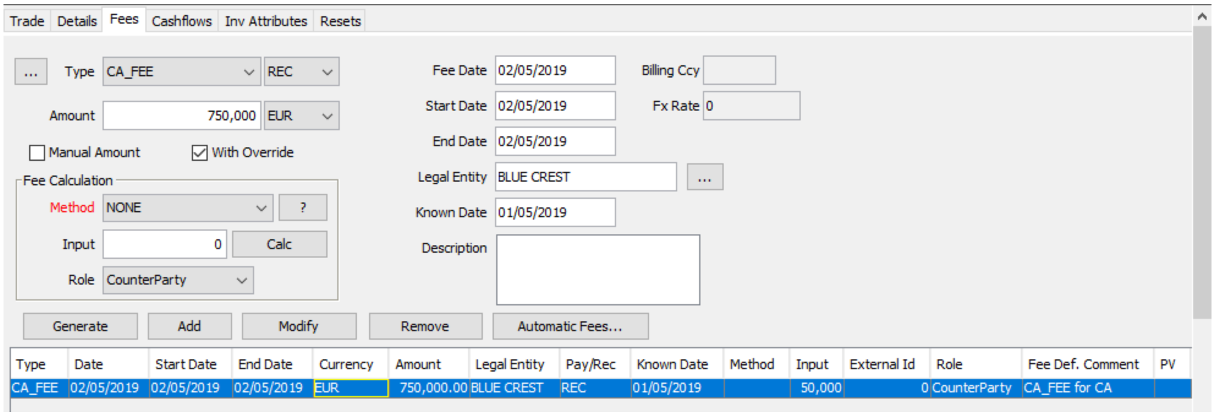


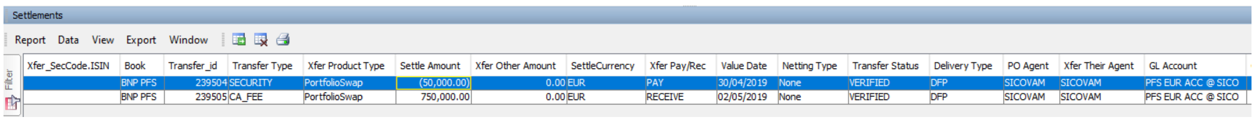
Application of the CA event:





Closing PFS position following the Bankruptcy event against payment materialized by CA_FEE.





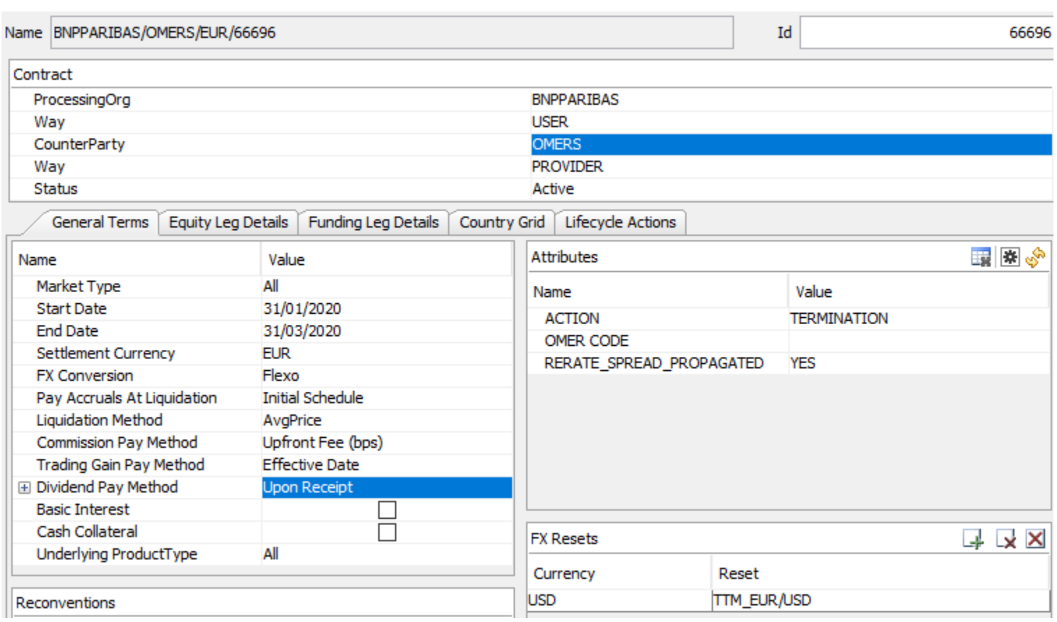
2.7 REDEMPTION.TERMINATION

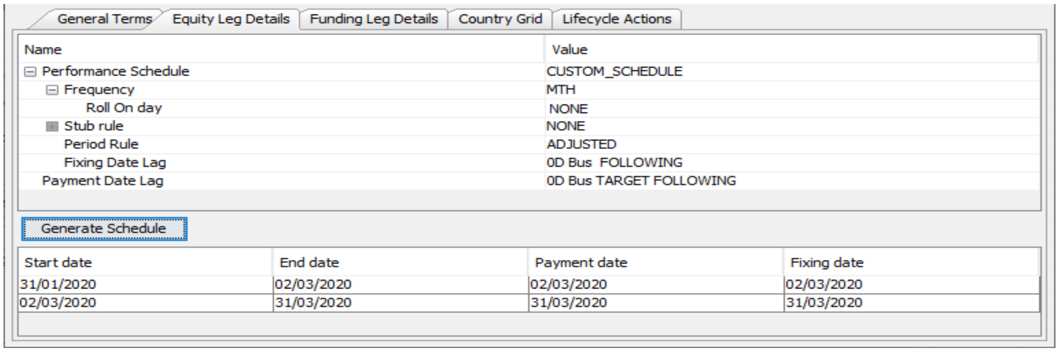
The PortfolioSwapPosition CAs are based on the Portfolio Swap Contract.

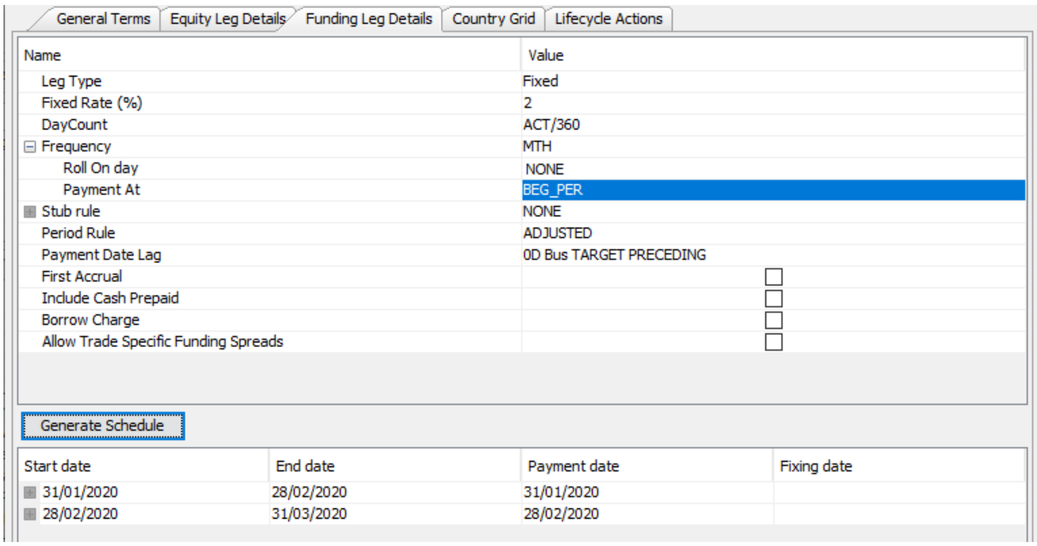
You can terminate a PFS Contract before its maturity date. This Termination information is set in the PFS contract lifecycle actions.

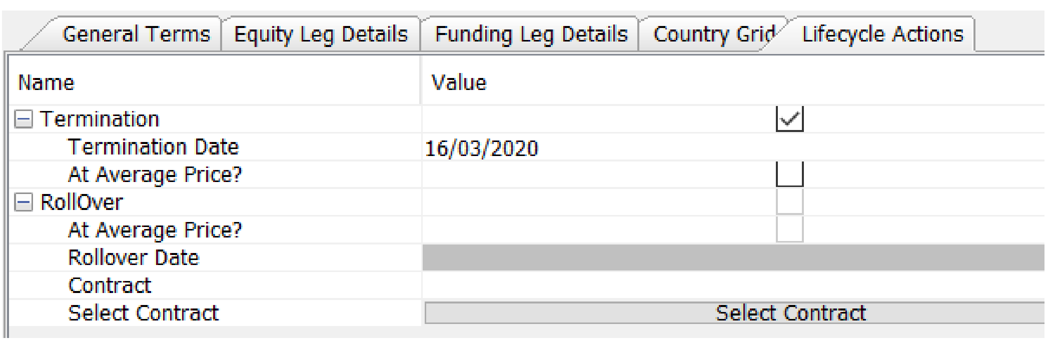
This triggers at termination date a CA event REDEMPTION.TERMINATION to close the PFS position at market price / average price (depending on "At Average Price?" checkbox on the contract) at termination date.

PFS Contract

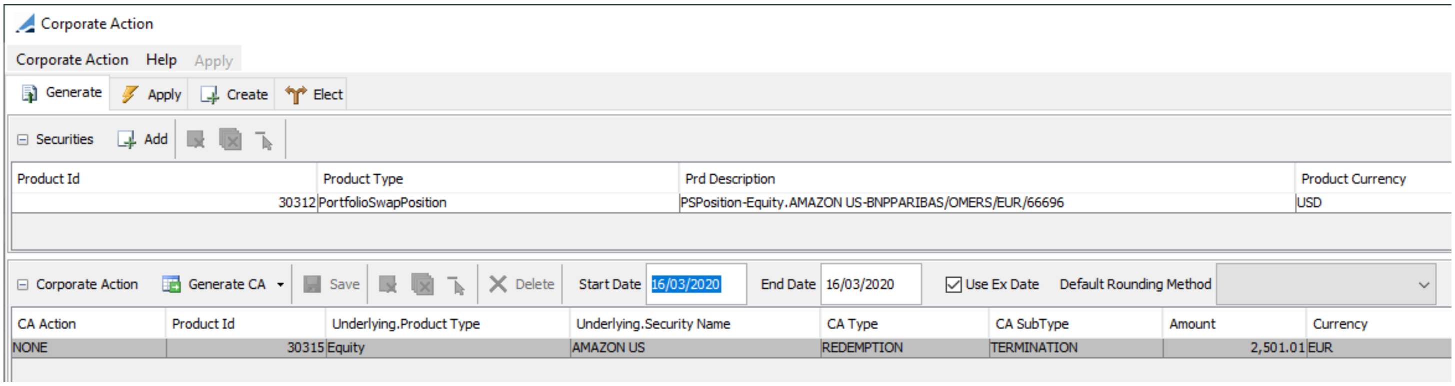


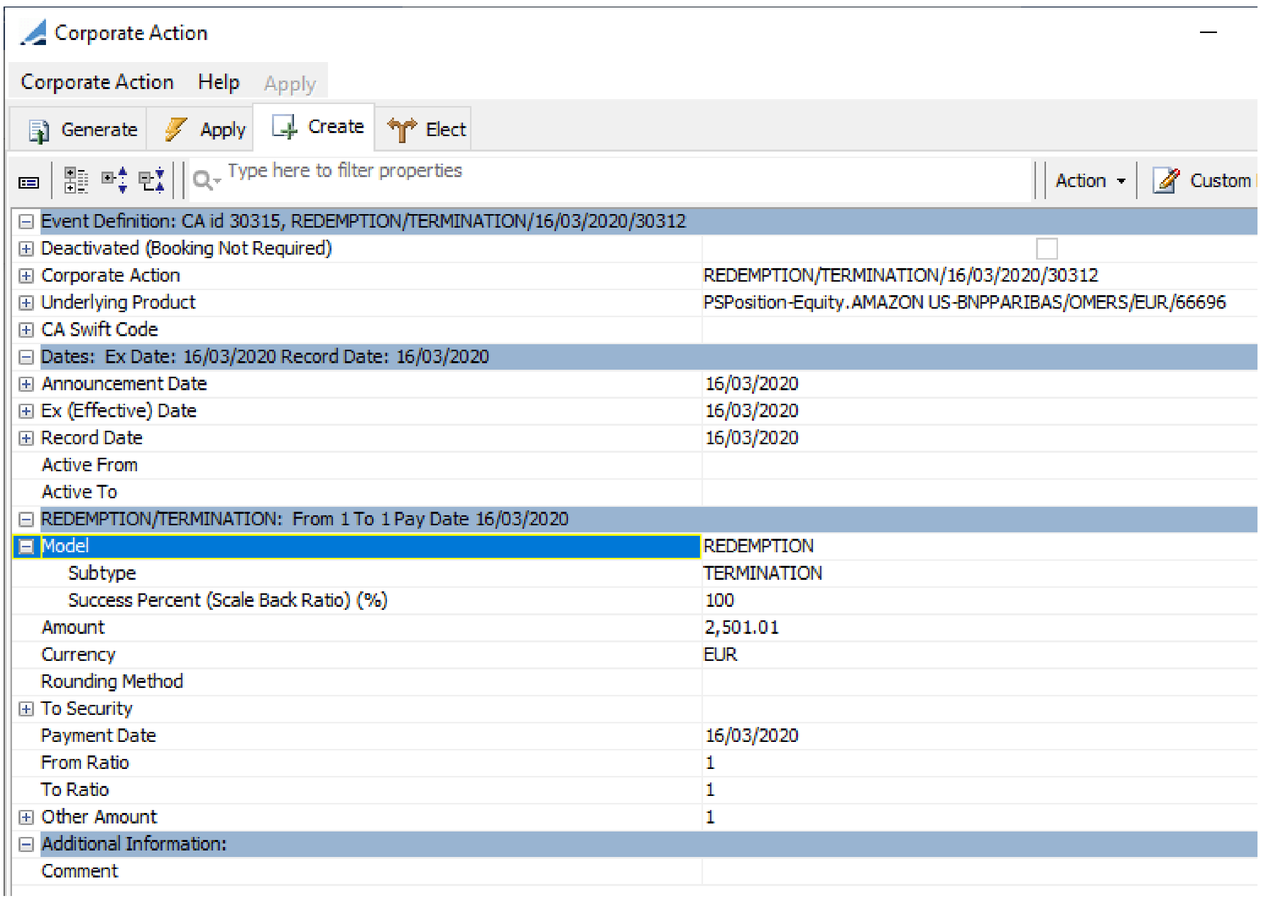

General Terms
Equity Leg Details
Funding Leg Details
Country Grid
Lifecycle Actions
Name
Value
Performance Schedule
CUSTOM_SCHEDULE
Frequency
MTH
Roll On day
NONE
Stub rule
NONE
Period Rule
ADJUSTED
Fixing Date Lag
0D Bus FOLLOWING
Payment Date Lag
0D Bus TARGET FOLLOWING
Generate Schedule
Start date
End date
Payment date
Fixing date
31/01/2020
02/03/2020
02/03/2020
02/03/2020
02/03/2020
31/03/2020
31/03/2020
31/03/2020


General Terms
Equity Leg Details
Funding Leg Details
Country Grid
Lifecycle Actions
Name
Value
Leg Type
Fixed
Fixed Rate (%)
2
DayCount
ACT/360
Frequency
MTH
Roll On day
NONE
Payment At
BEG_PER
Stub rule
NONE
Period Rule
ADJUSTED
Payment Date Lag
0D Bus TARGET PRECEDING
First Accrual
Include Cash Prepaid
Borrow Charge
Allow Trade Specific Funding Spreads
Generate Schedule
Start date
End date
Payment date
Fixing date
31/01/2020
28/02/2020
31/01/2020
28/02/2020
31/03/2020
28/02/2020


General Terms
Equity Leg Details
Funding Leg Details
Country Grid
Lifecycle Actions
Name
Value
Termination
Termination Date
16/03/2020
At Average Price?
RollOver
At Average Price?
Rollover Date
Contract
Select Contract
Select Contract

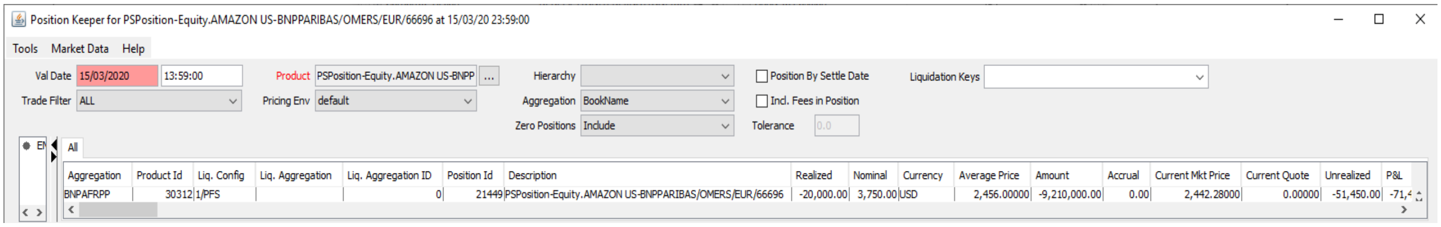
Generation of the CA event at redemption date:



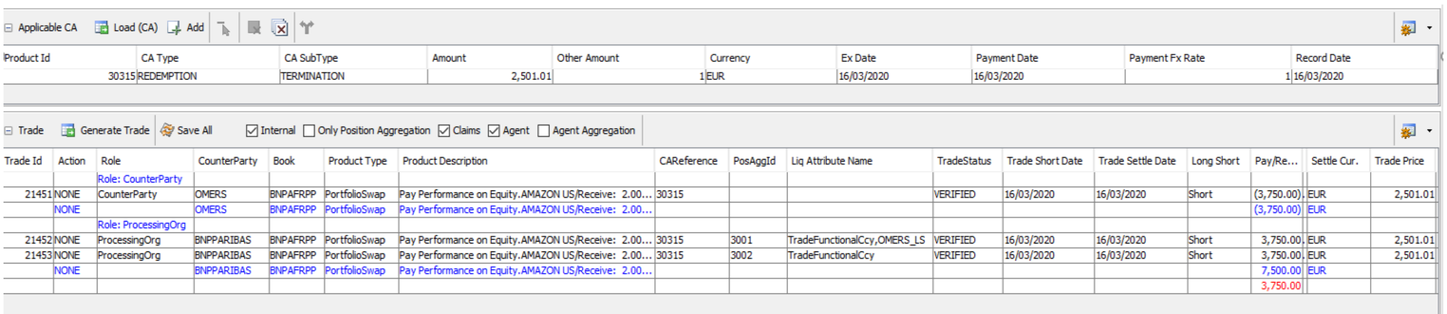


Where the CA product is created using the closing price = market price ("At Average Price?" checkbox not checked the contract).

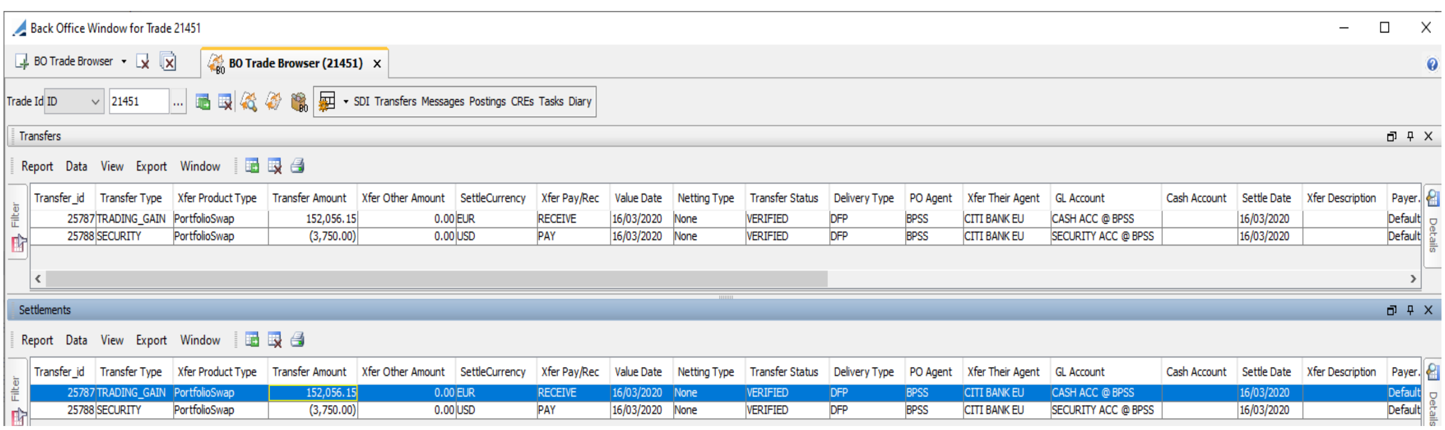
P&L Position before applying the CA event:



Generation of the CA gives the following CA outcome: Closing the PFS Position on termination date at market price ("At Average Price?" not checked on the contract) and generating realized on the CA trade against counterparty.

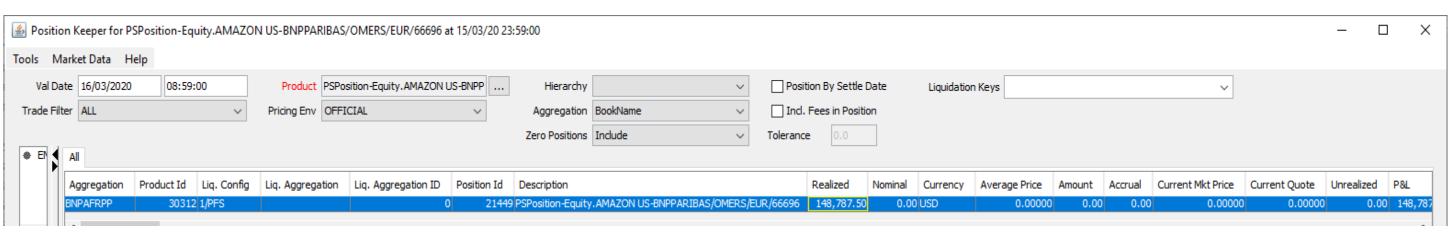


Where the P&L is expressed in the transfer TRADING_GAIN:



where trading gain is calculated is follows: (2456 - 2501.01) *3,750 at xfer value date = 20,000 * 0.90087331

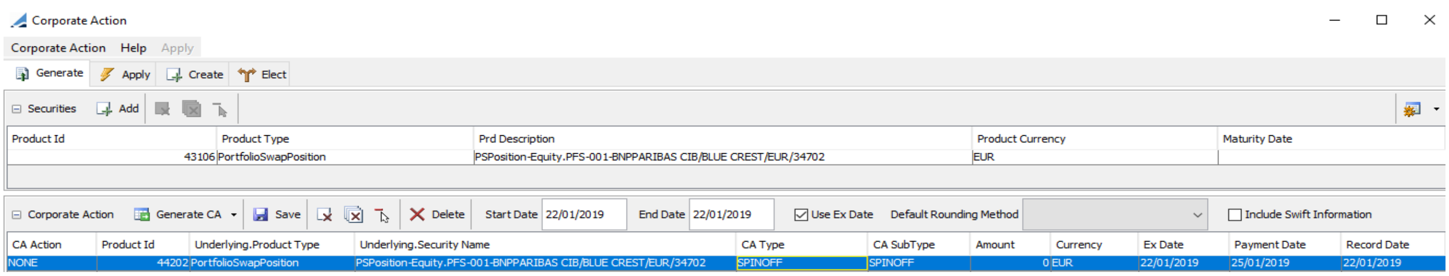
P&L after applying the termination CA event:



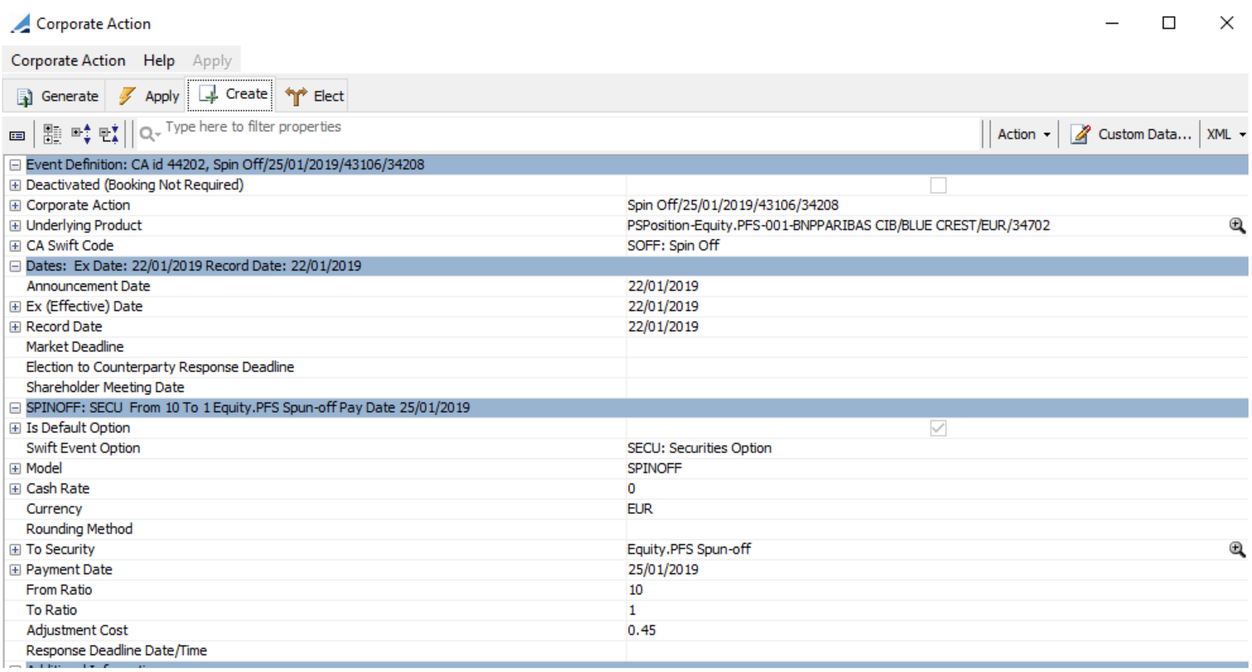
2.8 SPINOFF.SPINOFF

The PortfolioSwapPosition CAs are based on the underlying CAs.

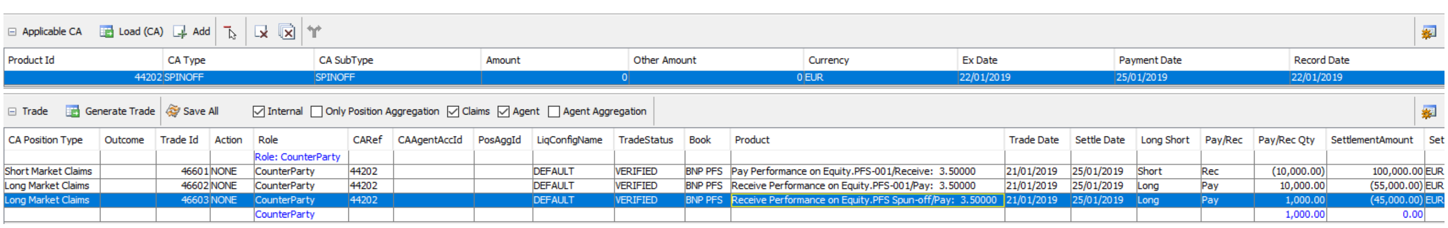
Generating the CA event TEND (tender offer) on PortfolioSwapPosition based on underlying equity CA:



Save the CA product and double click on it to open the CA product information and details:



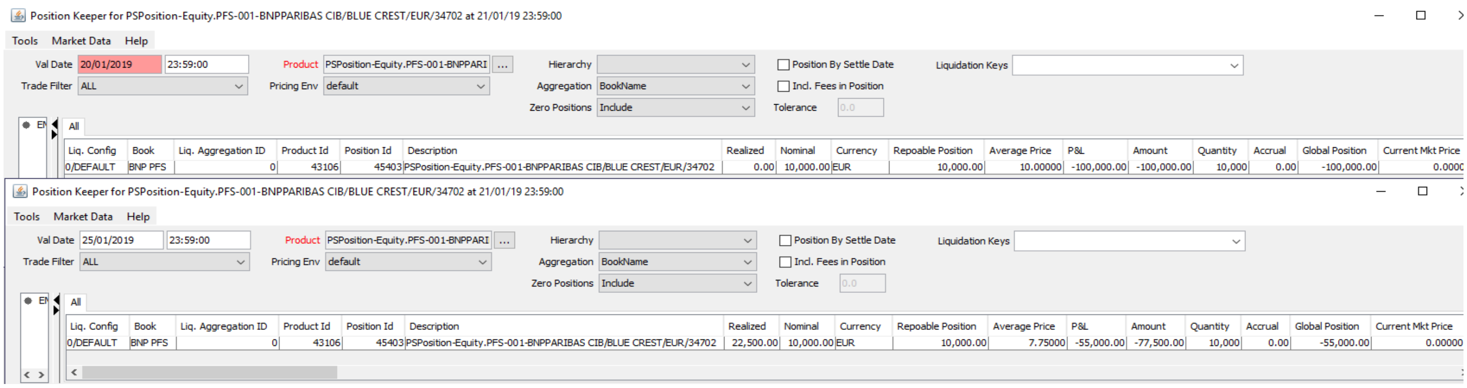
Apply the CA product to generate the CA trades on current PFS position:



Where:

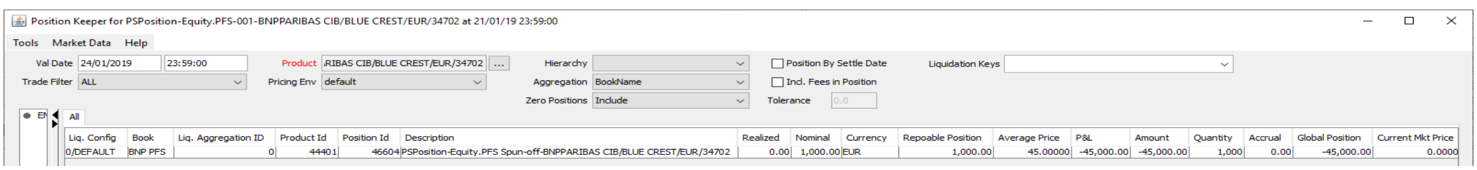
- The first and second trades close the PFS position on underlying equity and reopen one at new price updating the P&L average price
- The third CA trade creates the PFS position on the 'to product' equity

P&L on PortfolioSwapPosition on underlying equity at XD-1 EOD & PD:

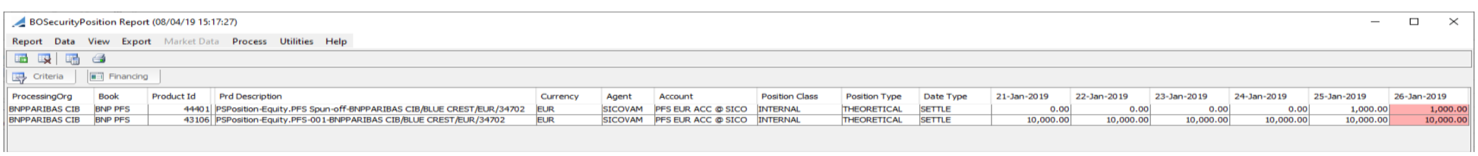


The quantity does not change, only the average price

P&L on PortfolioSwapPosition on 'To product' equity at PD:



Inventory position on both PFS position:

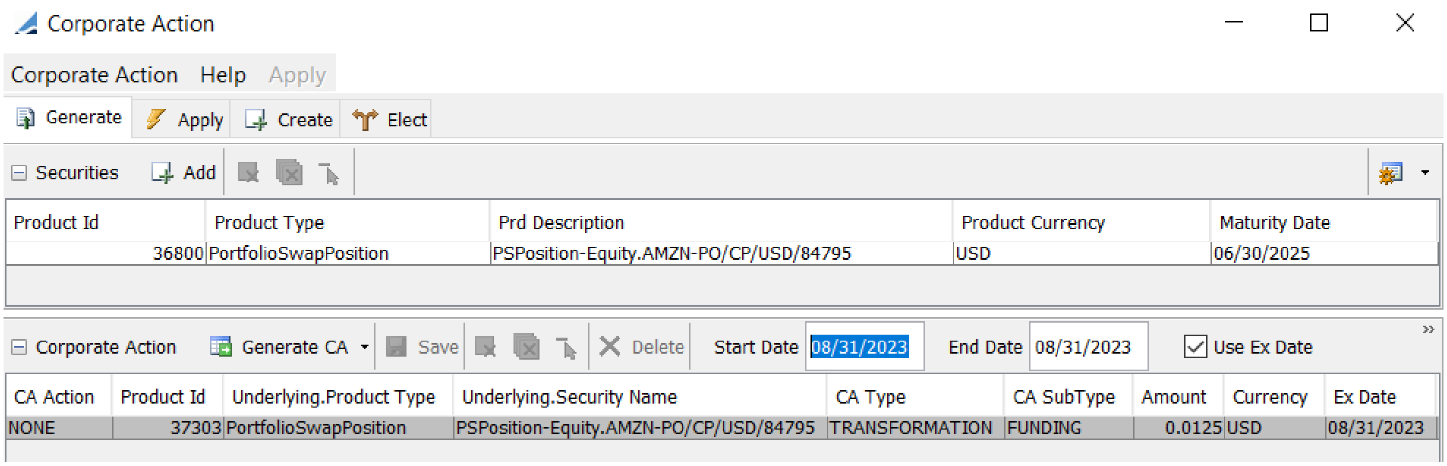


2.9 TRANSFORMATION.FUNDING

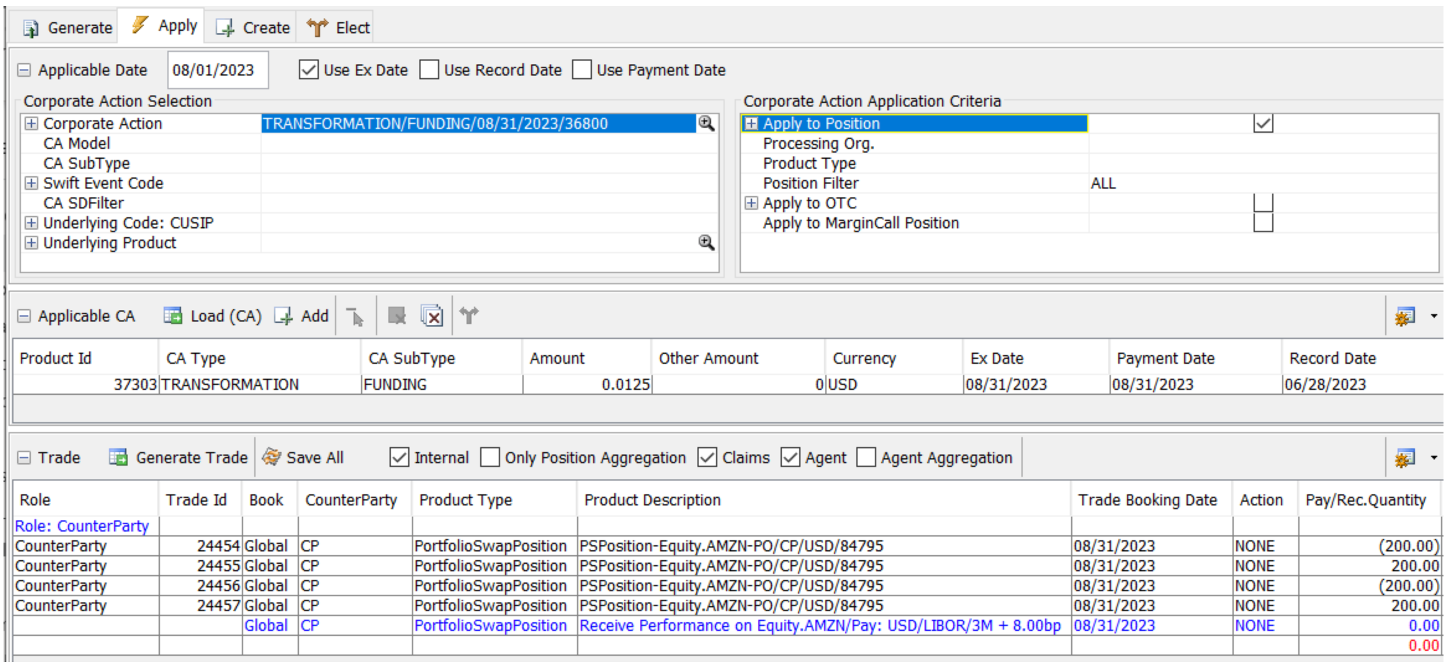
For portfolio swap contracts with Date Calculation Method = Independent, there is no need to run the FUNDING CA if the end date of performance and funding cashflows are on the same date. In this case, the PRICE_CHANGE CA generates the funding transfers.

Otherwise the FUNDING CA needs to be run on each funding cashflow end date.

You can generate the PortfolioSwapPosition corporate actions based on the funding leg using the Generate tab in the Corporate Action window.



Then apply the corporate action from the Apply panel.



It creates a trade to close out the position and a new trade to open the position with the initial price.

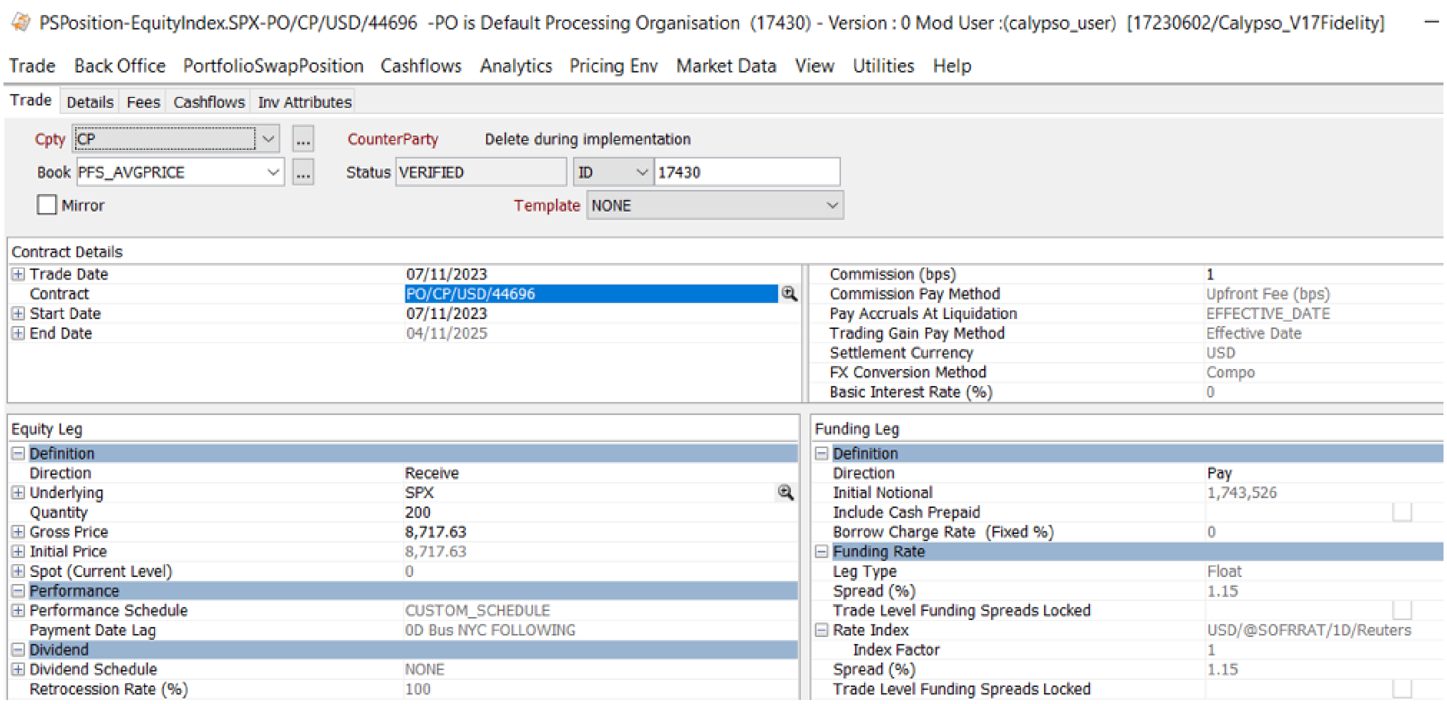
On the closed out trade, the liquidation engine generates transfers for the funding amounts: FUNDING_CHARGE_REALIZED, SERVICE_CHARGE_REALIZED, BORROW_CHARGE_REALIZED.

2.10 TRANSFORMATION.PRICE_CHANGE

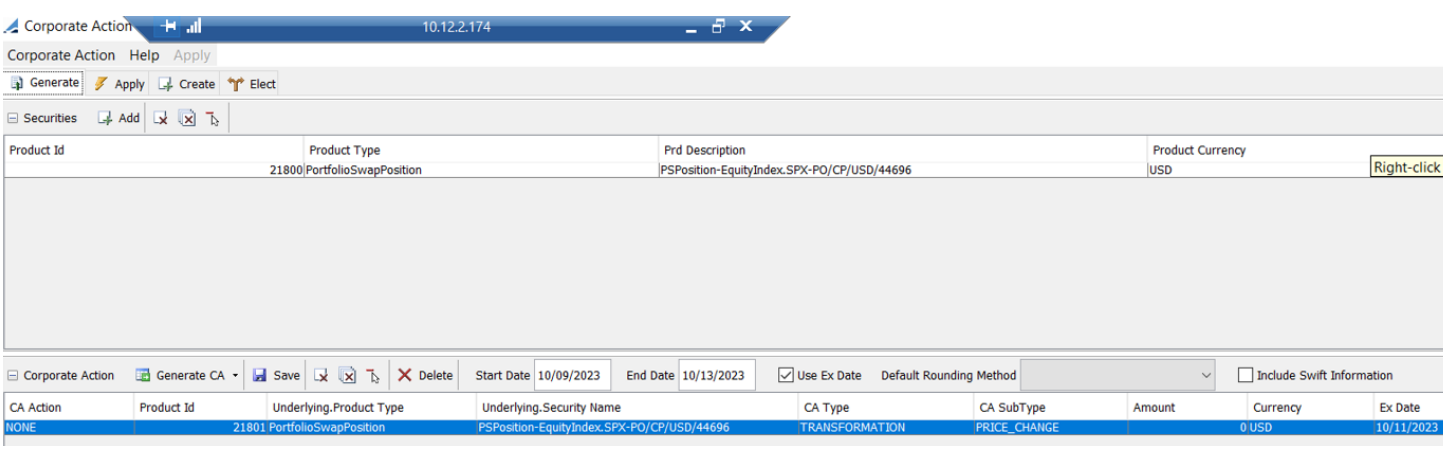
The PRICE_CHANGE CA needs to be generated on each performance cashflow end date.

You can generate the PortfolioSwapPosition corporate actions based on the performance schedule using the Generate tab in the Corporate Action window.

Sample trade:



PRICE_CHANGE corporate action:



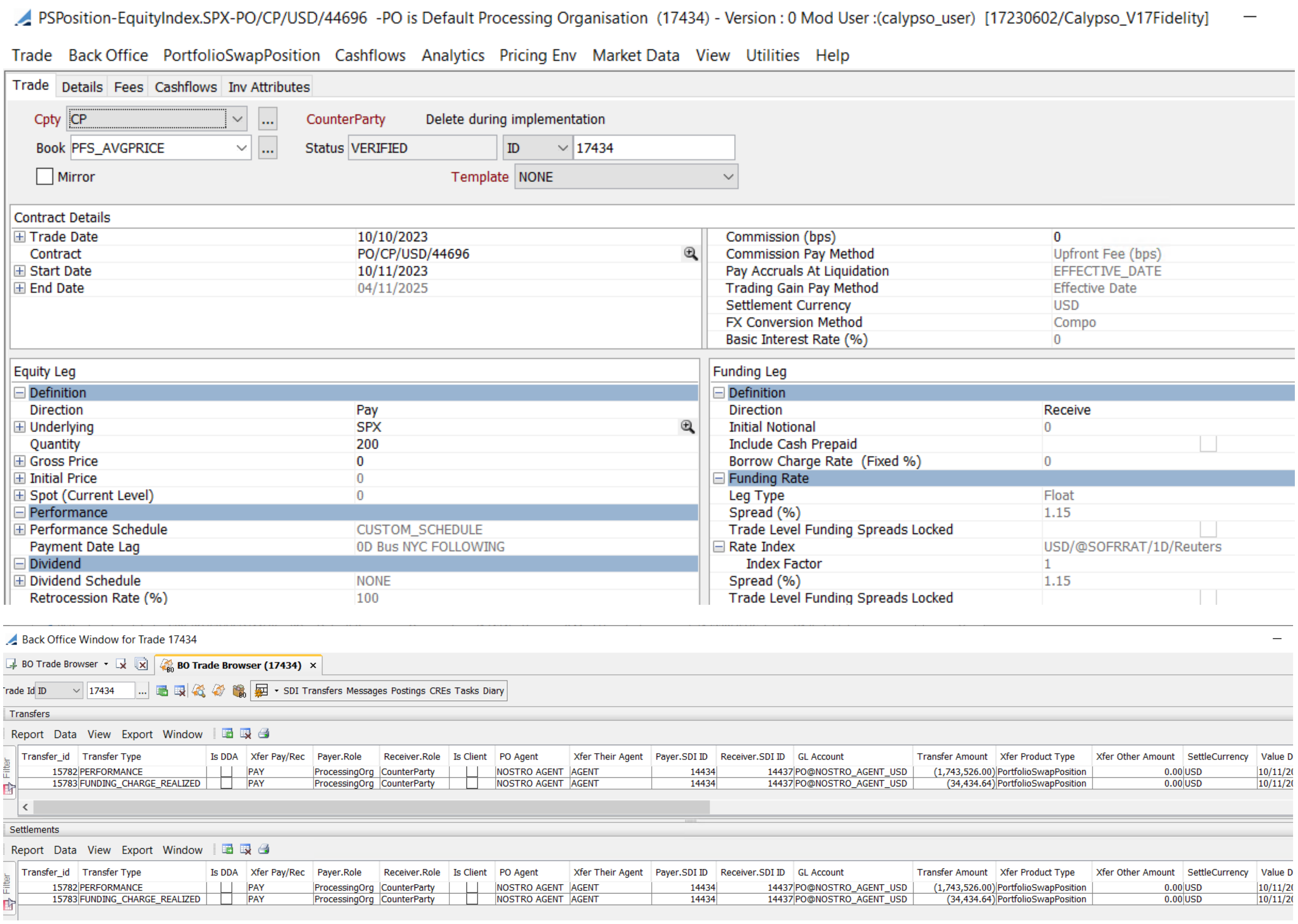
Then apply the corporate action from the Apply panel.

It creates a trade to close out the position and a new trade to open the position with the closing price.

On the closed out trade, the liquidation engine generates a transfer of type PERFORMANCE that represents the realized P&L:

Quantity * (Closing Price – Initial Price)

When the funding cashflows and the performance cashflows end on the same date, it also generates transfers for the funding amounts: FUNDING_CHARGE_REALIZED, SERVICE_CHARGE_REALIZED, BORROW_CHARGE_REALIZED.



2.11 TRANSFORMATION.ROLLOVER

The PortfolioSwapPosition CAs are based on the Portfolio Swap Contract.

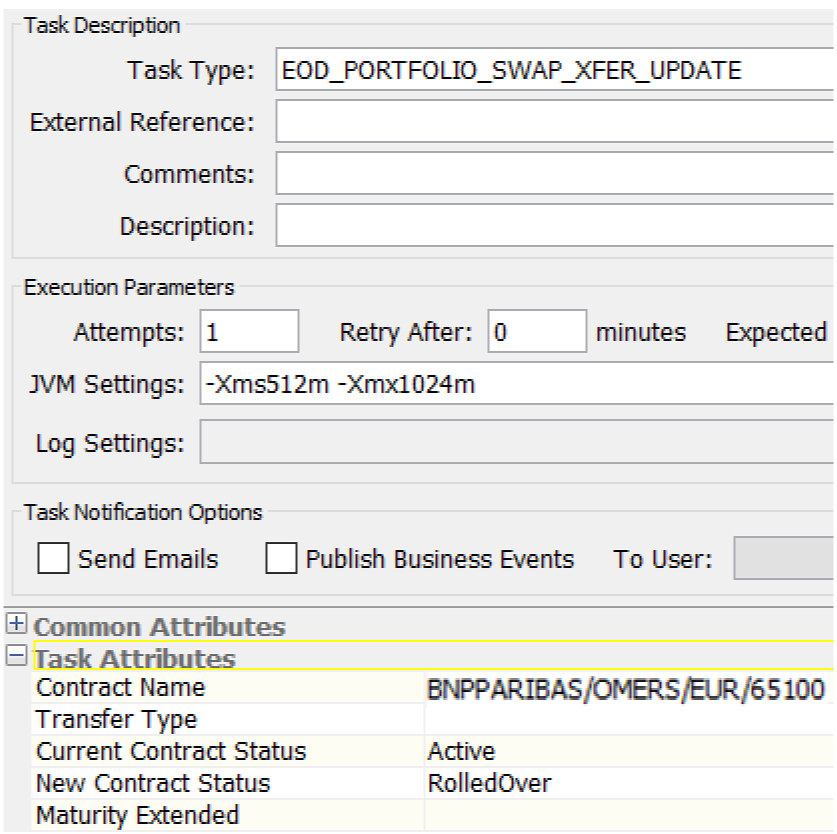
You can define a rollover date in the PFS contract to roll-over at the defined date the PFS Position from contract A to contract B. This rollover information is set in the PFS contract lifecycle actions.

This triggers at roll-over date a CA event TRANSFORMATION.ROLLOVER to close the PFS position held in contract A and reopened same position in contract B.

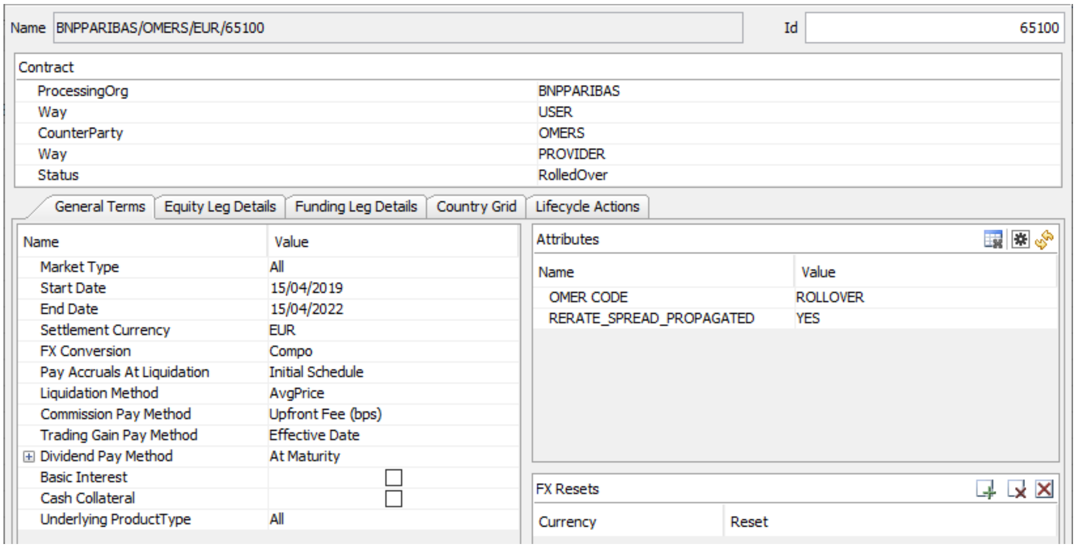
You cannot roll-over a contract into another that has not yet started at rollover date.

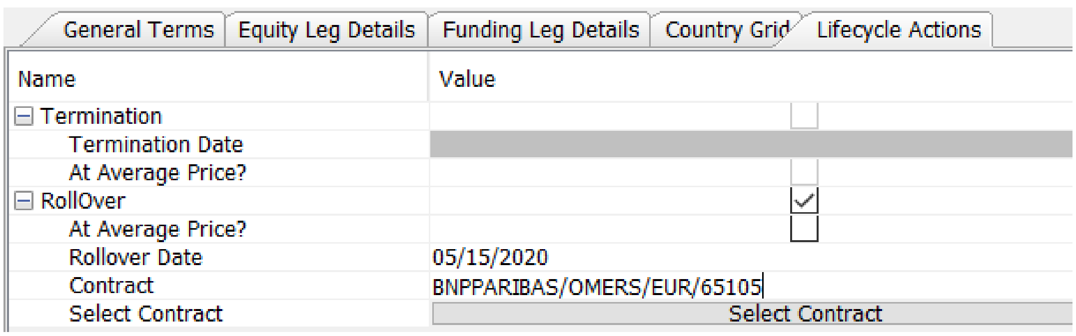
Once the rollover is completed, scheduled task EOD_PORTFOLIO_SWAP_XFER_UPDATE needs to be run to:

- Update the status of the PFS contract
- Change the value date of the existing PFS transfers generated on contract A to roll-over date.
- Maturity Extended = true or false. If true, change the value date of the transfers of PFS contract whose maturity date has been extended.

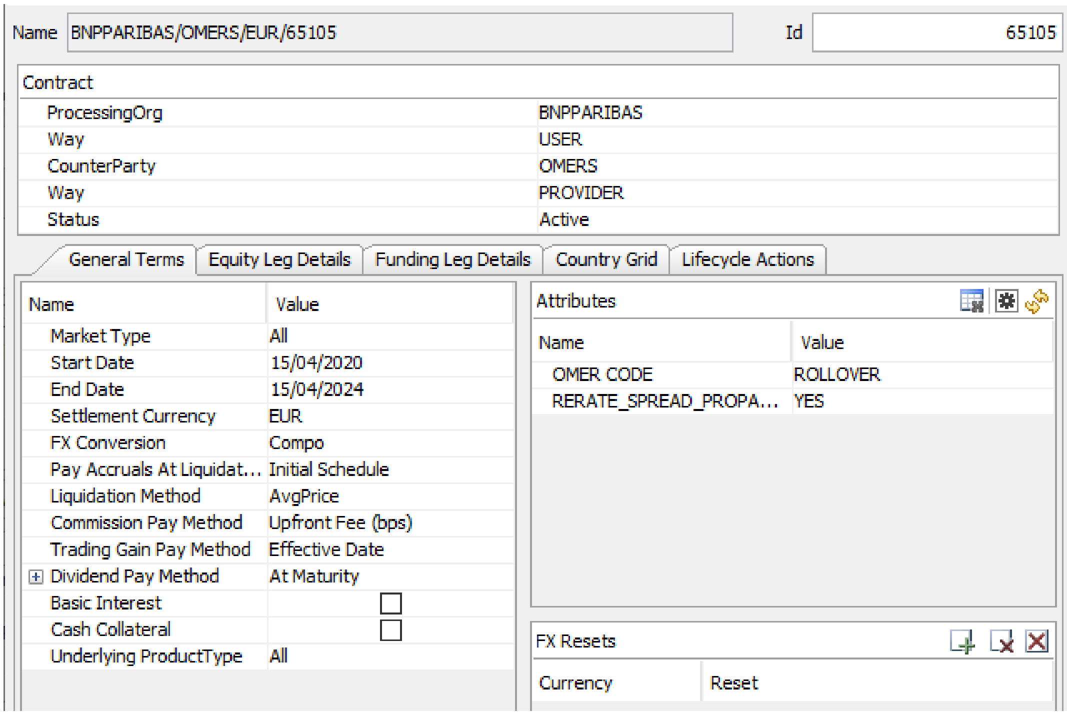


PFS Contract A definition:

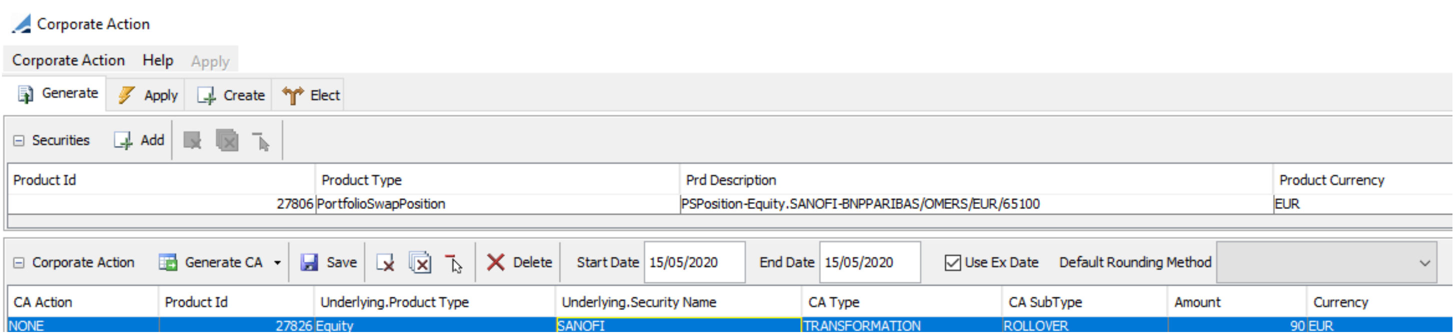




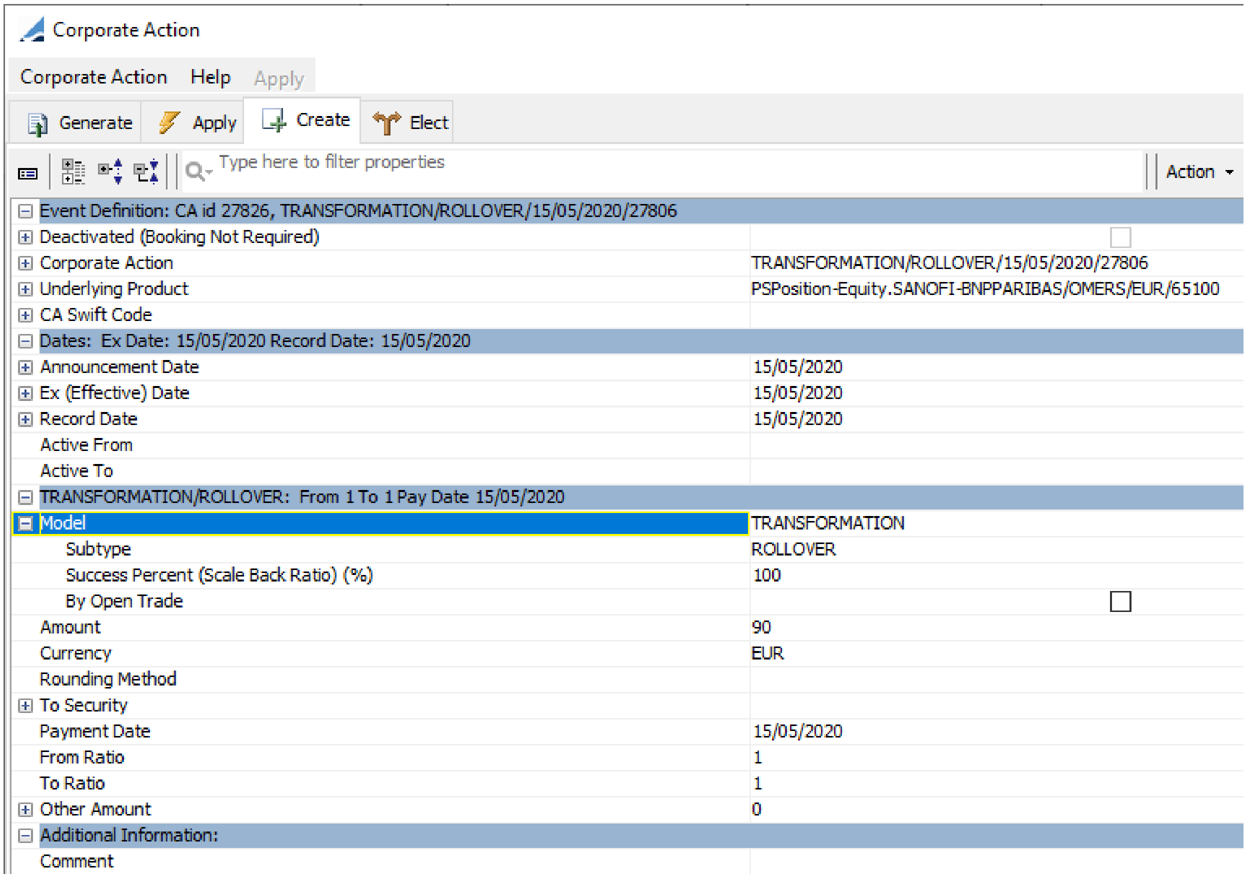
PFS Contract B definition:



Generation of the CA event at roll-over date:



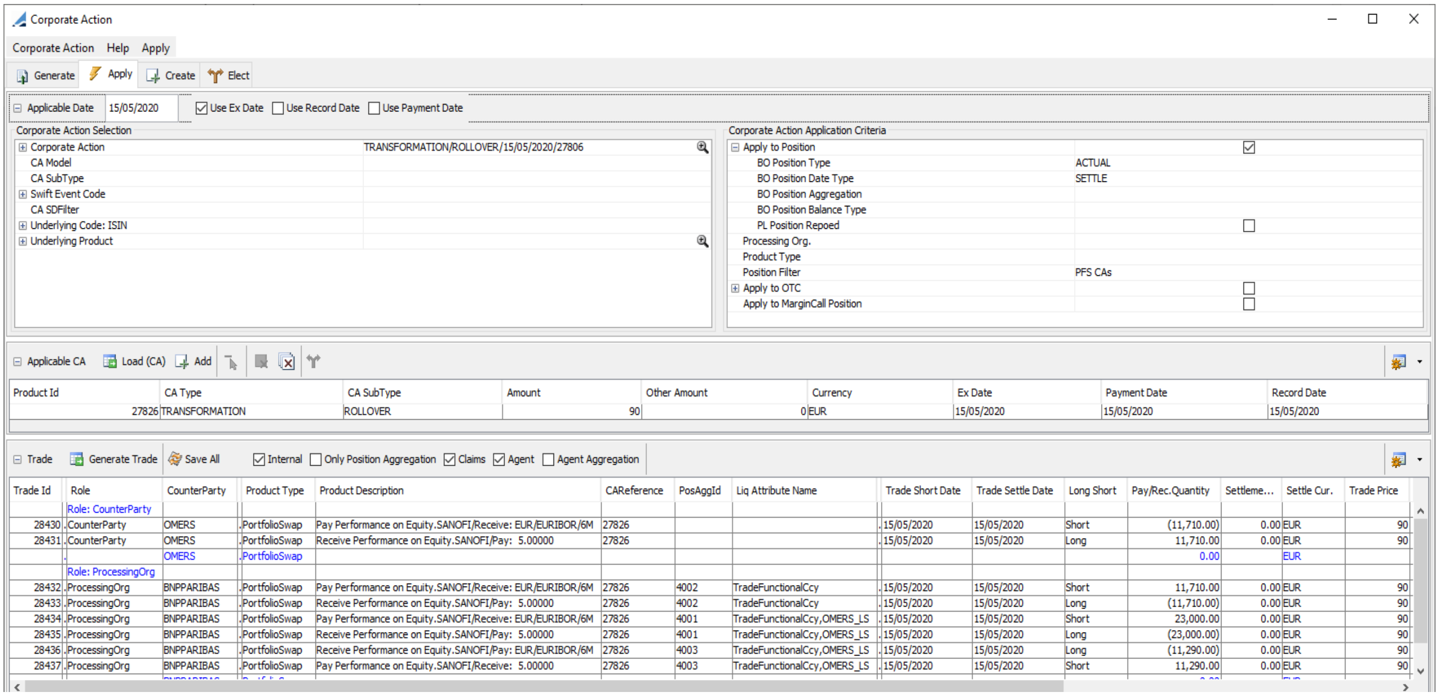
The rollover CA event is created using CA amount = market price of the underlying ("At Average Price?" not checked on the contract) of the PFS position at rollover date. Need to make sure to have the quotes populated before generating the CA.



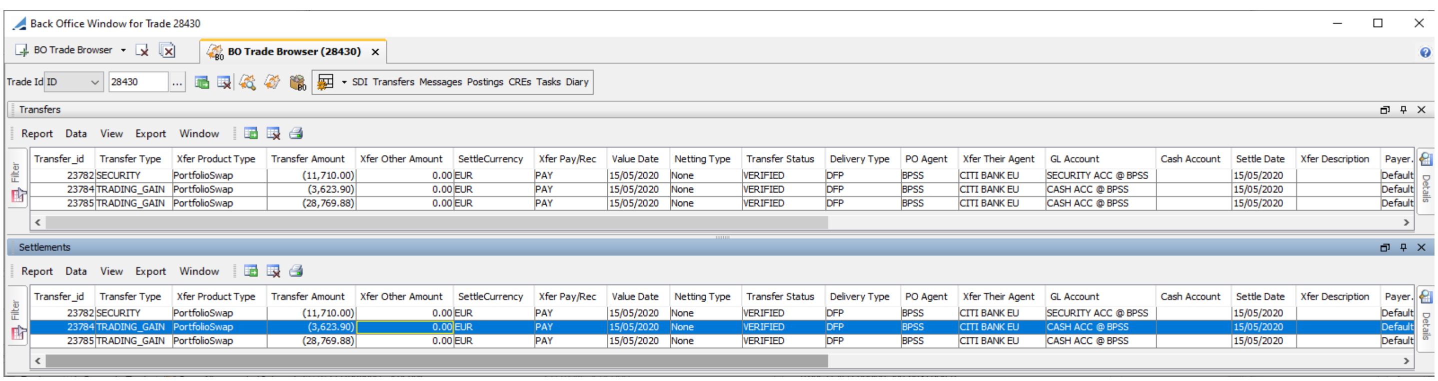
Applying the CA creates the following outcomes ("At Average Price?" not checked on the contract):

- Closing the PFS Position of Contract A at market price and generating realized on the CA trade against counterparty
- Reopening PFS Position on Contract B at market price

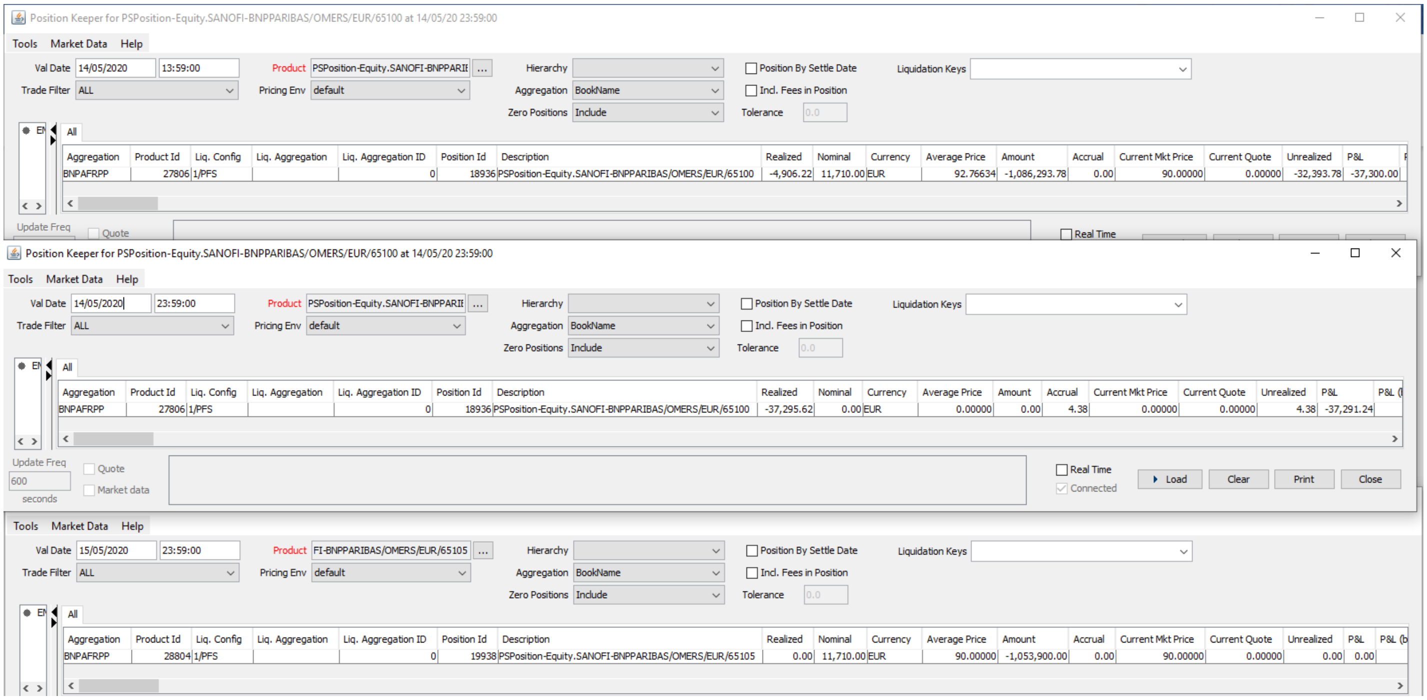
If "At Average Price?" is checked on the contract, it is average price instead of market price.



Where TRADING_GAIN is generated on the CA trade against counterparty when closing the contract A position.



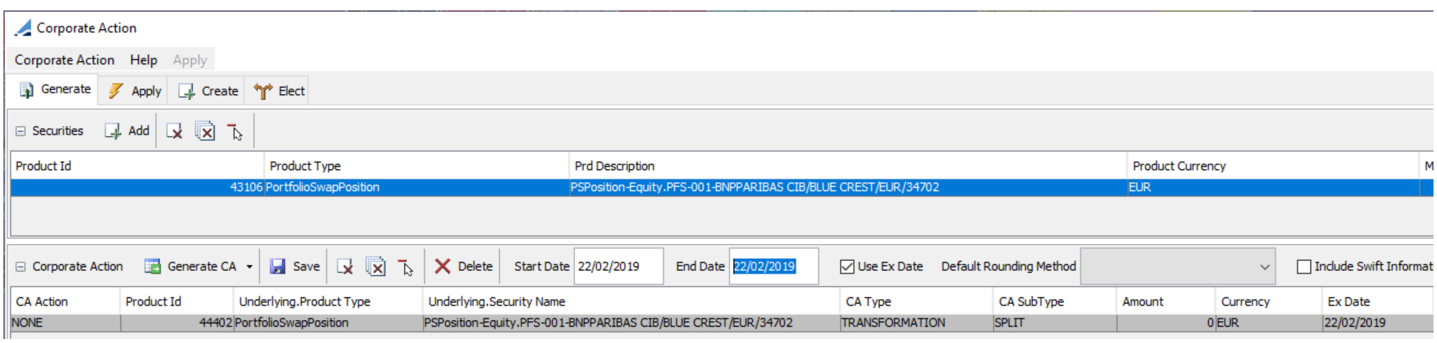
Where P&L on PFS Position is closed at rollover date on PFS contract A and opened on Contract B.

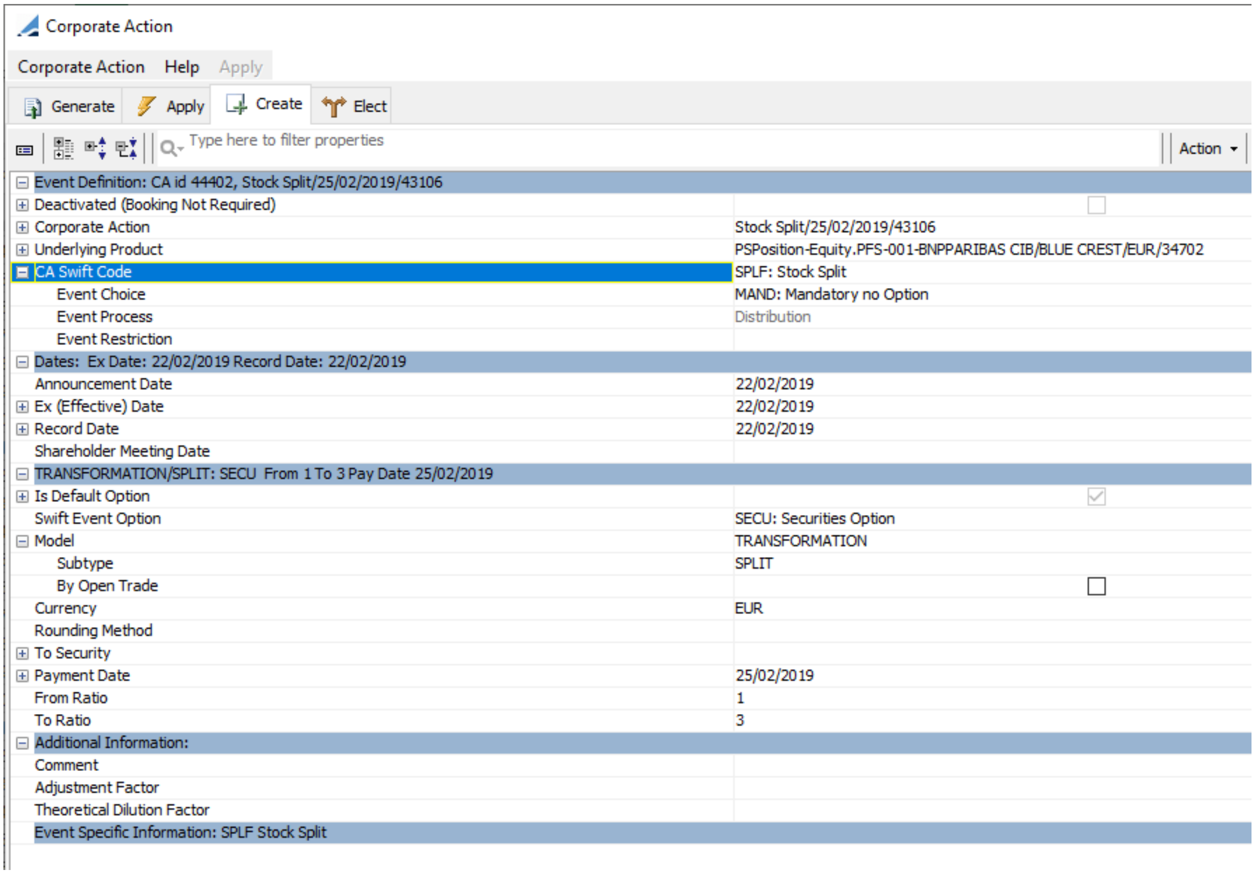


2.12 TRANSFORMATION.SPLIT

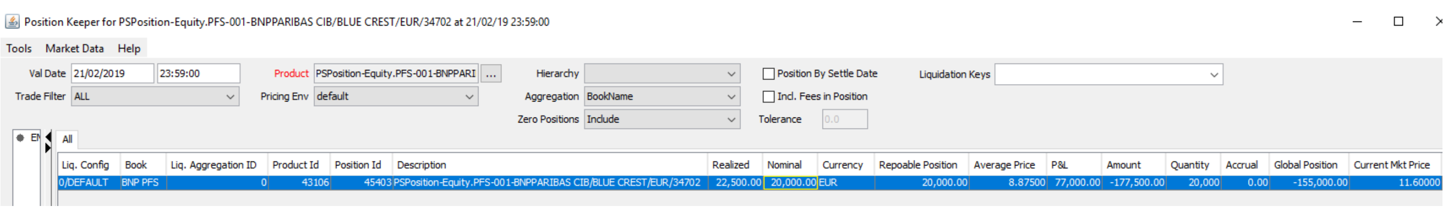
The PortfolioSwapPosition CAs are based on the underlying CAs.

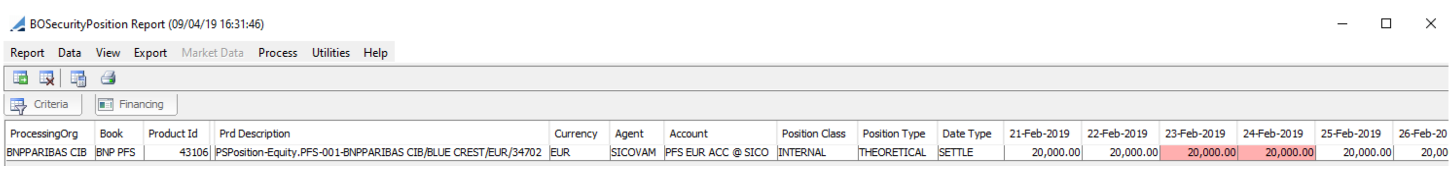
Generating the CA event on PortfolioSwapPosition based on underlying equity CA:



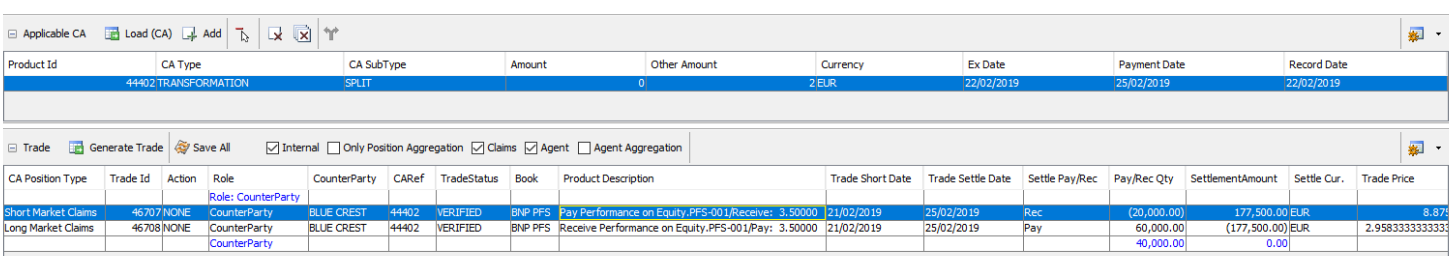


P&L and inventory Positions before generating the CA on PFS:





Applying the CA on the PFS position gives us the following CA trades:



P&L & inventory Positions at PD: