Nasdaq

Nasdaq Calypso

Axoni Integration Guide

Version 4.13.0

Revision 10.0
May 2025
Approved

Document History

Revision	Published	Summary of Changes
1.0	July 2023	First edition for version 3.0.0.
2.0	October 2023	Updates for version 3.1.0.
3.0	January 2024	Updates for version 4.3.0 (compatibility with version 18).
4.0	February 2024	Updates for version 4.4.0
5.0	April 2024	Updates for version 4.5.0, 4.6.1
6.0	July 2024	Updates for version 4.9.0
7.0	November 2024	Updates for version 4.10.2 – Added retry mechanism to get API responses from Axoni.
8.0	December 2024	Updates for version 4.11.0 – Added handling of undo termination.
9.0	March 2025	Updates for version 4.13.0 - Taking contract status into account in addition to trade status to determine confirmation status. Added REST endpoints to get the matching status of the contract in "calypso_axoni_config.properties".
10.0	May 2025	Updated incoming and outgoing workflows.

This document describes the Nasdaq Calypso Axoni Interface setup.

> ⓘ **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.**

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

Table of Contents

1   Overview

1.1   Scope

The Axoni platform allows for all parties on a trade to match and confirm all trade terms upfront and remain synchronized on post-trade events including initial trade confirmation, cash flows, amendments, and corporate actions.

Product scope:

- Equity Swap (Calypso product type)
- Legs choice: Equity/Rate, Basket/Rate

Lifecycle:

- New trade
- Amendment
- Cancellation
- Termination (Partial / Full)
- Undo Termination
- Trade Increase
- CA: Stock Dividend - Generated with new Trade Event with trade attribute TradeClassification: STOCK_DIV
- CA: Split - Single Equity: initial trade terminated and new trade created with TransferType: SPLIT;
- CA: Spin Off - Generated with new Trade Event with trade attribute TradeClassification: SPINOFF

1.2   Axoni Interface Overview

Trades are captured into Calypso and messages are created based on message generation process (message setup, Message engine). The messages are then sent to Axoni using the Sender engine.

AXONI acknowledgements are integrated into Calypso using the scheduled task AXONI_STATUS_REQUEST and processed using the Axoni engine.
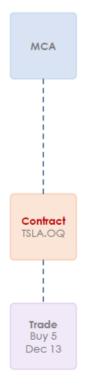
In case of non matched status, you can connect to the Axoni Web UI for investigation.

1.3   Axoni Equity Swap Data Model

Below is the Equity Swap (TRS) Data Model:

Single Name TRS

MCA or the Master Confirmation Agreement between the two parties of the trade, defines all the Legal Terms applicable to all the Equity Swap transactions that will be covered by it.

The contract defines the core contractual swap terms, it replaces the position in Axoni V1 (it is an aggregation of underlying trades).

2   Installation

Axoni is installed as part of the Calypso Installer when you select the Axoni optional module.

ⓘ **[NOTE: Axoni requires the Data Uploader module and the Back Office solution to be installed as well – The Data Uploader is included by default when Axoni is selected]**

Calypso Installer

▶ Please refer to the Calypso Installation Guide for complete details.

Database Upgrade

When you run Execute SQL as part of your installation, the data files will be already loaded.

3 Setup Requirements

3.1 Prerequisite

Environment Property

AUTO_FEED_INTERNAL_REF must be set to True:

AUTO_FEED_INTERNAL_REF=TRUE

Master Confirmation Agreement

Before entering into an Equity Swap transaction, the parties should sign an MCA. The MCA Name must be entered under the trade keyword AxoniMCAId that will be used to populate the field mcaRef sent to Axoni.

Message Engine
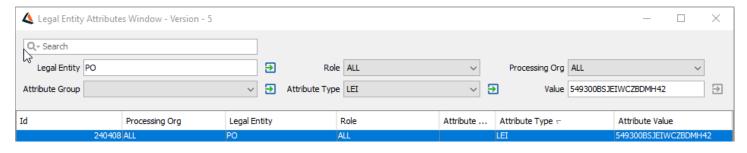
The engine parameter MSGENGINE_CHECK_SD must be set to true.

3.2 Legal Entity Attributes

Proessing Org Attribute

LEI – Enter the PO legal entity identifier. LEI of the PO will be used to populate the Axoni field "Owner".

Example:
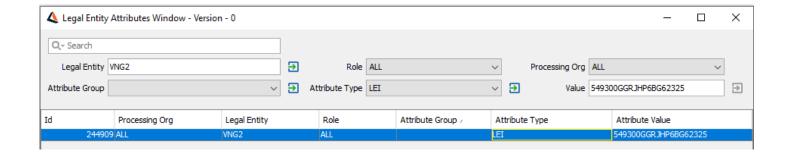
Counterparty Attribute

LEI – Enter the counterparty legal entity identifier

Example

3.3 Domain Values

Domains addressMethod and gateway

Value = AXONI

Domains jsonFormatType and formatType

Value = AXONI

Domain messageType

AXONI_OUTGOING_CONTRACT

AXONI_OUTGOING_TRADE

AXONI_INCOMING

Domain JSON.Templates

EquitySwap_Cancel_ContractV3.xml

EquitySwap_Cancel_TradeV3.xml

EquitySwap_FullTermination_ContractV3.xml

EquitySwap_FullTermination_TradeV3.xml

EquitySwap_New_ContractV3.xml

EquitySwap_New_TradeV3.xml

EquitySwap_NotionalIncrease_ContractV3.xml

EquitySwap_NotionalIncrease_TradeV3.xml

EquitySwap_PartialTermination_ContractV3.xml

EquitySwap_PartialTermination_TradeV3.xml

EquitySwap_SpinOff_ContractV3.xml

EquitySwap_SpinOff_TradeV3.xml

EquitySwap_StockDividend_TradeV3.xml

EquitySwap_StockSplit_ContractV3.xml

EquitySwap_StockSplit_TradeV3.xml
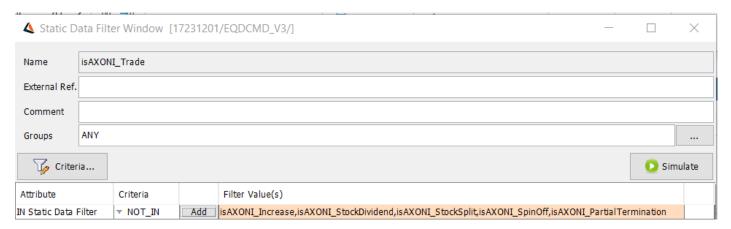
Domain UploadRejectAction

Enter the action names that are used for the undo of the partial termination and full termination, for examples UNDO_TERMINATE and UNDO_PARTIAL_TERMINATE.
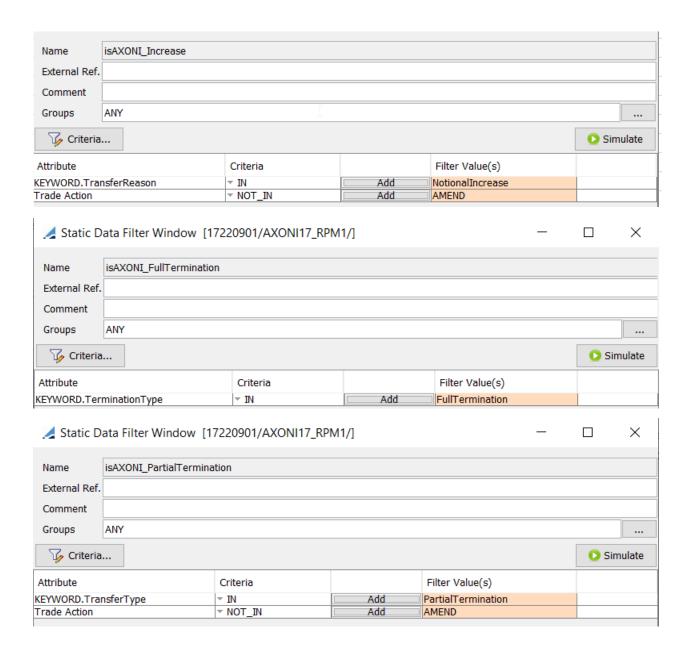
Domain TradeRejectAction

Enter the action names that are used for the undo of the partial termination and full termination, for examples UNDO_TERMINATE and UNDO_PARTIAL_TERMINATE.

3.4   Static Data Filters

Name	isAXONI_Increase
External Ref.	
Comment	
Groups	ANY

Criteria...   Simulate

Attribute	Criteria		Filter Value(s)	
KEYWORD.TransferReason	IN	Add	NotionalIncrease	
Trade Action	NOT_IN	Add	AMEND	

Static Data Filter Window [17220901/AXONI17_RPM1/]   — □ ✕

Name	isAXONI_FullTermination
External Ref.	
Comment	
Groups	ANY

Criteria...   Simulate

Attribute	Criteria		Filter Value(s)	
KEYWORD.TerminationType	IN	Add	FullTermination	

Static Data Filter Window [17220901/AXONI17_RPM1/]   — □ ✕

Name	isAXONI_PartialTermination
External Ref.	
Comment	
Groups	ANY

Criteria...   Simulate

Attribute	Criteria		Filter Value(s)	
KEYWORD.TransferType	IN	Add	PartialTermination	
Trade Action	NOT_IN	Add	AMEND	

Static Data Filter Window [17230901/AXONI_P3_V17/calypso_user]

Name	isAXONI_SpinOff
External Ref.	
Comment	
Groups	ANY

Criteria...

Attribute	Criteria		Filter Value(s)
KEYWORD.TradeClassification	IN	Add	SPINOFF

Static Data Filter Window [17230901/AXONI_P3_V17/calypso_user]

Name	isAXONI_StockDividend
External Ref.	
Comment	
Groups	ANY

Criteria...

Attribute	Criteria		Filter Value(s)
KEYWORD.TradeClassification	IN	Add	STOCK_DIV

Static Data Filter Window [17230901/AXONI_P3_V17/calypso_user]

Name	isAXONI_StockSplit
External Ref.	
Comment	
Groups	ANY

Criteria...

Attribute	Criteria		Filter Value(s)
KEYWORD.TransferType	IN	Add	SPLIT

Static Data Filter Window [17231201/EQDCMD_V3/]

Name	isAXONI_CancelTerminationContract
External Ref.	
Comment	
Groups	ANY

Criteria...

Attribute	Criteria		Filter Value(s)
Trade Action	IN	Add	UNDO_TERMINATE,UNDO_PARTIAL_TERMINATE

Static Data Filter Window [17231201/EQDCMD_V3/]

Name	isAXONI_CancelTerminationTrade
External Ref.	
Comment	
Groups	ANY

Criteria...

Attribute	Criteria		Filter Value(s)
Trade Action	IN	Add	UNDO_TERMINATE
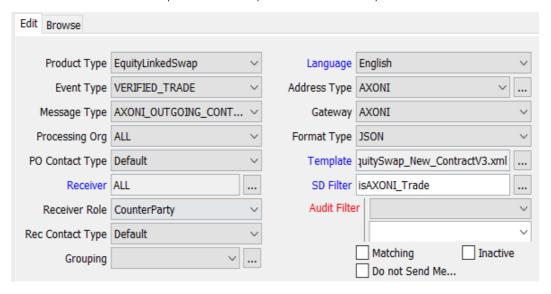
3.5   Message Setup
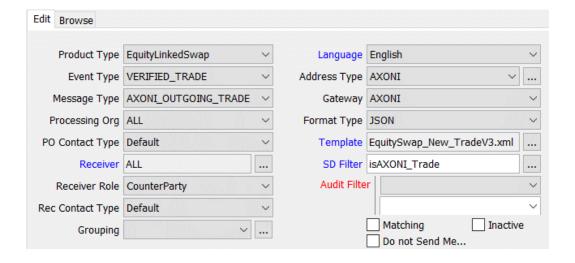
Summary:

| Lifecycle Event	Event Type	Message Type	Template	SD Filter
New Trade/ Amendment	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_New_ContractV3.xml	isAXONI_Trade
	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_New_TradeV3.xml	isAXONI_Trade
Trade Cancellation	CANCELED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_Cancel_ContractV3.xml	isAXONI_Trade
	CANCELED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_Cancel_TradeV3.xml	isAXONI_Trade
Trade Full Termination	TERMINATED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_FullTermination_ContractV3.xml	isAXONI_FullTermination
	TERMINATED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_FullTermination_TradeV3.xml	isAXONI_FullTermination
Trade Partial Termination	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_PartialTermination_ContractV3.xml	isAXONI_PartialTermination
	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_PartialTermination_TradeV3.xml	isAXONI_PartialTermination
Trade Increase	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_NotionalIncrease_ContractV3.xml	isAXONI_Increase
	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_NotionalIncrease_TradeV3.xml	isAXONI_Increase
Spin Off	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_SpinOff_ContractV3.xml	isAXONI_SpinOff
	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_SpinOff_TradeV3.xml	isAXONI_SpinOff
Stock Dividend	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_StockDividend_TradeV3.xml	isAXONI_StockDividend
Stock Split	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_StockSplit_ContractV3.xml	isAXONI_StockSplit
	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_StockSplit_TradeV3.xml	isAXONI_StockSplit
Contract Amendment after undo Termination	VERIFIED_TRADE	AXONI_OUTGOING_CONTRACT	EquitySwap_New_ContractV3.xml	isAXONI_CancelTerminationContract
Trade Cancellation after undo of Full Termination	VERIFIED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_Cancel_TradeV3.xml	isAXONI_CancelTerminationTrade
Trade Cancellation after undo of Partial Termination	CANCELED_TRADE	AXONI_OUTGOING_TRADE	EquitySwap_Cancel_TradeV3.xml	isAXONI_PartialTermination
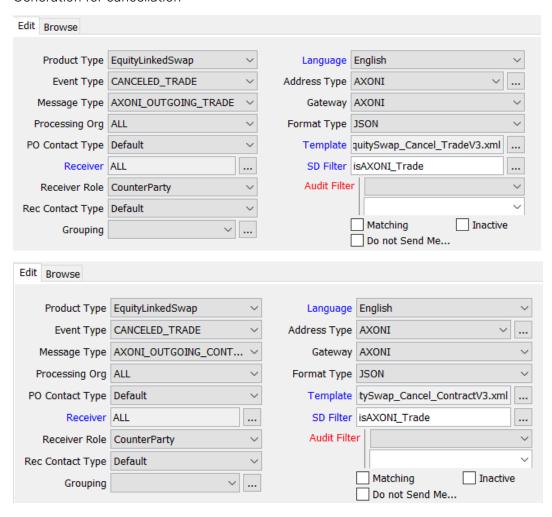
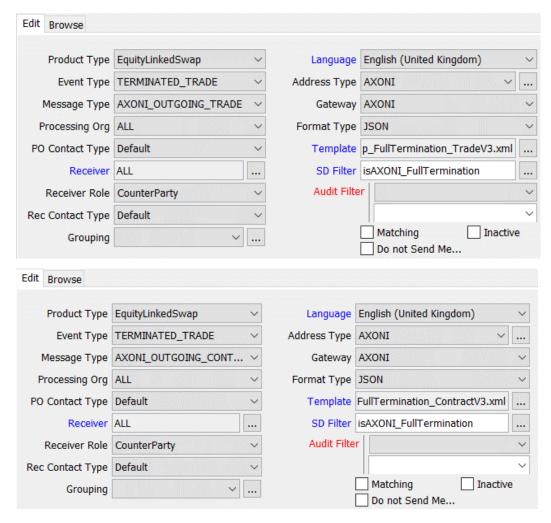Generation for new trade, new contract, trade amendment, contract amendment
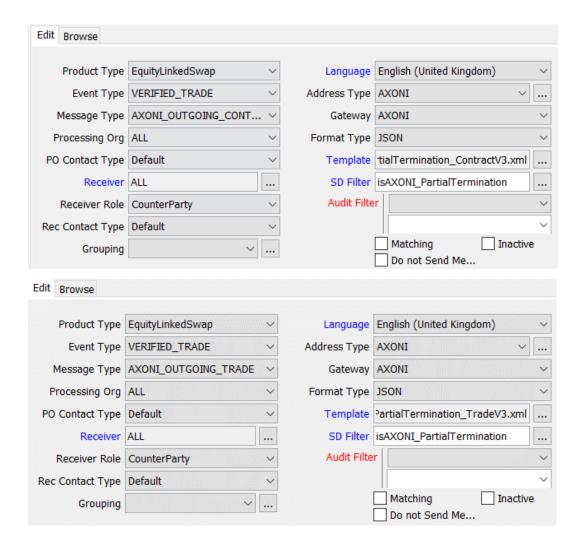
Generation for cancellation

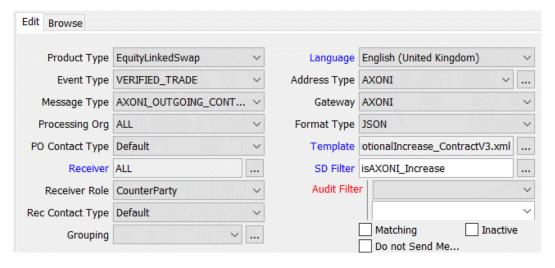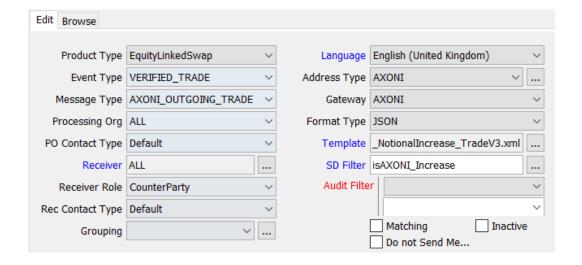## Generation for Full Termination
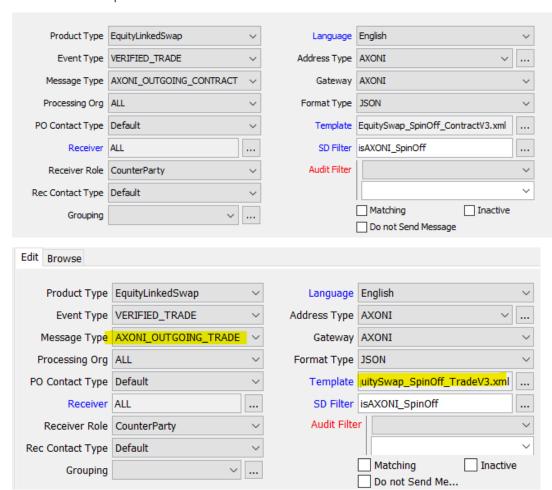

Generation for Partial Termination

Product Type	EquityLinkedSwap
Event Type	VERIFIED_TRADE
Message Type	AXONI_OUTGOING_CONT...
Processing Org	ALL
PO Contact Type	Default
Receiver	ALL
Receiver Role	CounterParty
Rec Contact Type	Default
Grouping	

Language	English (United Kingdom)
Address Type	AXONI
Gateway	AXONI
Format Type	JSON
Template	tialTermination_ContractV3.xml
SD Filter	isAXONI_PartialTermination
Audit Filter	

☐ Matching ☐ Inactive
☐ Do not Send Me...

Product Type	EquityLinkedSwap
Event Type	VERIFIED_TRADE
Message Type	AXONI_OUTGOING_TRADE
Processing Org	ALL
PO Contact Type	Default
Receiver	ALL
Receiver Role	CounterParty
Rec Contact Type	Default
Grouping	

Language	English (United Kingdom)
Address Type	AXONI
Gateway	AXONI
Format Type	JSON
Template	PartialTermination_TradeV3.xml
SD Filter	isAXONI_PartialTermination
Audit Filter	

☐ Matching ☐ Inactive
☐ Do not Send Me...

Generation for Notional Increase

Product Type	EquityLinkedSwap
Event Type	VERIFIED_TRADE
Message Type	AXONI_OUTGOING_CONT...
Processing Org	ALL
PO Contact Type	Default
Receiver	ALL
Receiver Role	CounterParty
Rec Contact Type	Default
Grouping	

Language	English (United Kingdom)
Address Type	AXONI
Gateway	AXONI
Format Type	JSON
Template	otionalIncrease_ContractV3.xml
SD Filter	isAXONI_Increase
Audit Filter	

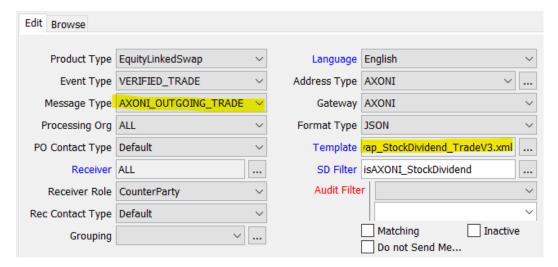☐ Matching ☐ Inactive
☐ Do not Send Me...
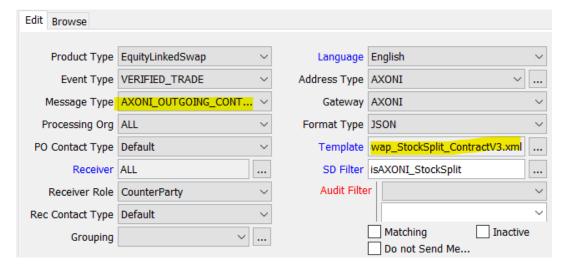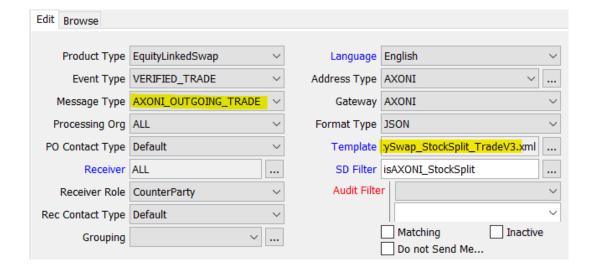
Generation for SpinOff

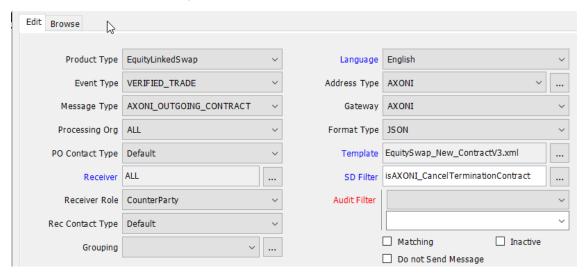## Generation for Stock Dividend

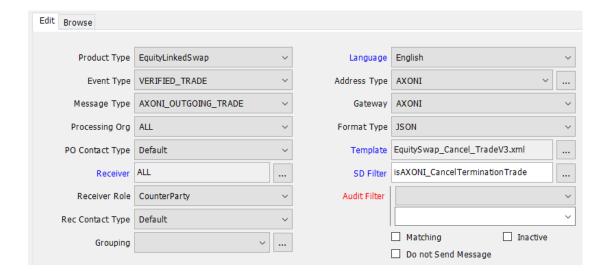## Generation for Stock Split

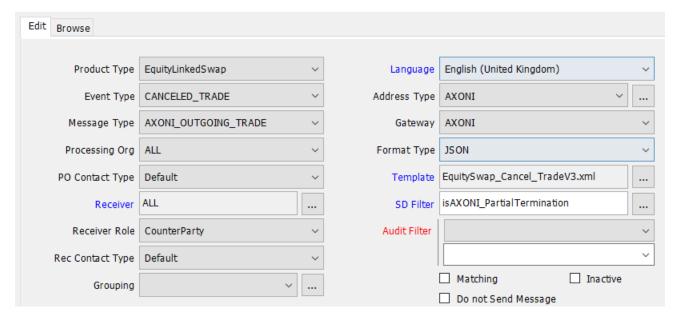Generation of the contract update after undo of Full and Partial Termination

Generation of the trade cancellation after undo of Full Termination, with VERIFIED_TRADE event
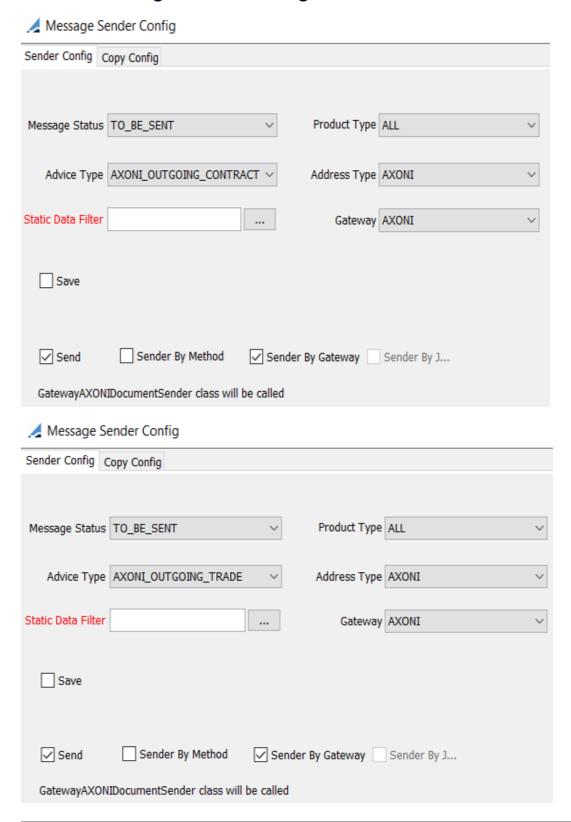
Generation of the trade cancellation after undo of Partial Termination, with CANCELED_TRADE event

3.6 Message Sender Configuration

3.7 Calypso Mapping Window

You need to configure the following mapping.

Axoni/DateRoll

Example:

Name:	Axoni/DateRoll
Interface Value:	FOLLOWING
Calypso Value:	FOLLOWING

Axoni/DayCount

Example:

Name:	Axoni/DayCount
Interface Value:	30E/360
Calypso Value:	30/360

Axoni/RateIndex

Example:

Name:	Axoni/RateIndex
Interface Value:	USD-SOFR
Calypso Value:	USD/SOFR/1D/SOFR

Axoni/Frequency

Example:

Name:	Axoni/Frequency
Interface Value:	91 Days
Calypso Value:	91D

Axoni/Holidays

Example:

Name:	Axoni/Holidays
Interface Value:	GBLO
Calypso Value:	LON

Axoni/RollDay

Example:

Name:	Axoni/RollDay
Interface Value:	EOM
Calypso Value:	31

Axoni/Exchange

Example:

Name:	Axoni/Exchange
Interface Value:	XNYS
Calypso Value:	NYSE

Axoni/TenorMaturityType

Example:

Name:	Axoni/TenorMaturityType
Interface Value:	DAY
Calypso Value:	D

Axoni/SecurityCode

You can map a security code to a priority.

Example:

Axoni/SecuritiesExchange

By default, the Securities Exchange field contains the Equity's exchange. You can use the SecuritiesExchange mapping to specify what the Securities Exchange field should contain.

Name = Axoni/SecuritiesExchange

Interface Value = <product code>

Calypso Value = <priority>

Example:

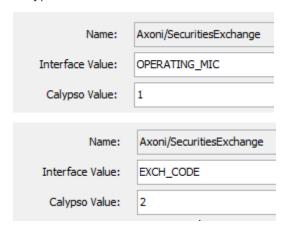Interface Value = OPERATING_MIC

Calypso Value = 1

Interface Value = EXCH_CODE

Calypso Value = 2

In this case, the Securities Exchange field will contain the value of product code OPERATING_MIC if set, or the value of product code EXCH_CODE if set, or the equity's exchange otherwise.

You can further use the Axoni/Exchange mapping to modify the actual value of the Securities Exchange field.

3.8   Axoni Properties

Please see `<calypso_home>/client/resources/calypso_axoni_config.properties.sample` as a sample property file.

Rename it to `<calypso home>/tools/calypso-templates/resources/calypso_axoni_config.properties` and adapt for your environment as needed.

You need to whitelist the IP addresses with Axoni.

```
#This indicates the OAuth2 details

#logMessages    messageFileDir Comment

#false  N/A     No debug file will be created

#true   Empty   Debug file will be generated at default location <UserHome>/Calypso/Axoni like it is happening
right now

#true   Given   The given location will be validated for access-permission, if it is valid file will be generated
at the given location ELSE it will generate a file at default location at <UserHome>/Calypso/Axoni

logMessages=true

messageFileDir=C:\\interfaces\\axoni\\test

axoni.host.ip = api.uat.veris.axoni.com

axoni.host.port = <Change to port provided by Axoni>

axoni.oauth2.ip = <Change to IP or Hostname of the Authorization server provided by Axoni>

axoni.oauth2.grantType = <Change to grantType provided by Axoni>

axoni.oauth2.clientId = <Change to ClientId provided by Axoni>

axoni.oauth2.clientSecret = <Change to ClientSecret provided by Axoni>

axoni.oauth2.scope = <Change to Scope provided by Axoni>


#Axoni Rest Endpoint to get the matching status of trade

axoni.host.status.destinationpath=/api/v3/transactional/trades

axoni.host.status.parameter=tradeRef

axoni.host.status.parameter.pageOffset=0

axoni.host.status.parameter.pageLimit=100


axoni.host.contract.status.destinationpath=/api/v3/transactional/contracts

axoni.host.contract.status.parameter=contractRef

axoni.host.contract.status.parameter.pageOffset=0

axoni.host.contract.status.parameter.pageLimit=100
```

You can also use a proxy server instead of a direct connection using the following properties:

```
axoni.proxyhost.ip=

axoni.proxyhost.port=
```

```
axoni.proxy.user=

axoni.proxy.password=
```

When retrieving the status of a contract using AxoniTrackingId, the following retry mechanism is triggered if the contract is not yet created.

```
axoni.host.messageReceipt.retryInterval=<Time before retry in ms - Default is 5000ms>

axoni.host.messageReceipt.retryCount=<Number of retries - Default is 3>
```
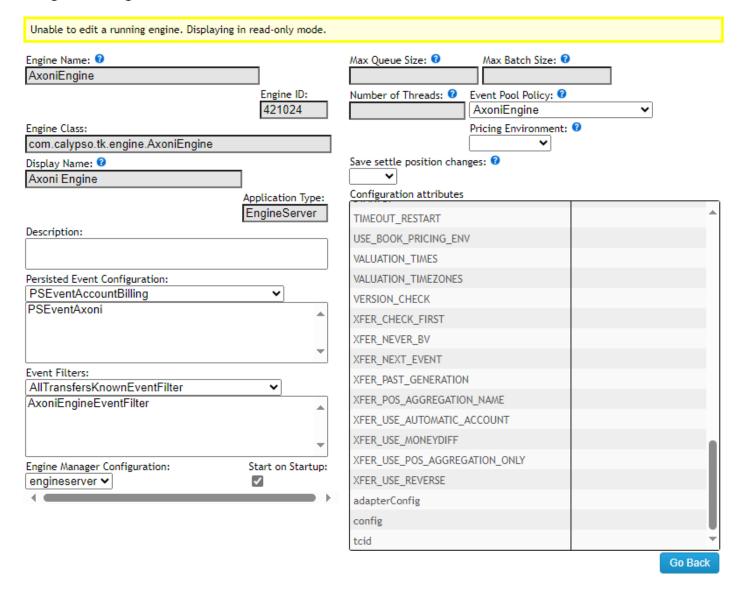
3.9   Axoni Engine

The Axoni engine is used to get status updates i.e. confirmation status - Confirmed, matched or unmatched. It subscribes to PSEventAxoni events with event filter AxoniEngineEventFilter.

The scheduled task AXONI_STATUS_REQUEST generates the PSEventAxoni events which will be processed by the Axoni Engine.

Engine Configuration

Unable to edit a running engine. Displaying in read-only mode.

Engine Name: ❓
AxoniEngine

Engine ID:
421024

Engine Class:
com.calypso.tk.engine.AxoniEngine

Display Name: ❓
Axoni Engine

Application Type:
EngineServer

Description:

Persisted Event Configuration:
PSEventAccountBilling
PSEventAxoni

Event Filters:
AllTransfersKnownEventFilter
AxoniEngineEventFilter

Engine Manager Configuration: Start on Startup:
engineserver ▾   ☑

Max Queue Size: ❓   Max Batch Size: ❓

Number of Threads: ❓   Event Pool Policy: ❓
                         AxoniEngine ▾
                         Pricing Environment: ❓
                         ▾

Save settle position changes: ❓
▾

Configuration attributes

TIMEOUT_RESTART	
USE_BOOK_PRICING_ENV	
VALUATION_TIMES	
VALUATION_TIMEZONES	
VERSION_CHECK	
XFER_CHECK_FIRST	
XFER_NEVER_BV	
XFER_NEXT_EVENT	
XFER_PAST_GENERATION	
XFER_POS_AGGREGATION_NAME	
XFER_USE_AUTOMATIC_ACCOUNT	
XFER_USE_MONEYDIFF	
XFER_USE_POS_AGGREGATION_ONLY	
XFER_USE_REVERSE	
adapterConfig	
config	
tcid	

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4 Outgoing Messages

4.1 Message Generation Overview

Depending on the lifecycle event, the following objects are submitted. These messages are generated by the Message engine and submitted by the Sender engine.

Please refer to Calypso Messages documentation for details on setting up the Message engine and Sender engine.

Lifecycle event	Contract	Trade	Cash Flow	Comment
New (Initial) Trade	X	X		
Trade Cancellation	X	X		
Trade Amendment	X	X		
Trade Full Termination	X	X		The tradeRef=TradeId_MessageId as it must be unique to create a new trade event in Axoni
Trade Partial Termination	X	X		
Trade Increase	X	X		
Spin Off	X	X		Generated with new trade event with trade attribute TradeClassification = SPINOFF, we send New Contract and New Trade with the new Equity underlier
Stock Dividend		X		Generated with new trade event with trade attribute TradeClassification = STOCK_DIV, we send only New Trade
Stock Split	X	X		Generated with new trade event with TransferType = SPLIT, we send Update Contract, Terminate Trade and New Trade

On VERIFIED_TRADE, we will generate message for initial trade, amendment and partial Termination - 'NewTrade' template will be used for new trade and amendment (correction/modification), 'Termination' template will be used for partial termination and full termination, 'CA' template will be used for stock dividend, stock split and spin off.

On CANCELED_TRADE: we will generate message to cancel the trade.

On TERMINATED_TRADE, we will generate message for increase and decrease. Transition TERMINATED - UPDATE - TERMINATED must be available in trade workflow.

There must be separate actions for the undo of full termination and partial termination from status TERMINATED to VERIFIED, for example:

TERMINATED - UNDO_TERMINATE - VERIFIED for the undo of full termination,

TERMINATED - UNDO_PARTIAL_TERMINATE - VERIFIED for the undo of partial termination.

Those undo actions should be set with the rule Retract or Reject.

There must also be a TERMINATED – UPDATE - TERMINATED transition on the trade workflow.

Trade Keywords

You can set the following trade keywords on the trades:

- AxoniAccount
- AxoniMCAId

AxoniAccount populates the field "account", this field is optional from Axoni's perspective but if you don't set it, the message generated in Calypso will be invalid. If AxoniMCAId is set, field confirmationType = MCA and mcaRef is set with the value from the trade keyword AxoniMCAId,

4.2   Outgoing Workflows

Message types: AXONI_OUTGOING_CONTRACT, AXONI_OUTGOING_TRADE.

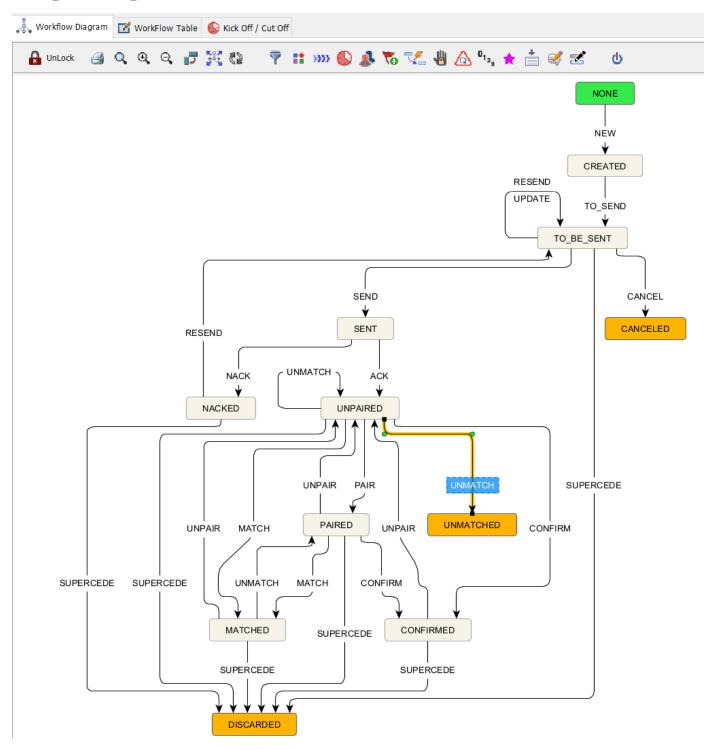From AXONI perspective, statuses can be:

- Unpaired, Paired (from pairing perspective)
- Unmatched, Matched, Confirmed (from reconciliation perspective)
- Confirmed means there is an active MCA or a long form paper (to be referenced in the JSON payload)

You can import the workflows using <calypso home>/client/resources/AXONI_OUTGOING_CONTRACT.wf, AXONI_OUTGOING_TRADE.wf.

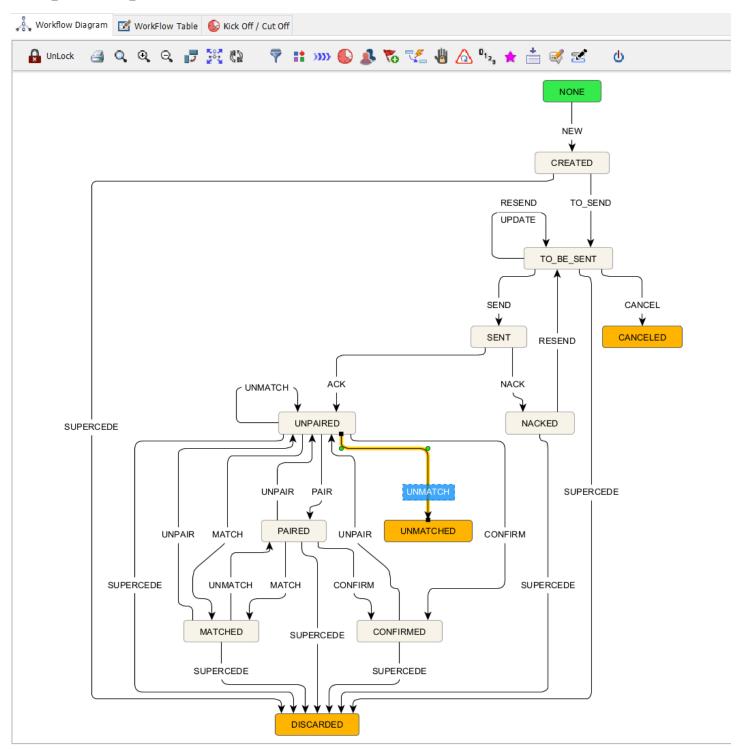You need to add the transition UNPAIRED – UNMATCH – UNMATCHED in both workflows, if it is not already there.

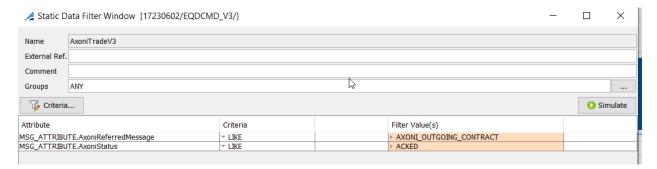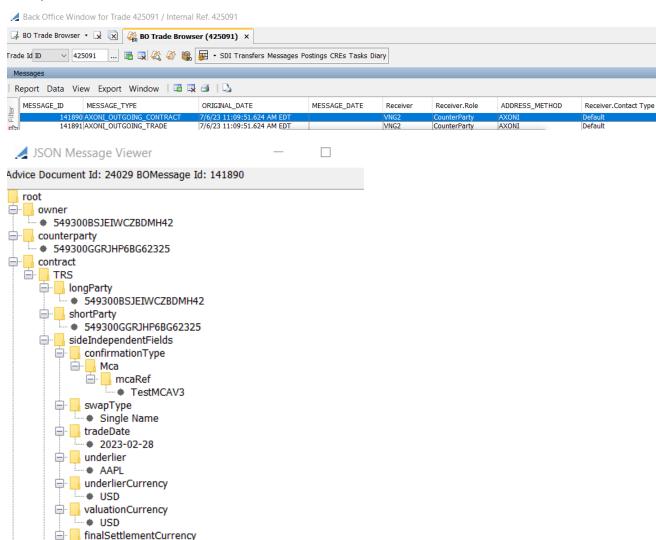## AXONI_OUTGOING_CONTRACT

AXONI_OUTGOING_TRADE

The following Static Data Filter allows the release of the message linked to the same trade Id:

1. AXONI_OUTGOING_CONTRACT: generated and sent STP,
2. AXONI_OUTGOING_TRADE: generated and not released until AXONI_OUTGOING_CONTRACT is 'ACKED';
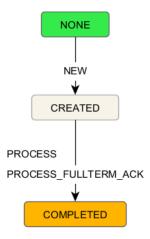

Example for new trade:
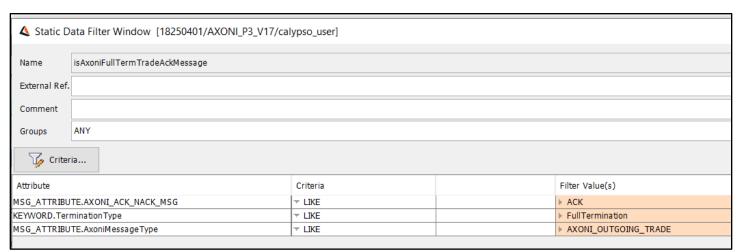
5 Incoming Messages Process

The system will update AXONI_OUTGOING_* message status with Axoni interface status and will set trade attribute AXONI_STATUS with same value.

5.1 Incoming Workflow
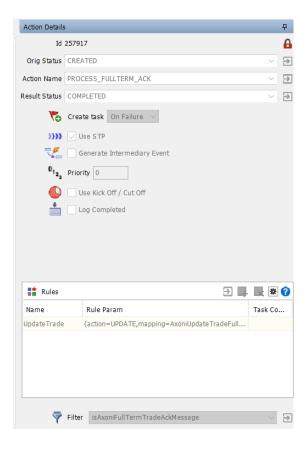
You can import the workflow using <calypso home>/client/resources/AXONI_INCOMING.wf.

Action PROCESS_FULLTERM_ACK

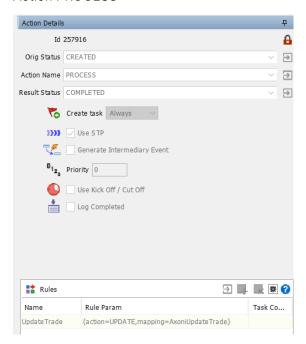| Attribute	Criteria		Filter Value(s)
MSG_ATTRIBUTE.AXONI_ACK_NACK_MSG	▼ LIKE		▶ ACK
KEYWORD.TerminationType	▼ LIKE		▶ FullTermination
MSG_ATTRIBUTE.AxoniMessageType	▼ LIKE		▶ AXONI_OUTGOING_TRADE

Action PROCESS

No static data filter.

While integrating ACK/NACK response from AXONI, the system will create a BOMessage with message type AXONI_INCOMING, message is in status CREATED.

The trade keyword AxoniBOMessageId is populated upon import.

The domain AxoniUpdateTradeFullTerm must contain Value = AxoniBOMessageId and Comment = AxoniBOMessageId.

The domain AxoniUpdateTrade must contain Value = AxoniBOMessageId and Comment = AxoniBOMessageId.

The incoming BOMessage will be indexed with the outgoing AXONI_OUTGOING_* messages.
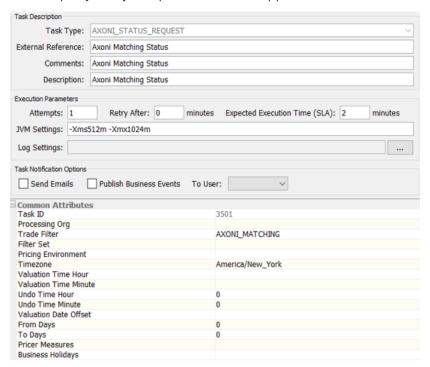
5.2   Scheduled Task AXONI_STATUS_REQUEST

AXONI acknowledgements are integrated into Calypso using the scheduled task AXONI_STATUS_REQUEST. It fetches all the trades from the given Trade Filter and creates PSEventAxoni events which will be processed by the Axoni Engine (which subscribes to PSEventAxoni).

Trade Filter is mandatory.

Users can only get the trade / contract status updates via this scheduled task. User will have to schedule the trigger in order to get the status updates. User can setup the trade filter such that only trades having UNMATCHED or empty/blank AxoniMatchingStatus should be included to get the status updates.

Counterparty lifecycle updates are not supported.

5.2.1   Outgoing Messages, Trades and Contracts Status Update

When the incoming messages are processed, the status of the corresponding Outgoing Messages, Trades and Contracts is updated accordingly.

If there are multiple outgoing contract and trade messages for a given trade, only the latest outgoing message is updated.

FT = Full Termination

PT = Partial Termination

Cases	Action	Result Status
New contract	CP affirms contract and both old and new trade	unpaired
New trade		unpaired
FT contract		confirmed
FT new trade		confirmed
New contract	CP affirms contract but not old and new trade	unpaired
New trade		unpaired
FT contract		confirmed
FT new trade		unmatched
New contract	CP affirms contract and old trade but not new trade	unpaired
New trade		unpaired
FT contract		confirmed
FT new trade		unmatched
New contract	CP affirms contract and new trade but not old trade	unpaired
New trade		unpaired
FT contract		confirmed
FT new trade		confirmed
New contract	CP affirms both old and new trade	unpaired
New trade		unpaired
Amend contract		unpaired
New trade		unpaired
FT contract		confirmed
FT new trade		confirmed
New contract	CP affirms old contract but not old trade, new trade and new contract	unpaired
New trade		unpaired
Amend contract		unpaired

Cases	Action	Result Status
Amend trade		unpaired
PT old contract		confirmed
PT old trade		unmatched
PT new contract		unmatched
PT new trade		unmatched
New contract	CP affirms old contract and old trade but not new trade and new contract	unpaired
New trade		unpaired
Amend contract		unpaired
Amend trade		unpaired
PT old contract		confirmed
PT old trade		confirmed
PT new contract		unmatched
PT new trade		unmatched
New contract	CP affirms old contract, old trade and new contract but not new trade	unpaired
New trade		unpaired
Amend contract		unpaired
Amend trade		unpaired
PT old contract		confirmed
PT old trade		confirmed
PT new contract		confirmed
PT new trade		unmatched
New contract	CP affirms old contract, old trade, new contract and new trade	unpaired
New trade		unpaired
Amend contract		unpaired
Amend trade		unpaired
PT old contract		confirmed
PT old trade		confirmed
PT new contract		confirmed
PT new trade		confirmed
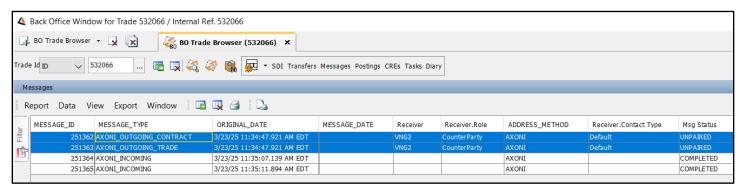
Cases	Action	Result Status
New contract	CP affirms contract but not trade	unpaired
New trade		unpaired
Cancel contract		confirmed
Cancel trade		unmatched
New contract	CP affirms contract and trade	unpaired
New trade		unpaired
Cancel contract		confirmed
Cancel trade		confirmed

5.2.2 Example

For a new trade, the counterparty affirms the contract and both the old and new trade:

The AXONI_OUTGOING_* messages move to UNPAIRED status.
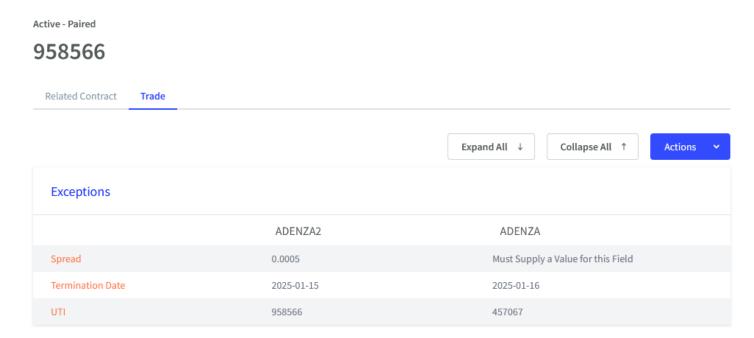
6 Recommendations

6.1 Handling of Exceptional Use Case Undo Termination

- Undo termination should remain an exceptional use case and requires some 4 eyes validation.
- Upon a full termination event, we send a new full termination trade event to Axoni,
- If a user performs an undo termination with the trade action UNDO, the trade is moved back to the previous status such as VERIFIED, we send an update contract and update trade so the contract and trade will move back to the previous state with initial booking data, and we send a cancellation of the termination event to the Axoni UI.

6.2 Investigation of Discrepancies

We do not fetch the differences of bookings with the Counterparty from Axoni into Calypso. User must connect to the Axoni UI to view and investigate the differences:

Example of trade booking showing the discrepancies:

Active - Paired

958566

Related Contract	**Trade**		

Expand All ↓   Collapse All ↑   **Actions** ⌄

Exceptions

	ADENZA2	ADENZA
Spread	0.0005	Must Supply a Value for this Field
Termination Date	2025-01-15	2025-01-16
UTI	958566	457067

6.3 Investigation of Counterparty Amendments and New Bookings

We do not integrate / process as of now the amendments or new bookings sent by the counterparty. User should connect to the Axoni UI to investigate.

Menu Unpaired to retrieve the new bookings: