

Business Process Requirements Document
Block Matching, Trade Allocation and
Confirmation Automation

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1. Introduction

1.1. Overview

As we move towards shorter settlement cycles it is increasingly important that we confirm and match trades as early in the trade lifecycle as possible. Currently a large proportion of cash securities trades are manually allocated and confirmed; relying heavily on the settlement process to pick up any potential trade discrepancies.

The broker community seeks to achieve target of 100% allocation automation and positive affirmation of all cash securities trades on trade date. Although there are already a number of solutions in the market, this document aims to detail the preferred process flows to achieve this.

1.2. Detailed Drivers

Risk & Control

- **Settlement risk:** Post Lehman increased focus has been placed on operational and settlement risk within the securities space. The regulatory landscape is changing and the implementation of T2S and T+2 settlement cycles are expected to become a reality in the next 3 years.
- **Positive affirmation:** It is currently estimated that between 30 & 50 percent of flow is not positively affirmed. With tighter timeframes the need to allocate all trades on trade date increases as well as the generation and resolution of exceptions on T.
- **Discrepancy resolution:** Limited time in which to identify discrepancies prior to intended S/D would inevitably lead to an increase in settlement failures and exposure to the costs associated with fails. Therefore to ensure operational readiness across the market it is imperative a defined standardised process is developed for Allocation, Confirmation and Affirmation.

Cost

- **Cost per trade:** As commission margins have fallen far more emphasis is placed on cost per trade, we as an industry need to ensure that the clients and flow we support are part of a profitable business model - being on an electronic confirmation platform is the single most contributing factor to help achieve this goal. Automation of allocation and confirmation process will allow brokers to support increasing trade volume without adding headcount.
- **Standardisation:** In terms of execution FIX protocol has ensured that trading is validated for a large percentage of trades in the equity market however progress in the post execution space has been limited

- **Resourcing – allocation:** Currently many brokers also have a large cost associated with the manual allocation of trades via e-mail, PDF and other "bespoke" and inconsistent methods.
- **Resourcing – settlement:** Currently most sell side brokers have large teams of people pre-matching trades prior to settlement.
- **Consolidation:** Future matching of SSIs within the confirmation/affirmation process will reduce the need to support two matches prior to settlement.

1.3. Assumptions & Constraints

TBC. Statement to be taken from the AFME White Paper.

1.4. Objectives

This document details potential solutions to increase allocation automation and positive affirmation. With the recognition that clients will have differing levels of interest in adopting a new solution, we have detailed three possible scenarios:

- 1) Allocation automation – looks solely at automating the receipt and allocation of the trade pre-confirmation.
- 2) Block matching and confirmation affirmation – full F2B solution for allocation automation and positive affirmation.
- 3) Trade confirmation affirmation – retains current allocation and confirmation medium but enables broker to receive positive affirmation.

2. Current State Process

Buy-side clients provide allocations to brokers in various mediums which enable differing levels of booking automation within the broker's internal applications.

The brokers are also required to provide trade confirmations to buy-side clients in various mediums and formats specified by the clients. Many of these mediums do not provide two way messaging capability to monitor positive affirmation or rejection by the clients. Therefore, the brokers are often dependent on settlement pre-matching process to identify possible mismatch on trade economics or result in many queries exchanged between buy-side clients and broker's FO and MO.

Current mediums include but are not limited to:

Medium	Allocation	Confirmation
ETC (Oasys Global/CTM)	✓	✓
FIX	✓	
SWIFT MT 513-518 (inc GETC)		✓
Email	✓	✓
Fax	✓	✓
Phone	✓	
FTP	✓	✓

Brokers have dedicated teams responsible for monitoring trade allocation and confirmation including management of any exceptions.

This document discusses automation of allocations and matching of securities transactions.

3. Allocation Automation

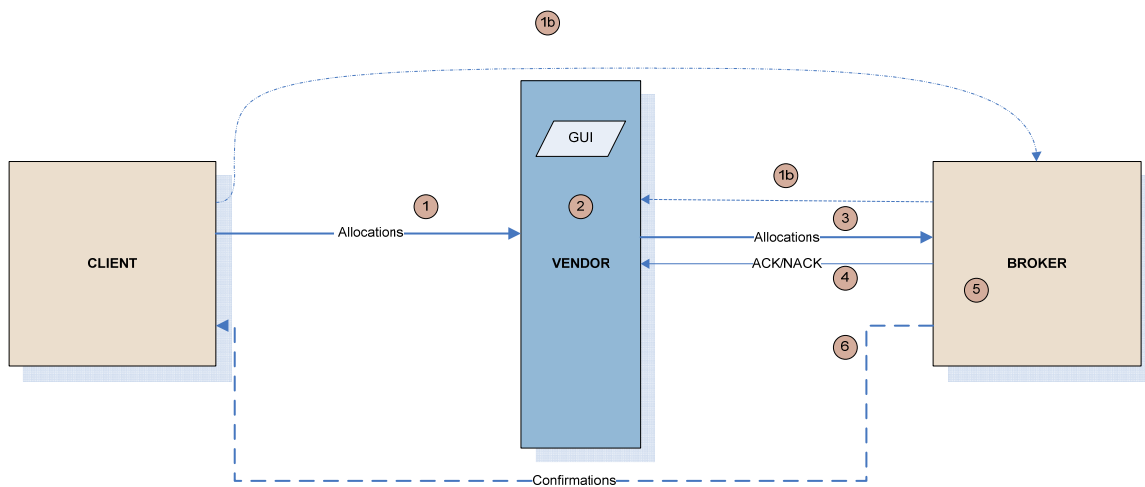
3.1. Product Scope

All Cash Securities products including: Equities, Fixed Income, Convertible Bonds and CFD/Swap give ups. Product scope will be agreed at the point of on-boarding on a broker by broker basis. Should a client subsequently send an out of scope product this will be raised as an exception by their in house system. The vendor will be required to provide product type to help the brokers determine whether a particular trade type is eligible or not.

3.2 Future State Workflow

Clients sending allocations via manual mediums will submit these via a vendor who will transpose these messages into a consistent message format which can be fully automated within the brokers' internal systems.

* Allocation may be submitted directly to the vendor or via the broker



Process ref. #	Process	Application /Owner	Notes
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1	Client provides trade allocation information to vendor (medium of communication to vendor will be client preference) This may be through automated message or manual provision with GUI. (1b - highlights an interim measure whereby the brokers continues to receive the allocations however forwards them onto to the vendor)	Client	Allocation message defined in section (3.5)
2	Vendor receives allocation and transforms the allocation into a consistent format. Vendor derives client identifier, sub account fund short code and stock identifier for inclusion in allocation message to the broker (to be agreed at on-boarding - will be broker specific)	Vendor	Derivation detail in section (3.7)
3	Vendor sends allocation detail to broker (medium of communication to broker will be broker preference)	Vendor	Vendor will be required to support multiple communication methods. (3.9)
4	The broker may confirm receipt with an Ack or Nack. This will depend upon the communication medium being used - nacks will only be used to specify technical validation issues as agreed during the on-boarding process.	Broker	Technical validation based on mandatory message fields - section (3.10)
5	The broker will process the allocation internally and book trade.	Broker	
6	The broker will produce and distribute a trade confirmation using the existing confirm medium. The allocation process will not impact the previously agreed confirm process. (refer to full allocation/confirmation solution)	Broker	Refer to confirmation automation document for full F2B automation

3.3 Methods of Communication Client to the Vendor

Whilst the long term goal is for all broker/client communication to be automated, this is currently not possible; some clients do not have the capability/functionality to automate their trade allocation flow. Consequently, some clients will only be able to communicate allocations manually, i.e. via email, excel, fax. The vendor will therefore, be required to support various communication mediums supplied by client.

3.4 Message Format

- **Automated methods:** FIX message, SWIFT, XML
- **Manual methods:** Excel and csv files, Emails, fax, pdf's. Word, Text, and Data (.eq) files
- **Provision within GUI:** ability for clients to upload or manually type allocation information into the GUI.

Note: This will also lower the entry barriers and allow clients to utilise the service with minimal if any change in current procedure.

3.5 Message Core Attributes

A common set of data will be required to be sent to the vendor.

N.B: All allocations for one order should be sent within one message to enable the broker to find the total order to allocate. However, Allocations may be in different tabs within one spreadsheet, and a single spreadsheet may contain allocations for more than one orders.

Allocation Details from Client

- Order ID –Optional (this enables the broker to link the allocations to a trade within their systems)
- Fund id - Mandatory
- Broker – Mandatory
- Direction – Mandatory
- Stock identifier (ISIN, Sedol, RIC, or others agreed at time of on-boarding) – Mandatory
- Quantity – Mandatory
- Price – Mandatory
- Trade Date (format to be agreed at time of on-boarding) – Mandatory
- Value Date – (format to be agreed at time of on-boarding) Optional (mandatory if different from standard settlement cycle)
- Commission Rate/amount – Optional (best practice to include)
- Local Charges – Optional
- Settlement Currency – Optional (mandatory if cross currency)
- Net Consideration – Optional
- PSET – Optional (best practice to send)
- Commission sharing/soft flag -optional
- Accrued Interest- Optional
- SSIs- Optional (best practice to send)

All onward communication mediums utilised to transmit this information to the broker should factor in the above, regardless of whether the client populates the optional fields.

* Later phase; brokers would like vendors to explore the option of inclusion of SSIs and the creation or link up to a SSI database.

3.6 Validation of Incoming Allocation Message

Upon receipt of the allocations, the vendor should ensure that the allocation message contains the all of the mandatory fields as specified in section 3.5. If there are any exceptions these need to be raised to the allocation submitter, this can be the client or the broker. This

may be in various formats as agreed with the client and/or broker during the on-boarding phase. To include:

- Email notification - to client, to broker, or both
- Exception raised within the GUI

3.7 Vendor Enrichment

The vendor may be required to enrich the trade allocation details provided by the client with further information. This includes:

- Client id: Brokers will need to know the original provider of allocation information and they will all have different ways of identifying a client internally. During on-boarding all brokers will need to agree a client id per allocation provider (e.g. user name, email address) and the vendor needs to hold and maintain this mapping. NB. if the client submits a new account which isn't setup, Brokers would like the option to receive the allocations which are for valid accounts

* Brokers will look to use LEI, Legal Entity Identifier, in the future to replace Client ID and Broker ID.

- Sub account information: clients may provide long sub account names, this need to be mapped to a fund short code which will enable brokers to automatically receive and process the allocation internally.

* These may be standard codes agreed on a one-off basis with a client or broker specific as some brokers may want to map these to their internal fund codes.

** If the vendor receives a new account they should send onto the broker with the full fund name. This will raise an exception internally but enable the broker to set up the account in a more timely manner. The vendor would be expected to monitor these exceptions and request the derivation rules for this new account from the broker on a daily basis.

- Stock identifier's – vendors will be required to reference external data sources to derive an alternate stock identifier. The broker preference will be agreed at the point of on-boarding; they may provide a number of identifiers in priority order. Vendors will be required to ensure any necessary changes resulting from corporate actions are updated in a timely manner.

The full population of received allocations needs to be shown in the GUI or vendors need to have a support desk for any inquiries.

3.8 Methods of Communication from Vendor to Broker

Whilst the long term goal is for all broker communication to be automated, some brokers will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication mediums.

Electronic communication message format should be in a standardized format so that all vendors use exactly the same message structure for a particular type of message. This will allow for interoperability between vendors allowing Brokers/clients to switch vendors easily increasing competition and decreasing Broker/Client cost to roll out addition connectivity.

3.9 Message Format

- **Automated methods** FIX message, SWIFT, XML
- **Manual methods:** Excel and csv files (via emails or FTP?), body of email

3.10 Message Core Attributes

A common set of data will be required to be sent to the vendor.

N.B: All allocations for one order should be sent within one message to enable the broker to find the total order to allocate.

Allocation Details from Vendor to Broker

- Order ID - Optional (this enables the broker to link the allocations to a trade within their systems)
- Client ID - Mandatory
- Fund id - Mandatory
- Direction - Mandatory
- Stock identifier (ISIN, Sedol, RIC) - Mandatory
- Quantity - Mandatory
- Price - Mandatory
- Trade Date - Mandatory
- Value Date - Optional
- Commission Rate/Amount - Optional (TBD)
- Local Charges - Optional
- Settlement Currency - Optional (mandatory if cross currency)
- Net consideration- Optional
- PSET - Optional
- SSIs - Optional
- Commission sharing/soft \$ flag -optional
- Interest accrued (mandatory for Fixed Income product)

All fields specific above should be passed on to the broker if provided by the client.

3.11 Broker receipt and acknowledgment

Depending upon the allocation medium agreed between the vendor and the broker, the broker may provide a message acknowledgment as per below:

- ACK – positive acknowledgement to confirm receipt and validation of message
- NACK: negative acknowledgement to highlight inability to process message type.

* These are technical acknowledgement to confirm receipt of mandatory fields. These are not to be used for business reasons i.e. allocation messages for trades not found within internal applications.

Post successful receipt of allocations, the broker will further validate the message internally. Any subsequent validation exceptions will be handled within the brokers applications.

(Refer to section 3.6 for NACK alerts)

3.12 Cancel/Amendment scenarios

These will need to be handled on a client by client basis and discussed as part of the onboarding process. Due to the infrequency of allocation amends, this may need to be dealt with outside of the automated process in the initial phase. Subsequent phases may involve further message types e.g. NEW/CANCEL/AMEND to be provided by the vendor to highlight allocation amends to the broker.

4. Block Matching and Confirmation Affirmation

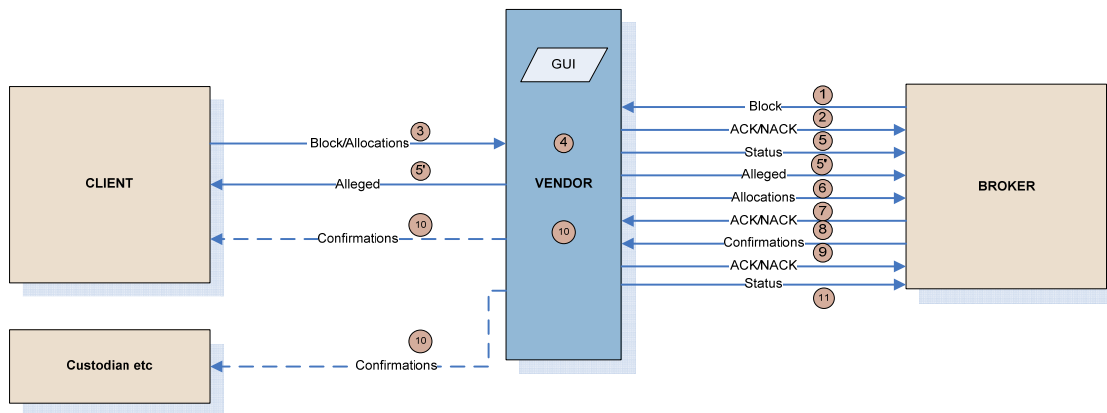
4.1. Product Scope

All Cash Securities Products, except give-up and swap transactions. Matching of give-up and swap transactions is covered within tri-party and broker matching work stream.

Product scope will be agreed at the point of on-boarding, on a broker by broker basis. The brokers' internal system should define which product is eligible for the workflow. The vendor will be required to provide product type to help the brokers determine whether a particular trade type is eligible or not. Vendor should also have functionality to hold product inclusion/exclusion logic at each broker/ Client pairing level and reject back to counterparty any out of scope trades.

4.2. Future State Workflow

Clients will submit allocations via existing formats directly to the vendor, the vendor will transpose these into a consistent format and create a block for matching. Brokers will submit a block confirmation to the vendor and if a corresponding match is found, the vendor will provide the allocations to the broker. The broker will enrich these allocations and submit trade confirmations for positive affirmation by the client.



Process ref. #	Process	Application/Owner	Notes
1	Broker submits a block to vendor electronically.	Broker	
2	Vendor receives block and performs data validation and enrichment. Upon completion of the data validation ACK/NACK is sent back to the broker.	Vendor	Data enrichment requirement detail in section 4.4
3	Client submits block and/or allocations to the vendor.	Client	Vendor will be required to support multiple communication

			methods.
4	For clients who cannot submit blocks, the vendor creates blocks based on allocations submitted by the clients. The vendor then matches the blocks submitted by the broker and the client.	Vendor	Matching criteria detail in section 4.3 Creation of block is section 4.6
5	The vendor sends block matching status to the broker. The status, including match status, is also visible in the GUI.	Vendor	
5'	In case blocks do not pair up for matching, counterparty is notified of alleged block.	Vendor	Vendor will be required to support multiple communication methods.
6	The vendor sends allocations for the matched block to the broker.	Vendor	
7	The broker sends ACK/NACK to the vendor.	Broker	
8	Once trades are booked, the broker generates and submits trade confirmations.	Broker	
9	The vendor receives the trade confirmations and performs data validation and enrichment. Vendor derives broker's legal entity and clients sub account names based on identifiers included in the message (to be agreed at on-boarding – will be broker specific) Upon completion of the data validation ACK/NACK is sent back to the broker.	Vendor	Data enrichment requirement detail in section 4.4
10	Trades are auto affirmed when matched up with figured trade allocations submitted via the clients or manually affirmed by the clients through the GUI. The GUI also allows the clients to export the trade confirmations to pre-defined file format and send to a third party.	Client	Matching criteria detail in section 4.3
11	Matching/affirmation/reject status is sent to the broker and/or visible in the GUI. Any exceptions will be visible in the GUI or sent to the broker for exception management.	Vendor	Vendor will be required to support multiple communication methods.

4.3. Methods of Communication from Broker to Vendor

Whilst the long term goal is for all broker communication to be done electronically, some brokers will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication methods.

Electronic communication message format should be in a standardized format so that all vendors use exactly the same message structure for a particular type of message. This will allow for interoperability between vendors allowing Brokers/clients to switch vendors

easily increasing competition and decreasing Broker/Client cost to roll out additional connectivity.

Message Format for Block

- **Electronic methods:** FIX message, XML, SWIFT
- **Non-electronic method:** Excel/CSV file sent via Email

Message Core Attributes for Block

- A common set of data will be required to be sent to the vendor. The attributes, whether mandatory or optional and pairing or matching field or not, are subject to change in the future.

Block Details from Broker

- Order ID (broker's internal reference) – Mandatory
- Message Type (New/Amend/Cancel) – Mandatory – Brokers using SWIFT will only support new and cancel, as SWIFT does not support amend.
- Client Identifier – Mandatory & pairing criteria
- Broker Identifier – Mandatory & pairing criteria
- Direction – Mandatory & pairing criteria
- Stock Identifier (ISIN, Sedol, RIC) – Mandatory & pairing criteria
- Quantity – Mandatory & matching criteria
- Price – Mandatory & matching criteria
- Trade Date – Mandatory & pairing criteria
- Value Date – Optional
- Commission Amount – Optional
- Settlement Currency – Optional
- FX Rate – Optional
- # of Accrued Days – Mandatory & matching criteria for Fixed Income product
- Accrued Interest – Mandatory & matching criteria for Fixed Income product
- Yield – Mandatory

Message Format for Trade Confirmation

- **Electronic methods:** FIX message, XML, SWIFT
- **Non-electronic method:** Excel/CSV file sent via Email

Message Core Attributes for Trade Confirmation

The attributes, whether mandatory or optional and pairing or matching field or not, are subject to changes in the future.

Trade Confirmation Details from Broker

- Allocation ID provided in allocation message, assigned by vendor – Optional (enables the vendor to link allocations to confirmations), if not provided, the vendor will perform pairing.
- Trade ID (broker's internal reference) – Mandatory (enables the vendor to perform cancel/amend)

- Message Type (New/Amend/Cancel) – Mandatory – Brokers using SWIFT will only support new and cancel, as SWIFT does not support amend.
- Client Identifier – Mandatory & pairing criteria
- Fund id – Mandatory & pairing criteria
- Broker Identifier- Mandatory & pairing criteria
- Direction – Mandatory & pairing criteria
- Stock Identifier (ISIN, Sedol, RIC) – Mandatory & pairing criteria
- Capacity (Agency, Principal) - Optional
- Quantity – Mandatory & pairing criteria
- Price – Mandatory
- Trade Date – Mandatory & pairing criteria
- Value Date – Mandatory
- Place of Execution – Optional
- Time of Execution – Optional
- Bargain conditions (ex-dividend, cum dividend etc) – Optional
- Commission Amount – Optional
- Local Charges – Optional
- Settlement Currency – Conditional (mandatory if cross currency)
- FX Rate – Conditional (mandatory if cross currency)
- Net Consideration in Trade Currency – Mandatory & matching criteria
- Net Consideration in Settlement Currency – Conditional (mandatory & matching criteria if cross currency)
- Payment Type – Optional
- # of Accrued Days – Optional
- Accrued Interest – Mandatory & matching criteria depending on the product type
- Yield- Optional
- Maturity – Mandatory for Fixed Income product
- Coupon – Optional
- Index Ratio for Government Bonds – Mandatory for Fixed Income product
- Commission sharing/soft \$ flag – Optional
- PSET – Optional
- Broker SSI – Mandatory
- Client SSI – Optional

* Later phase; brokers would like vendors to explore the option of the creation or link up to a SSI database.

4.4. Validation of Incoming Message from Brokers

Upon receipt of a block or a trade confirmation, the vendor should ensure that the message contains the mandatory fields as specified in the previous section. If there are any exceptions, these need to be raised to the broker. Some brokers may choose to only receive negative acknowledgement in pre-defined frequency during the initial phase, this should be configurable by brokers and subject to change.

Message Format for Acknowledgement

- **Electronic methods:** FIX message, XML, SWIFT – Acknowledgement status will be communicated real time.
- **Non-electronic method:** Excel/CSV file sent via Email – Timing of status communication to be agreed at the time of on-boarding.

Validation

- Mandatory fields are provided by the broker
- For cancel/amend messages, order/trade ID is valid and active in the vendor's DB
- Broker ID, Client ID, Fund ID, and Security enrichment and validation passes.

*For new issue transactions, sometimes security validation may fail due to certain identifiers do not get setup on trade date. The vendor will need to be able to amend or setup new securities either from receipt of vendor system exception message or upon request from brokers.

Message Core Attributes for Validation Message

- A common set of data will be required to be sent to the broker via above medium.
- Order/trade ID provided in the broker's message – Mandatory (this enables the broker to link the acknowledgement message to the original message)
- Acknowledgement Status - Mandatory
 - Positive acknowledgement to confirm receipt and validation of message
 - Negative acknowledgement to highlight inability to process message.

* These are technical acknowledgement to confirm receipt of mandatory fields. These are not to be used for business reasons.

Vendor Enrichment

The vendor may be required to enrich the block and/or the trade confirmation details provided by the broker with further information. The enrichment process needs to be agreed per broker at the time of on-boarding. This includes:

- **Broker ID:** Clients will need to know the broker's legal entity which trade confirmation is generated for. During on-boarding process all brokers will need to agree a Broker ID per their legal entities (e.g. unique code)
- **Client ID:** Brokers will identify clients by using Client ID agreed during on-boarding process.

* Brokers will look to use LEI, Legal Entity Identifier, in the future to replace Client ID and Broker ID.

- **Sub account information:** Brokers may provide fund IDs which may need to be mapped to long sub account names clients expect to see on their confirmations.

* These may be standard codes agreed on a one-off basis with a client or broker specific as some brokers may want to map these to their internal fund codes.

** If the vendor receives a new account they should send onto the brokers with the full fund name, in a method agreed at the time of on-boarding. This will enable the broker to set up the account in a timelier manner.

- Stock identifiers/names – Vendors may be required to reference external data sources to derive an alternate stock identifier and/or stock names. The broker preference will be agreed at the point of on-boarding. Vendors may need to derive stock names based on identifiers provided by brokers. Multi listed stocks need to be catered for and agreed on the treatment during on-boarding process. Vendors will be required to ensure any necessary changes resulting from corporate action is updated in a timely manner.

4.5. Methods of Communication from Client to Vendor

Whilst the long term goal is for clients to submit block and allocations electronically, this is currently not possible; some clients do not have the capability/functionality to submit electronically. There's a sub set of clients who require block information to be provided before allocations can be submitted to the brokers. The vendor will therefore, be required to support various communication methods.

Blocks/allocations submitted via Email or captured via the GUI

Clients who can submit blocks: The message format and core attributes are the same as described in section 4.3.

Clients who can only submit allocations: The message format and basic core attributes are the same as described in section 3.4 and 3.5. Clients are required to submit all allocations for each order to be submitted in one message.

Allocating blocks sent by brokers via the GUI

Some clients require the brokers to send block information for them to check before they can submit allocations, and prefer to allocate blocks sent by the brokers from the GUI. For those clients who choose to allocate blocks should be presented with a GUI to allocate when double clicking on a block. The GUI should present their accounts in a drop down list, and allow the client to enter allocation quantity. The GUI should validate that a block is not over or under allocated when the client submits allocations.

When a block is fully allocated, block match status should be triggered and send to the broker and/or reflected in the GUI. Allocations should then be communicated to the brokers in the same message formation as described in section 3.4 and 3.5.

4.6. Creation of Blocks by Vendor

Whilst the long term goal is for clients to provide blocks or order information in allocation messages, some clients do not have the capability/functionality to provide the information when submitting allocations. The vendor will therefore, be required to create blocks based on allocations submitted by the clients.

For those clients who can provide order information, blocks should be created per unique order ID provided in allocation messages.

For those clients who cannot provide order information, blocks should be created for same security, price, trade date and direction. Unique order IDs should be assigned to each block by the vendor.

4.7. Methods of Communication from Vendor to Broker (Allocation Instructions)

Whilst the long term goal is for all broker communication to be done electronically, some brokers will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication methods.

Electronic communication message format should be in a standardized format so that all vendors use exactly the same message structure for a particular type of message. This will allow for interoperability between vendors allowing Brokers/clients to switch vendors easily increasing competition and decreasing Broker/Client cost to roll out additional connectivity.

Message Format for Allocation Instructions

- **Electronic methods:** FIX message, XML, SWIFT
- **Non-electronic method:** Excel/CSV file sent via Email – Timing of allocation instructions to be agreed at the time of on-boarding.

Message Core Attributes for Allocation Instructions

- Order ID (broker's internal reference) – Mandatory
- Allocation ID (assigned by vendor) - Mandatory
- Message Type (New/Amend/Cancel) – Mandatory – Brokers using SWIFT will only support new and cancel, as SWIFT does not support amend.
- Client Identifier – Mandatory
- Broker Identifier – Mandatory
- Fund id – Mandatory
- Quantity – Mandatory

4.8. Methods of Communication from Vendor to Client

Whilst the long term goal is for all broker/client communication to be performed electronically, this is currently not possible; some clients do not have the capability/functionality to submit figured trades to vendors to match with brokers. The vendor will therefore, be required to support various ways to allow clients to affirm trades and extract trade confirmations in required format.

Actions/Functionalities Available to Clients

- View blocks/trade confirmations details in the GUI.
- Affirm or reject trade confirmations. When rejecting confirmations, reject reason codes should be available to the clients as a drop down list. Reject codes should be in line with ISO 15022 reason codes. If the client selects 'Other', then free text reject reason should be mandatory for the client to populate. A validation should be performed to ensure a reason code was selected and not allow the client to just type "." or "," for free text reject reason for 'Other'.
- Select blocks/trade confirmations from the GUI and save down in client pre defined file format to pre-defined drive or location, send to another party via Email/Fax/SWIFT MT515, print out. The output needs to include each broker's confirmation disclaimer. This requirement is clients to define.
- Automatically receive blocks/trade confirmations via Email/Fax or save down in client defined file format to pre-defined drive at pre-defined time. The output needs to include each broker's confirmation disclaimer. This requirement is clients to define.
- Auto forward trade confirmations to custodians/outsourcers for pre-configured accounts via Email/Fax/SWIFT MT515. Clients need to be able to profile whether only affirmed trades or all trades will be included.

Note: This will also lower the entry barriers and allow clients to utilize the service with minimal if any change in current procedure.

All fields provided by the broker should be configurable to include in the output.

Ways to Affirm/Reject Trade Confirmations

- Trades to set to auto affirm once trade details are matched off with the broker's. This is only offered to clients who can submit figured trades.

Note: Matching fields and level of tolerance to be setup for relevant fields which need to be agreed during on-boarding process.

- If clients opt to receive by Email, either two of below options should be given to clients.
 - Email message gives an option to affirm all trades in the message and updates status
 - Provide a link which takes clients to the vendor's confirmation GUI to affirm
- Select trade(s) and manually affirm a single or multiple trades from the GUI.
- Any rejection will be performed from the GUI.

Note: This will also lower the entry barriers and allow clients to utilize the service with minimal if any change in current procedure.

4.9. Methods of Communication from Vendor to Third Party

Currently some clients require brokers to send trade confirmations to their custodians or outsourcers. The trade confirmations submitted by the brokers need to be viewable and/or

exportable to them as well. The custodians and outsourcers should only be able to view/export for sub accounts they are configured to view.

Actions/Functionalities Available to Third Party

- Select trade confirmations from the GUI and save down to pre-defined drive or print out in an agreed file format, including each broker's confirmation disclaimer.
- Automatically save down to pre-defined drive in an agreed file format at pre-defined time.
- View trade confirmations details in the GUI.

4.10. Matching Logic

Based on the agreed pairing, the vendor will look to pair blocks/trades submitted by brokers and clients.

The Pairing fields are;

- Broker Identifier
- Client Identifier
- Security Identifier
- Direction
- Trade Date

Once blocks/trades are paired, the vendor will then match on the agreed matching fields. If block/trade fails to find a pair, 'Unmatched' status will be send back to Client and Broker or displayed in the GUI.

The Matching fields are;

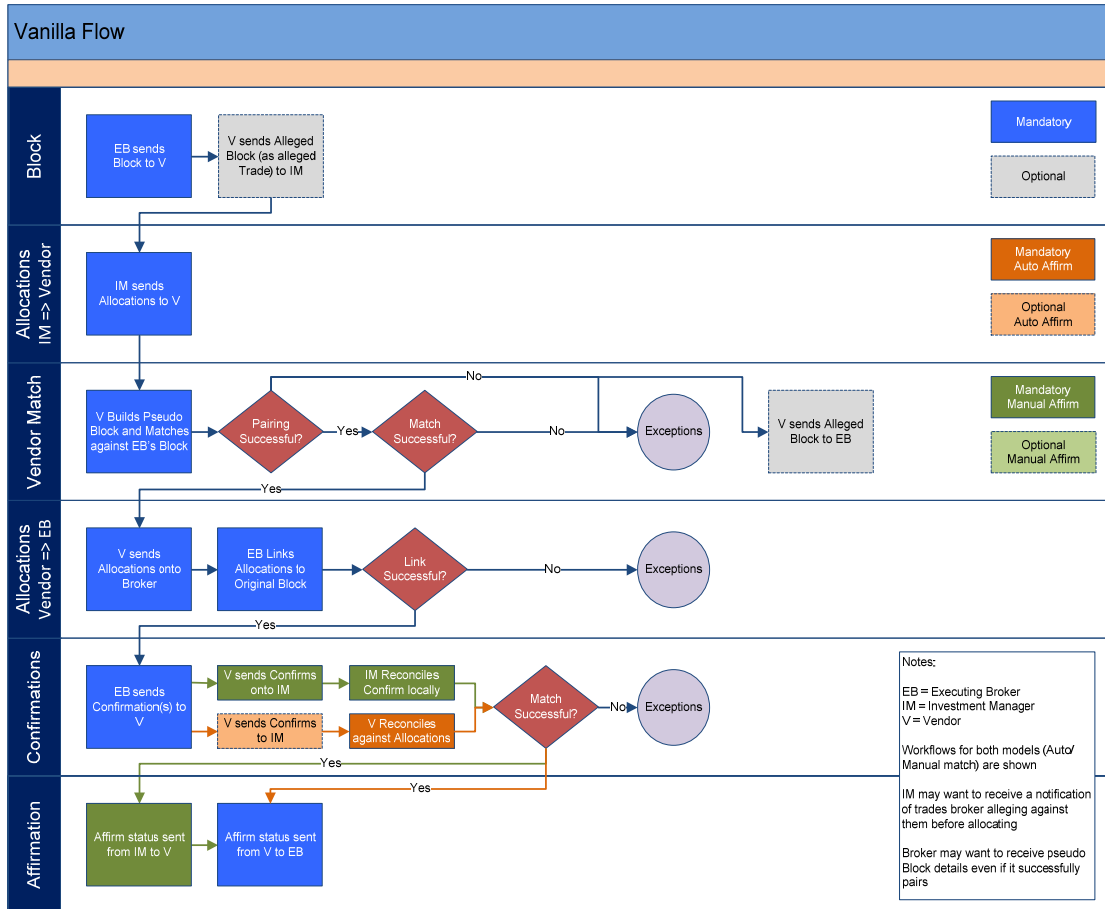
- Quantity
- Price
- # of Accrued days – Fixed Income product only
- Accrued Interest – Fixed Income product only

Once blocks/trades are matched, 'Matched' status will be sent back or displayed in the GUI.

If block/trade fails to match on the matching fields, 'Mismatched' status will be send back or displayed in the GUI, with details of mismatched fields/values.

4.11. Match/Unmatched/Mismatched Scenarios
4.11.1. Blocks/trades matched

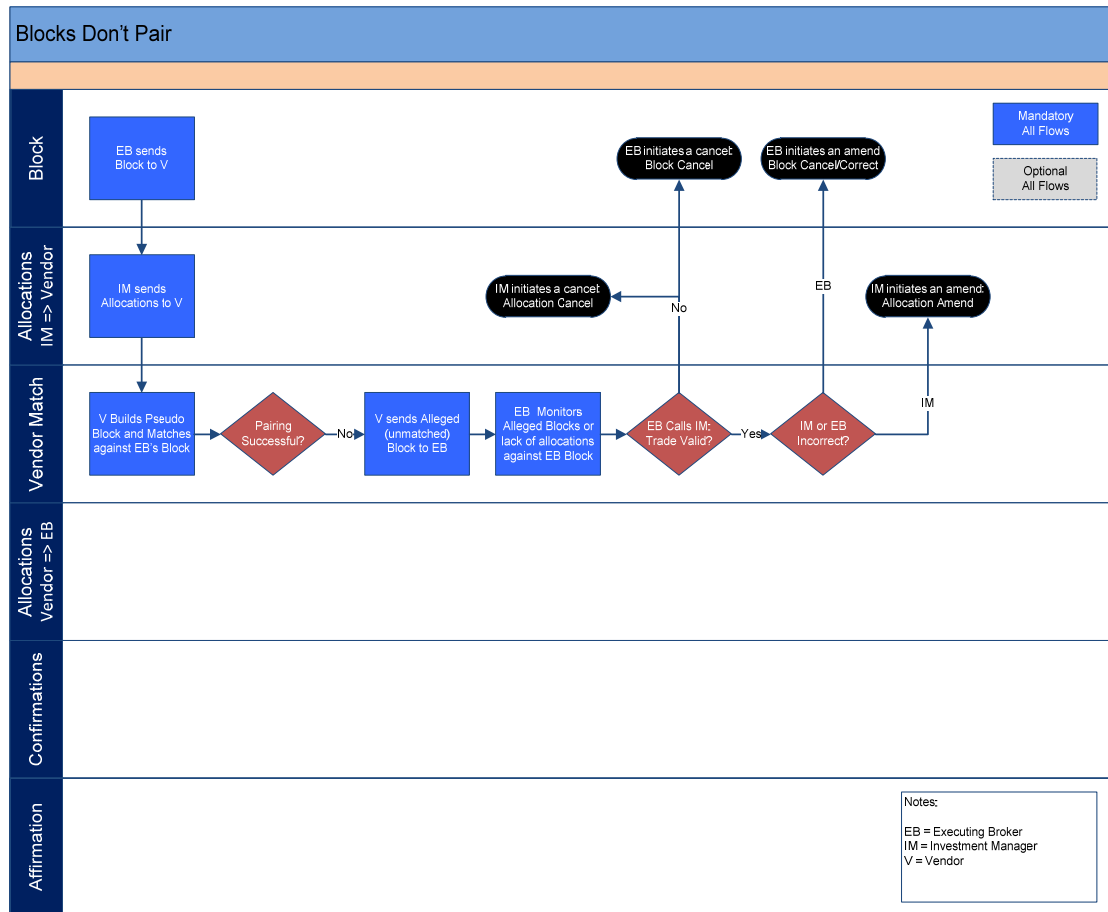
Detailed workflow



4.11.2. Trades don't pair

Blocks are submitted by both parties, but fail to find pairing block due to mismatch in the pairing fields. 'Unmatched' status is sent or displayed in the GUI. Alleged block is also sent to the both parties, or displayed in the GUI.

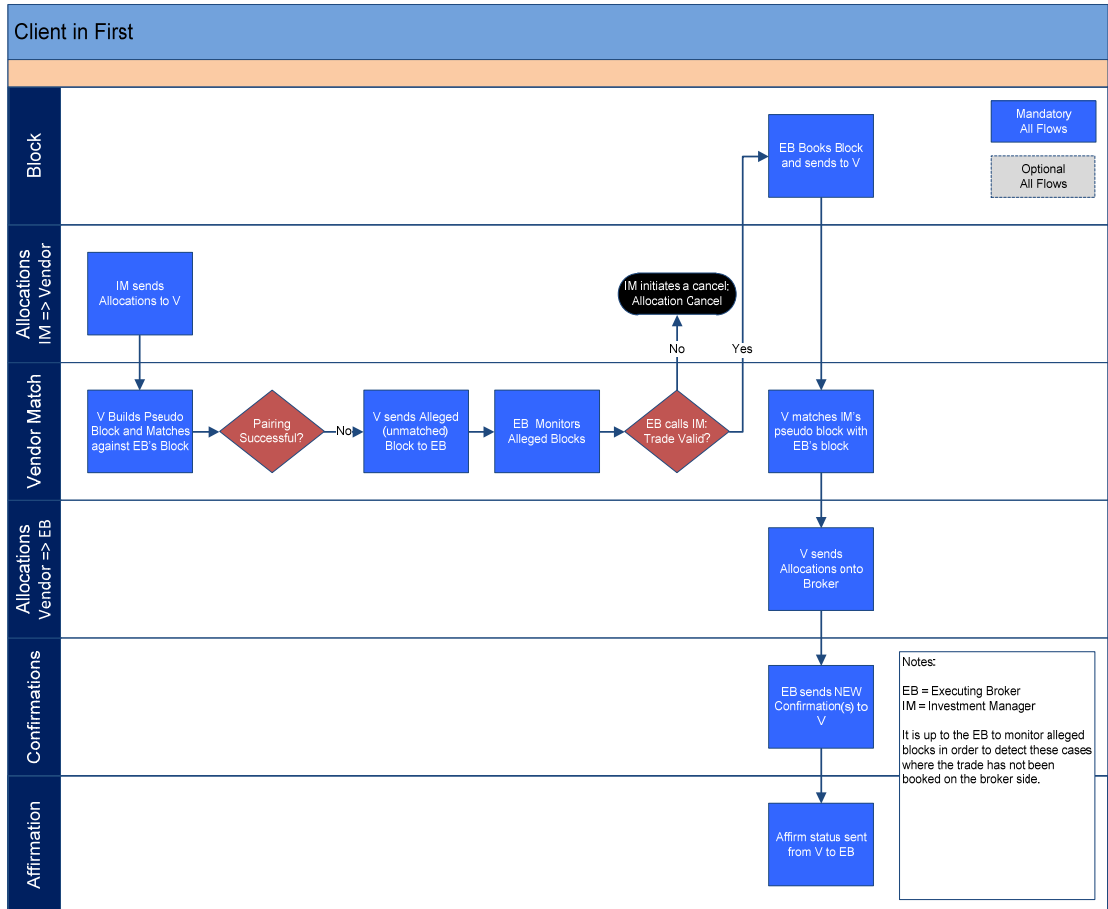
Detailed workflow



4.11.3. Client in first

Block or allocation(s), for pseudo block clients, is submitted by the client, but fails to find pairing block due to lack of matching block submitted by the broker. 'Unmatched' status is sent or displayed in the GUI. Alleged block is also sent to the broker, or displayed in the GUI.

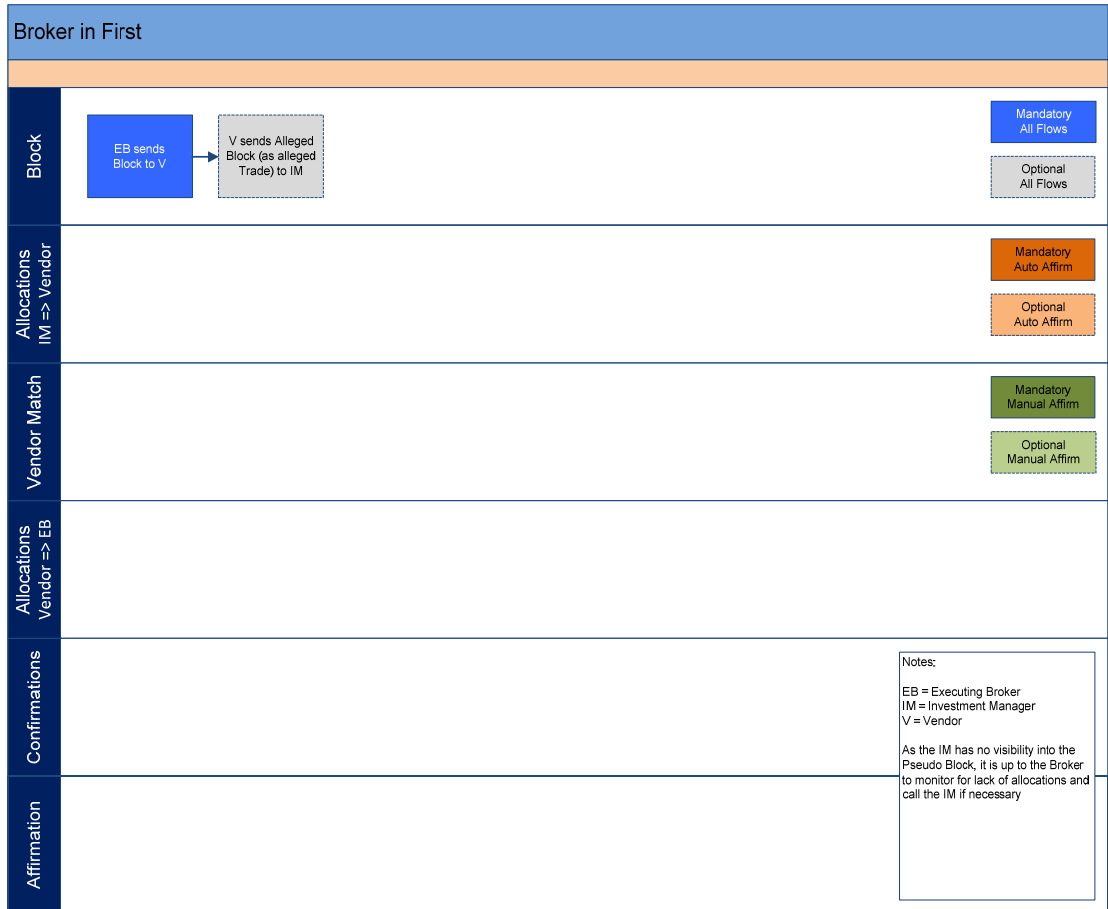
Detailed workflow



4.11.4. Broker in first

Block is submitted by the broker, but fails to find pairing block due to lack of matching block submitted by the client. 'Unmatched' status is sent or displayed in the GUI. Alleged block is also sent to the client, or displayed in the GUI. Notifications to be sent to the broker (if requested) if the block has been unmatched for a certain period of time

Detailed workflow



4.11.5. Client incorrect trade details

Block mismatch

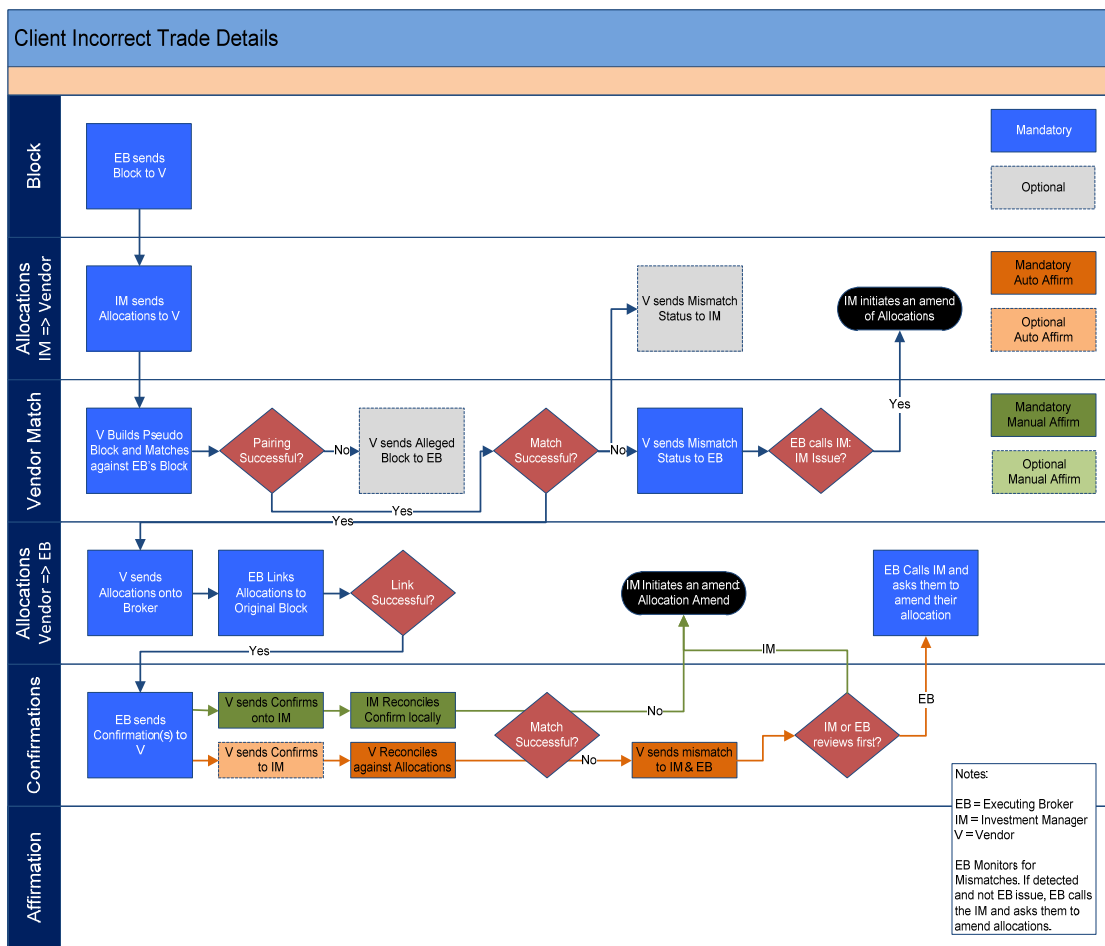
Blocks or allocation(s), for pseudo block clients, are submitted by both parties, blocks pair successfully but mismatches on the matching fields. 'Mismatch' status is sent or displayed in the GUI.

Trade mismatch

Trades are submitted by both parties, trades pair successfully but mismatches on the matching fields.

'Mismatch' status is sent or displayed in the GUI. The client then initiates cancel/amend to match with the broker.

Detailed workflow



4.11.6. Broker incorrect trade details

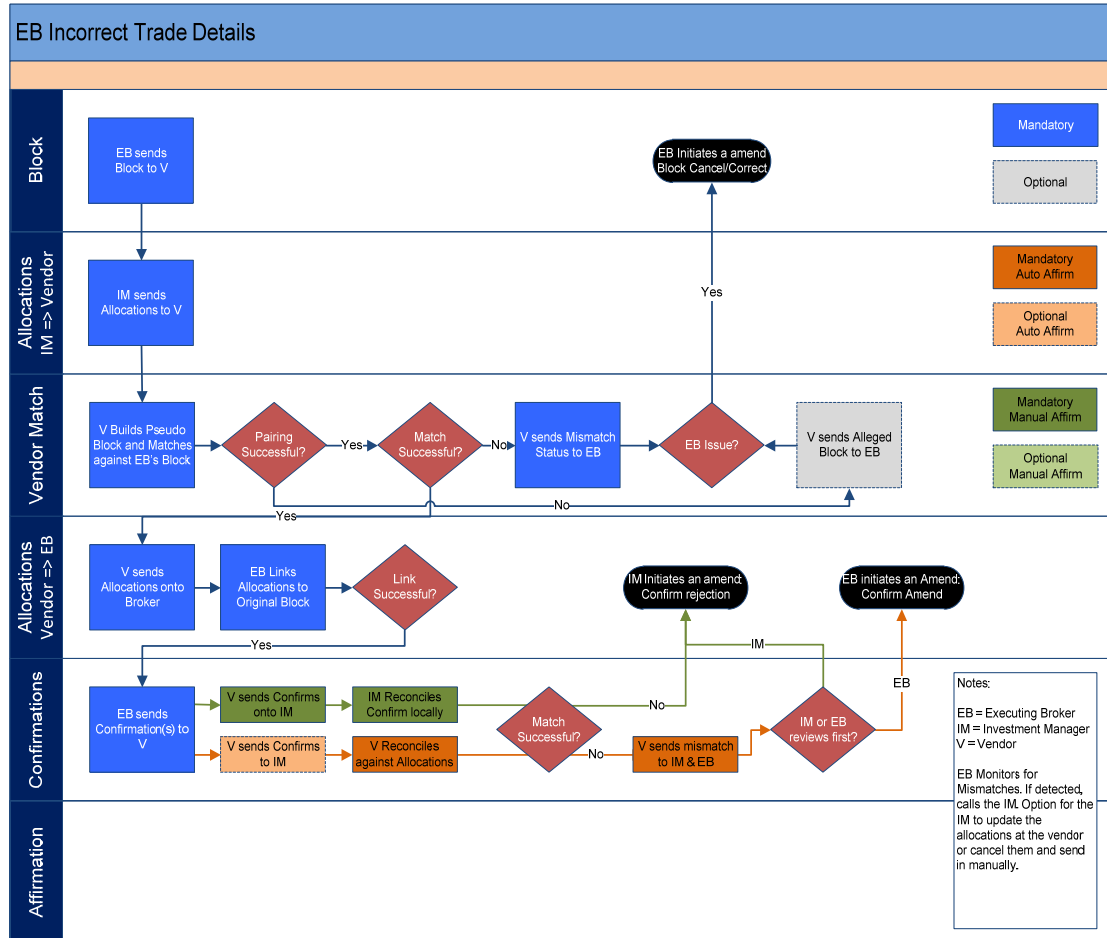
Block mismatch

Blocks or allocation(s), for pseudo block clients, are submitted by both parties, blocks pair successfully but mismatches on the matching fields. 'Mismatch' status is sent or displayed in the GUI.

Trade mismatch

Trades are submitted by both parties, trades pair successfully but mismatches on the matching fields. 'Mismatch' status is sent or displayed in the GUI. The broker then initiates cancel/amend to match with the client.

Detailed workflow



4.12. Methods of Matching Status Communication from Vendor to Broker

Whilst the long term goal is for all broker communication to be done electronically, some brokers will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication methods. Also, some brokers may choose to only receive a subset of status in pre-defined frequency during the initial phase, this should be configurable by brokers and subject to change.

Message Format for Matching Status

- **Electronic methods:** FIX message, XML, SWIFT – Status will be communicated real time.

- **Non-electronic method:** Excel/CSV file sent via Email – Timing of status communication to be agreed at the time of on-boarding.
- **Matching status and exceptions are visible within the GUI** – Status will be reflected in the GUI real time.

Message Core Attributes for Status Message

- A common set of data will be required to be sent to the broker and highlighted in the GUI.
- Block/trade ID provided in the message submitted by the broker – Mandatory (this enables the broker to link the status message to the block/trade confirmation)
- Status – Mandatory
 - Matched – Block or trade confirmation matched at both pairing and matching fields.
 - Unmatched – Block or trade confirmation cannot find any block or trade confirmation to pair with.
 - Mismatched – Block or trade confirmation paired with block or trade confirmation, but matching field(s) is mismatched.
 - Affirmed – Trade confirmation is affirmed by client.
- Rejected – Block or trade confirmation is rejected by client.
- Reject code/comment – Mandatory when sending reject status.
- Mismatched field(s) and mismatched values for both parties – Mandatory when sending mismatch status

Additional Status in the GUI

– Following additional status will be reflected in the GUI for unpaired blocks and trade confirmations.

- Cancelled
- Amended

4.13. Methods of Alleged Block Communication from Vendor to Broker/Client

When the vendor fails to pair up a block with counterparty's block, the vendor is required to send the block information as alleged block to the alleged counterparty. Cancel should be sent when the block pairs up with counterparty's block.

Whilst the long term goal is for all communication to be done electronically, some brokers/clients will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication methods. Some brokers/clients may choose to monitor via the GUI or some brokers/clients may choose to receive in pre-defined frequency, this should be configurable by brokers/clients and subject to change.

Message Format for Alleged Block

- **Electronic methods:** FIX message, XML, SWIFT
- **Non-electronic method:** Excel/CSV file sent via Email

Message Core Attributes for Alleged Block

- A common set of data will be required to be sent to the broker or the client.

- Message Type (New/Cancel)
- Client Identifier
- Broker Identifier
- Direction
- Stock Identifier (ISIN, Sedol, RIC)
- Quantity
- Price
- Trade Date

4.14. Broker Initiated Cancel/Amendment Scenarios

Brokers should identify NEW/CANCEL/AMEND in block or trade confirmation message.

Some brokers may choose to only support NEW/CANCEL message types. Order or trade ID will also be provided in the message for the vendor to cancel or replace the original message.

Amend messages should be submitted by the broker with same order or trade ID with incremented version number.

Broker workflow for cancel and amend processing should remain consistent throughout the lifecycle of the allocation, confirmation and affirmation process.

Any cancels or amendments performed in the GUI require mandatory comment to be added by user for display to both parties of the trade

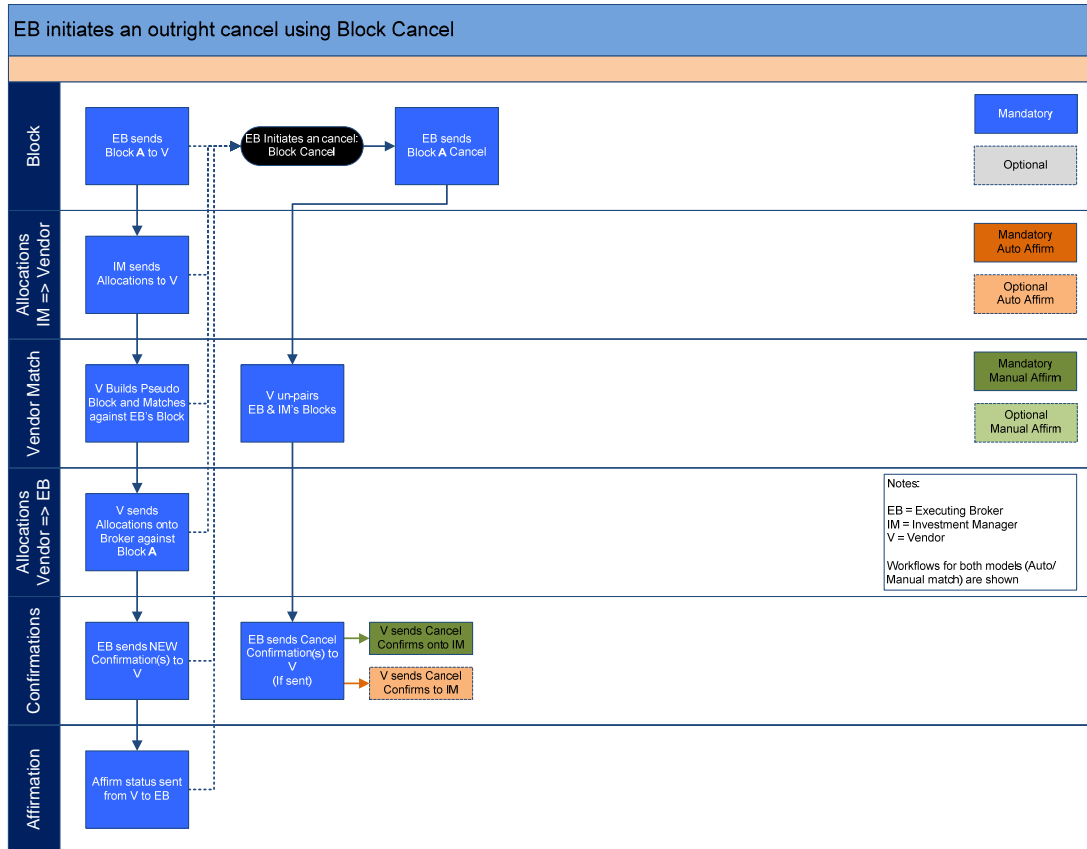
Brokers' performing amendments in the GUI should have the option to suppress messaging to client for non-economic changes

Vendor should provide access to Audit trail in order to allow users track status changes of each message.

4.14.1. Broker- Cancellation of Block

- Block is cancelled in vendor system on receipt of cancel message from broker

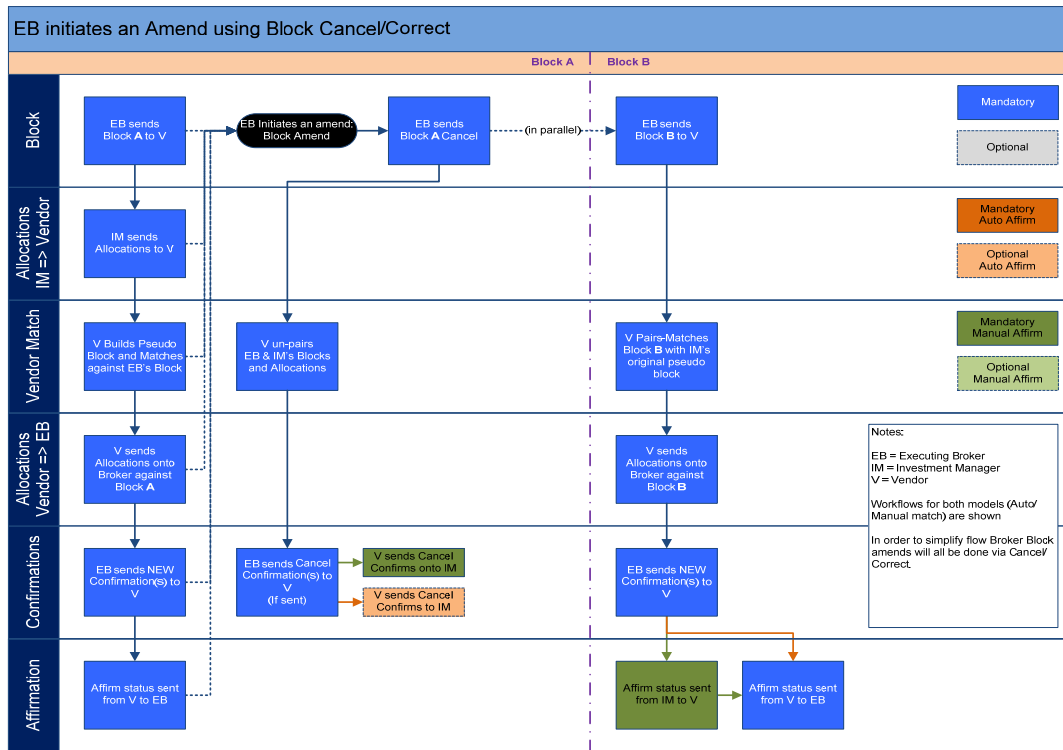
Detailed workflow- Broker Cancels Block



4.14.2. Broker- Amendment of Block

- Previously submitted block is cancelled and replaced upon receipt of cancel/amend message from brokers.
- If an economic amendment received, notification should be sent to the client, that previously matched block has been amended.
- Upon receipt of amend message from brokers, vendor is required to compare each fields and process as amends if any of the fields are different from previous version.
- If all fields are the same, then the vendor needs to treat as non-economical amend and just increase version number of the block/trade confirmation without reversing matching/affirmation status.
- This should not trigger client’s block/allocations to get cancelled.

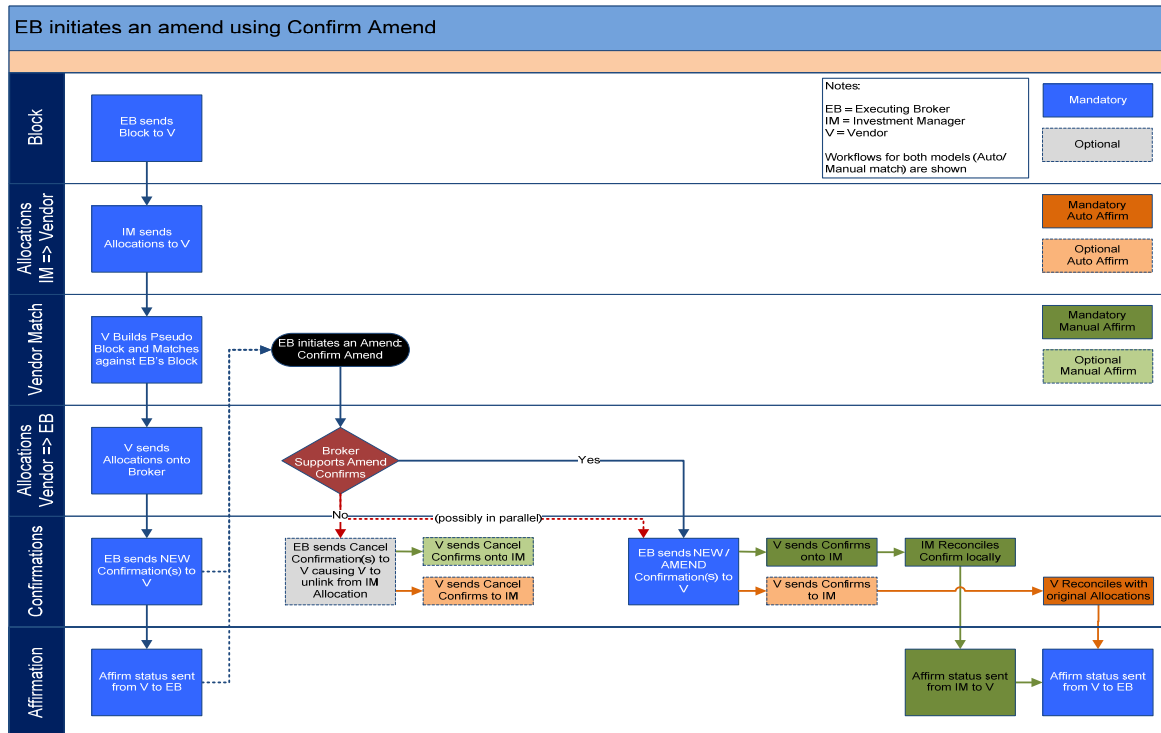
Detailed workflow- Broker Amends Block



4.14.3. Broker- Amendment of Confirmation

- Previously submitted trade confirmations are cancelled and replaced upon receipt of cancel/amend message from brokers.
- Upon receipt of amend message from brokers, vendor is required to compare each fields and process as amends if any of the fields are different from previous version.
- If all fields are the same, then the vendor needs to treat as non-economical amend and just increase version number of the block/trade confirmation without reversing matching/affirmation status.
- Notification needs to be sent to clients that previously affirmed trades have been cancelled/amended.

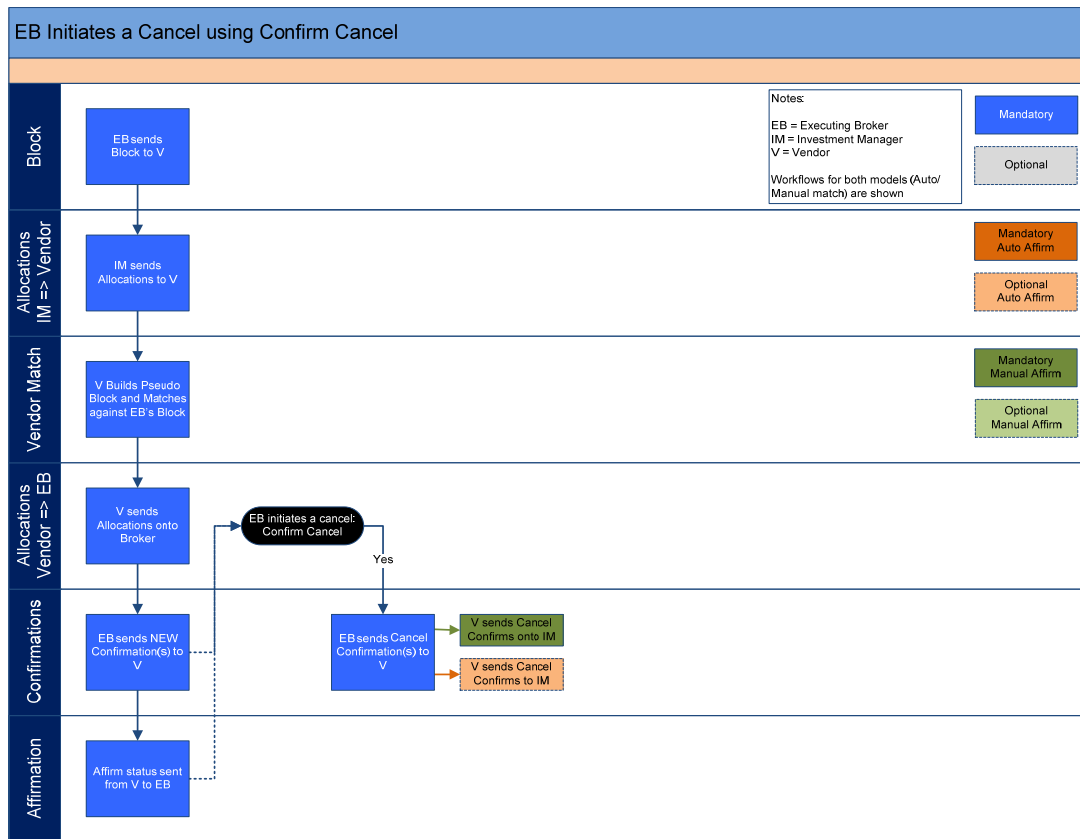
Detailed workflow- Broker amends Confirm



4.14.4 Broker- Cancels Confirmation

- Previously submitted trade confirmations are cancelled upon receipt of cancel message from brokers, reversing affirmation, and sending new matching status.
- Once replacements are received, trades should automatically re-match with client’s trades and auto affirm if matched.
- Notification needs to be sent to clients that affirmed trades have been cancelled/amended.

Detailed workflow- Broker cancels Confirm



4.15. Client Initiated Cancel/Amendment Scenarios

For those clients who cannot provide unique order or allocation ID, cancel/amend should be performed in the GUI provided by the vendor.

The vendor should also support clients who can provide where a unique order or allocation ID, cancel/amend message in the appropriate format as agreed between vendor and client. Vendor should provide access to Audit trail in order to allow users track status changes of each message.

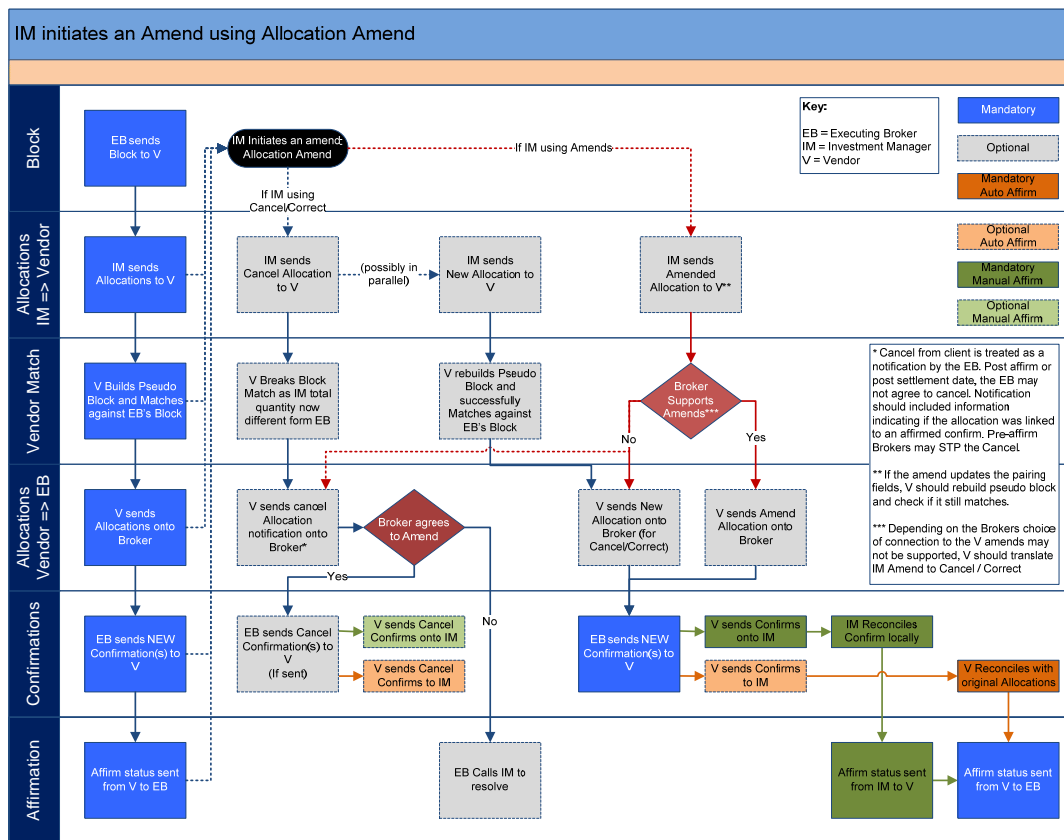
Broker may opt to build/support different levels of automation for handling client initiated cancellation and amendments once allocations are processed. The vendor should be flexible to support the below options

- STP – Cancel/amend to reverse block or trade confirmation match/affirmation status and cancel/amend allocation instructions to be send to brokers.
- Semi STP – Cancel/amend to be processed the same way as STP before cut-off time or pre-affirmation. Exceptions to be raised in the GUI or notifications to be made to broker when client initiates cancel/amend after cut-off time or post-affirmation. Timing is for each broker to be determined at the time of on-boarding.
- Manual – Exceptions to be raised in the GUI or notifications to be made to broker when client initiates cancel/amend

4.15.1. Client- Amendment of Allocation

- Previously submitted or “created block” are cancelled or replaced upon receipt of cancel/amend message from clients.

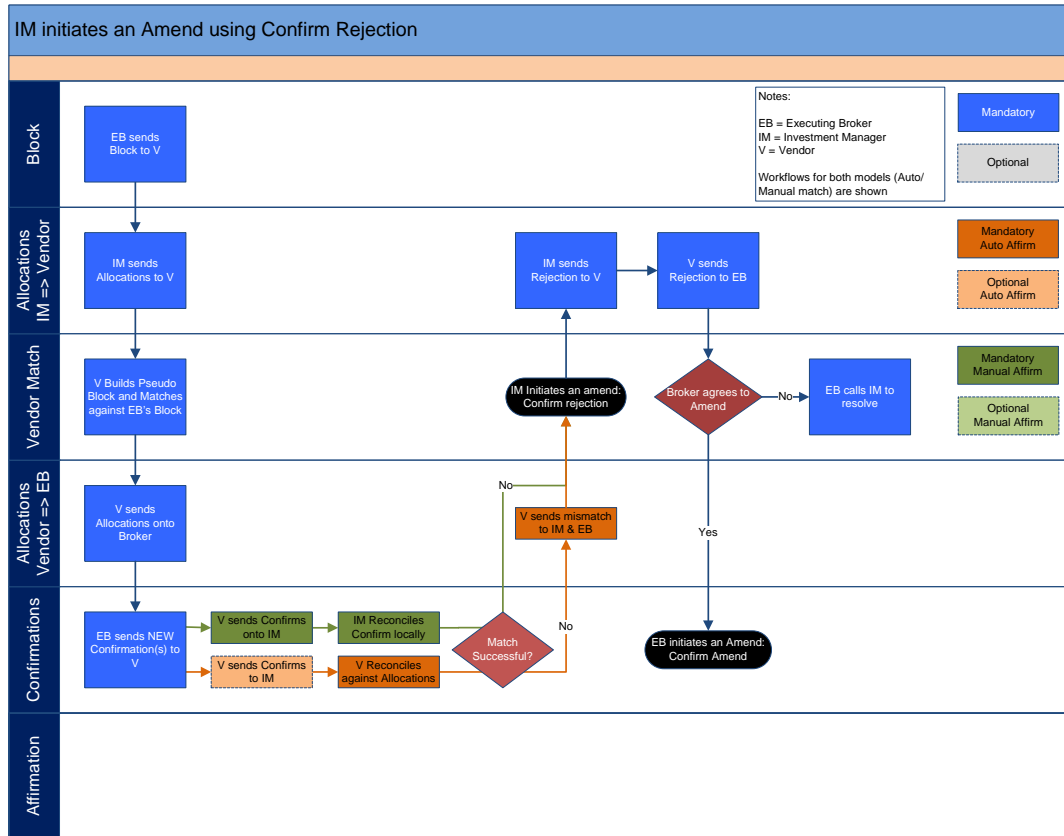
Detailed workflow- Client amends Allocation



4.15.2. Client- Amendment of Confirmation

- The vendor should only allow client to amend non-block criteria fields if the trade confirmations are in unaffirmed or mismatch status.

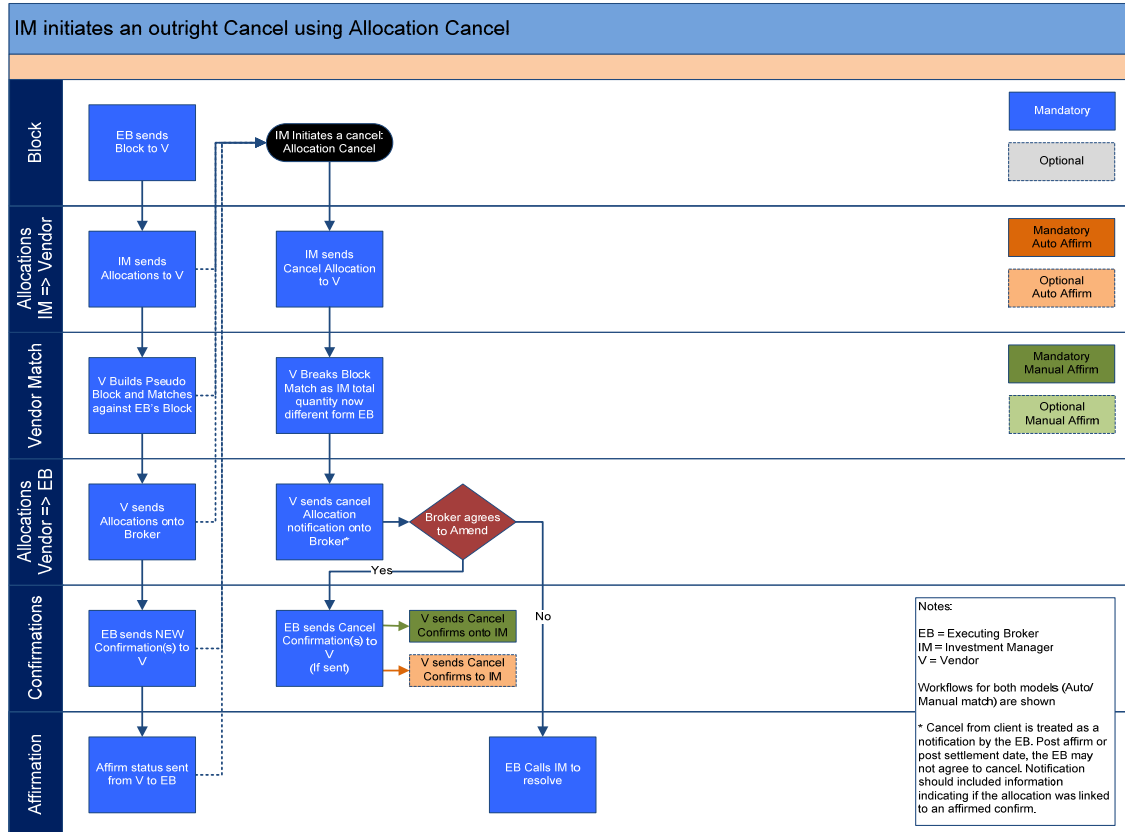
Detailed workflow- Client amends Confirmation



4.15.3. Client- Cancellation of Allocation

- The vendor should only allow client to cancel allocations on receipt of cancel message or GUI input
- If applicable the previously submitted or “created block” should be cancelled or replaced upon receipt of cancel/amend message from clients.

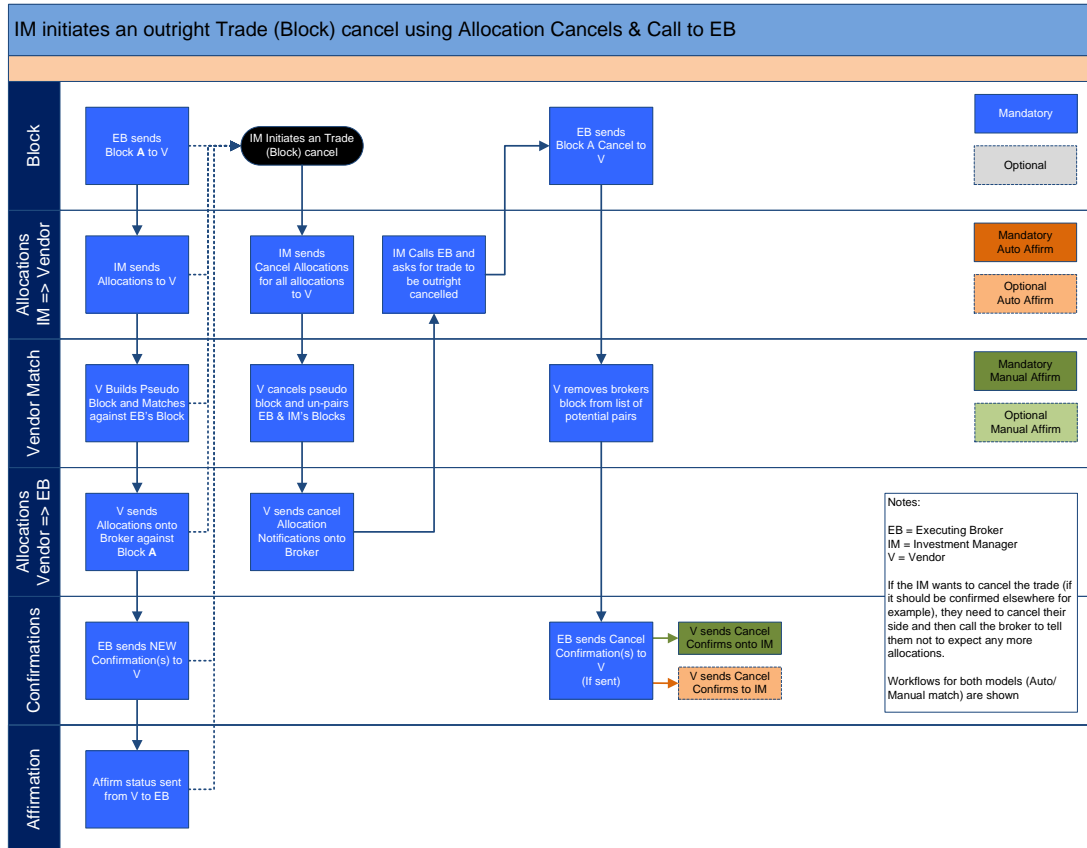
Detailed workflow- Client cancels Allocation



4.15.4. Client- Cancellation of Block- Outright Trade Cancel

- If the Client wants to cancel the trade (if it should be confirmed elsewhere for example), they need to cancel their side and then call the broker to tell them not to expect any more allocations.

Detailed workflow- Client cancels block/ trade



Broker may opt to build/support different levels of automation for handling client initiated cancellation and amendments once allocations are processed. The vendor should be flexible to support the below options

If trades are affirmed the vendor should support the below flexible options for handling this type of exception

- STP – Cancel/amend to reverse allocation or trade confirmation match/affirmation status and cancel/amend allocation instructions to be sent to brokers.
- Semi STP – Cancel/amend to be processed the same way as STP before cut-off time or pre-affirmation. Exceptions to be raised in the GUI or notifications to be made to broker when client initiates cancel/amend after cut-off time or post-affirmation. Timing is for each broker to be determined at the time of on-boarding.
- Manual – Exceptions to be raised in the GUI or notifications to be made to broker when client initiates cancel/amend

5. Trade Confirmation Affirmation

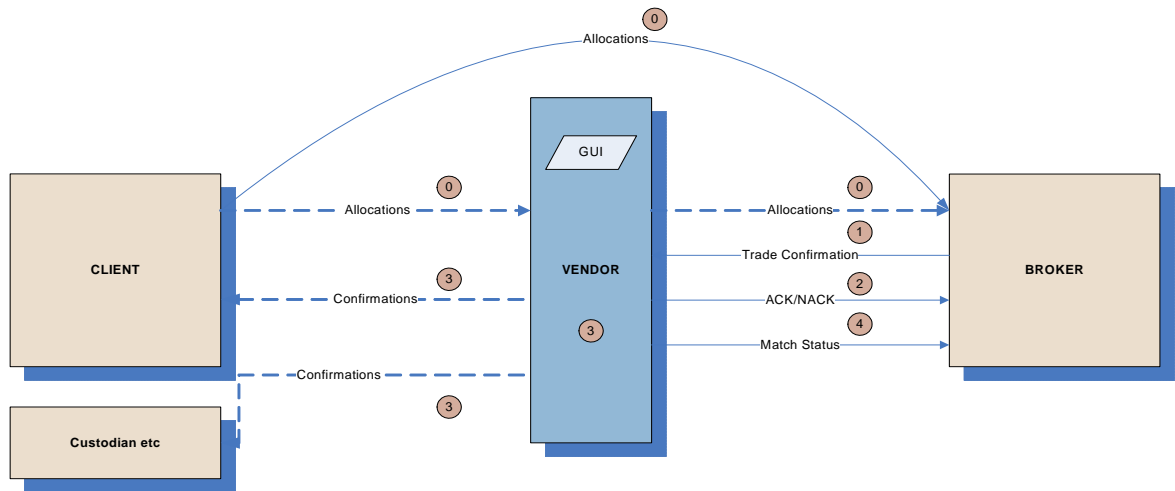
5.1. Product Scope

All Cash Securities Products, except give-up and swap transactions. Matching of give-up and swap transactions is covered within tri-party and broker matching work stream.

Product scope will be agreed at the point of on-boarding, on a broker by broker basis. The brokers' internal system should define which product is eligible for the workflow.

5.2. Future State Workflow

Once trades are booked, trade confirmations are generated and the brokers will submit trade confirmations to the vendor who will transpose these messages into a consistent message format which can be matched with figured trade allocations submitted by the clients or display in the GUI for the clients to affirm manually.



Process ref. #	Process	Application/Owner	Notes
0	Client submits allocations via existing medium.	Client	
1	Once trades are booked, the broker generates and submits trade confirmations electronically or using existing confirmation medium.	Broker	Vendor will be required to support multiple communication methods.
2	The vendor receives the trade confirmations and performs data validation and enrichment. Vendor derives broker's legal entity and clients sub account names based on identifiers included in the message (to be agreed at on-boarding – will be broker specific) Upon completion of the data validation ACK/NACK is sent back to the broker.	Vendor	Data enrichment requirement detail in section 4.4
3	Trades are auto affirmed when matched up with figured trade allocations submitted via the clients or manually affirmed by the clients through the GUI. If trades are	Client	Matching criteria detail in section 5.3

	mismatched, the clients can reject. The GUI also allows the clients to export the trade confirmations to pre-defined file format and send to a third party.		
4	Matching status is sent to the broker and/or visible in the GUI. Any exceptions will be visible in the GUI or sent to the broker for exception management.	Vendor	Vendor will be required to support multiple communication methods.

5.3. Methods of Communication from Broker to Vendor

Whilst the long term goal is for all broker communication to be done electronically, some brokers will opt for less automated mediums during the initial pilot phase. This will reduce on-boarding lead time and implementation costs for the initial client set. The vendor will therefore, be required to support various communication methods.

Message Format for Trade Confirmation

- **Electronic methods:** FIX message, XML, SWIFT
- **Non electronic methods:** Excel/csv/PDF files sent via Email/Fax

Message Core Attributes for Trade Confirmation

Trade Confirmation Details from Broker

The attributes, whether mandatory or optional and matching field or not, are subject to change in the future.

- Allocation ID provided in allocation message, assigned by vendor – Optional (mandatory if allocations were received from the vendor, this enables the vendor to link the allocations to a confirmation and perform cancel/amend)
- Trade ID (broker’s internal reference) – Optional (mandatory if broker is only sending confirmations to the vendor)
- Message Type (New/Amend/Cancel) – Mandatory
- Client Identifier – Mandatory & matching criteria
- Fund id – Mandatory & matching criteria
- Broker Identifier– Mandatory & matching criteria
- Direction – Mandatory & matching criteria
- Stock Identifier (ISIN, Sedol, RIC) – Mandatory & matching criteria
- Capacity (Agency, Principal) – Optional
- Bargain conditions (ex-dividend, cum dividend etc) - Optional
- Quantity – Mandatory & matching criteria
- Price – Mandatory & matching criteria
- Trade Date – Mandatory & matching criteria
- Value Date – Mandatory
- Place of Execution – Optional
- Time of Execution – Optional (need to agree on time format for MIS purpose)
- Commission Amount – Optional
- Local Charges – Optional (TBC whether to be grouped or broken down)
- Settlement Currency – Optional (mandatory if cross currency)

- FX Rate – Optional (mandatory if cross currency)
- Net Consideration in Trade Currency– Mandatory (mandatory and matching criteria for auto affirmation clients)
- Net Consideration in Settlement Currency – Optional (mandatory & matching criteria for auto affirmation clients' cross currency transactions)
- Payment Type – Optional
- # of Accrued Days – Optional
- Accrued Interest – Mandatory and matching criteria
- Yield– Optional
- Commission sharing/soft flag – Optional
- PSET – Optional
- Broker SSI – Mandatory
- Client SSI – Optional

* Later phase; brokers would like vendors to explore the option of the creation or link up to a SSI database.

5.4. Validation of Incoming Message from Brokers

Upon receipt of a trade confirmation, the vendor should ensure that the message contains the mandatory fields as specified in the previous section. If there are any exceptions, these need to be raised to the broker. This may be in various formats as agreed with the broker during the on-boarding phase. The methods include:

- Invalid message sent to the broker – For the brokers communicating electronically.
- Email notification to the broker – For the brokers communicating non-electronically, an email notification to be sent per file received by the vendor.

Validation and enrichment requirements are same as section 4.4.

5.5. Methods of Communication from Vendor to Client

Same as section 4.8.

5.6. Methods of Communication from Vendor to Third Party

Same as section 4.9.

5.7. Methods of Matching Status Communication from Vendor to Broker

Same as section 4.10.

5.8. Cancel/Amendment scenarios- Broker/ Clients

Same as section 4.12 and 4.13.

6. GUI Requirements

6.1. Common requirements for Brokers and Clients

- Ability to filter trades by combinations of different parameters; matching status, client, product, market/region, security. Also, ability to choose multiple criteria within one parameter.
- Display trades in a folder structure – matched/affirmed/rejected/open
- Ability to monitor matching status, see reject code/reason and mismatched fields.
- Ability to view details of trade confirmations.
- General design to be agreed, i.e. up to how many days affirmed trades to remain on the GUI, and be available for search.
- Ability to view audit trails.
- Exception management screen
- Ability to search trades
- Ability to view and the set up of queues/views with pre-defined parameters
- Ability to view and manage tolerances
- Ability to search globally/cross entity
- Ability to add and see comments
- Ability to mark trades as closed (only for Brokers and Clients)
- Run MIS reports (only for Brokers and Clients)
- Ability to print, save & export
- Ability to send manual fax/email confirmation
- Ability to suppress messaging to counterparty for non-material changes
- Ability to bulk amend fields such as allocation ID, commission

6.2. Specific for Brokers

- Need to be able to view across different clients, should not be able to view other brokers' activities.
- [Ability to view and manage queues and tolerances](#)

6.3. Specific for Clients

- Ability to upload and/or capture blocks/allocations.

- Ability to allocate blocks received from brokers.
- Ability to cancel/amend blocks/allocations. Allow to make bulk cancel/amend. Need to validate whether blocks/allocations are in appropriate status for cancel/amend to be made. "ability to add cancel/amend reason code, this is an optional field"
- Need to be able to view across different brokers, should not be able to view other clients' activities.
- Ability to affirm/reject trades individually or by bulk. When rejecting trades, capture pre-defined reason code or comments.
- Ability to select blocks/trades and export to save/print or send via chosen medium (fax/email).
- Possibility of super users to break matches
- Account profiling

6.4. Specific for Third Party

- Need to be able to view across different brokers/clients' activities, but limited to accounts configured with access.
- Ability to select trades and export to send or print via chosen medium (fax/email).

7. Additional Requirements

7.1. Audit Trail

The vendor should be able to track an allocation from receipt from client to acknowledgement from the broker. These messages will need to be tied together with a unique reference which can be queried at a later date if required.

Any action that is taken by user or system should be tracked as lifecycle events of trades for users to view, with username or as 'System' with timestamp. This includes notes added to exceptions by users.

Audit trail is also required to monitor the vendor handling/processing time, given the tight confirmation benchmarks that are requested by clients, we need to ensure we are not delaying booking time by unnecessary additional processing time by the vendor.

7.2. Data Retention

Blocks/allocations/confirmations should be available for users to view or take actions for at least 3 months.

Once archived, the data needs to be retained for 7 years.

7.3. MIS

Brokers use various analyses to measure their performance. Below reports should be available to run at global/regional/market level for a single client or all clients, for user specified time period which can go back more than 3 months. The reports should also be available for clients to compare broker's performance.

Below is a list of MIS requirements:

- a) Initial client on-boarding turnaround times, this will be part of the Service Level Agreement.
- b) Affirmation statistics - % of trade confirmations affirmed by each clients
- c) Same day confirmation/affirmation statistics - % of trade confirmations submitted and affirmed on trade date for each clients
- d) Timeliness of confirmation to affirmation – Turnaround time for clients to affirm trade confirmations. Availability of raw data of population that makes the average.
- e) Timeliness of allocation to confirmation – Turnaround time for brokers to submit trade confirmations upon receipt of allocations. Availability of raw data of population that makes the average.
- f) Timeliness of confirmation against market close and/or time of execution - Turnaround time for brokers to submit blocks/trade confirmations from market close and/or time of execution. Availability of raw data of population that makes the average.
- g) Cancel/amend statistics - # of cancel/amends
- h) Reject reason statistics - # of rejected trades by reject reasons

- i) Timeliness of block submission by broker to allocation submission by client – Turnaround time for blocks submitted by brokers to receive allocations from clients, < an hour, 1-2 hours, > 2 hours.
- j) All of the above data should be available for “rolling periods” such as last 1/3/6/12 months

7.4. User Profiles

User profiles should be setup with different levels

- a) Read Only – View only access
- b) Read/Write – Enter or modify blocks/allocations into the GUI
- c) Supervisor – Ability to mark trades as closed.
- d) Administrator – Setup new users etc.

7.5. Service Level Agreement

7.6. Support Model

NACK back from brokers to be investigated by the vendor’s support team within 30min. Any required updates to reference data