afme/ Post Trade

Business Process Requirements Document

Bilateral Netting via a Vendor Solution

Association for Financial Markets in Europe
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1. Introduction

1.1. Overview

The securities processing environment has undergone a period of significant change over the last decade. These changes have impacted all parties to transactions, enhancing processes for Investment Managers, Broker Dealers and the Custodians that support these transactions.

The introduction of central counterparty [CCP] clearing for exchange execution has provided significant benefits to the wider industry. Most notably a significant impact on the process efficiency when providing market execution services to investment managers and hedge funds has been achieved. Additionally, when coupled with other technological advancement, this has removed processing constraints enabling a higher volume of executions to be supported by both Exchanges and Broker Dealers.

Similarly, with regard to buy-side transaction processing, significant process improvements have been achieved. The majority of the larger market participants demonstrate clear support for a Block Level, electronic trade affirmation. The levels of same day trade booking and same day trade confirmation are achieving historical highs, but have not yet penetrated lower volume clients. The result is a fragmented market where the 'haves' achieve low cost STP processing and the 'have not's remain labour intensive to service without achieving electronic trade economic comparison early in the trade lifecycle.

Further change is anticipated in Europe, including shortened settlement cycles, stricter settlement discipline and potential CSD consolidation. Such proposals will challenge the existing market structure and, if securities markets are to continue to operate in an orderly manner, it will require changes in the behaviour of all market participants.

It is the view of the contributors to this document that the securities landscape is best served by setting out "best practice" standards in order to support the necessary adjustments to processes.

The purpose of this document is to outline proposed standards from the Broker Dealer community and solicit feedback from other industry participants. The aim of this approach is to:

- Adopt a processing model that maximises efficiency based on "best practise" standards.
- Achieve common standards applicable regardless of the participant's scale.
- Lower barriers to entry for full STP.
- Introduce competition across the service provider community and influence innovation and pricing given existing market conditions.
- Facilitate the processing of transactions at a CCP to achieve significant additional cost reductions for market participants.

This document sets out the view of AFME members with regard to the optimal process for broker to broker bi-lateral netting of transactions, including executing and prime broker participants. Initial focus is on the cash equities product, but will in future include an appendix for debt specific considerations.

The AFME Post Trade Execution Services (PTES) Broker Matching and Netting taskforce will produce additional documents pertaining to;

- OTC Broker to Broker Matching
- OTC Netting via a CCP

Other AFME PTES work streams are generating separate documents covering;

- Client Processing Automation
- Tri-Party Matching from a securities perspective

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1.2. Business Process Objectives

The objective of this business process is to ensure that transactions matched between broker participants by the process determined netting cut-off's are made eligible for bi-lateral netted settlement, and instructed on this basis to agent banks.

Achieving this target will generate the following benefits;

1. Reduce the number of gross settlements on matched transactions, and
2. Reduce the number of transactions that reach a status of failed due to inventory and mismatching instructions.
3. Incentivise electronic trade matching & affirmation as a by product of benefits 1 & 2 above.

A further aspiration is for these matched transactions to be settled through a CCP (i.e. when a CCP is able to offer clearing services not offered today), and ultimately for net transactions to form part of a single net per security per firm across exchange and off exchange flow. It is the accepted view that this utopian state is some way from being accomplished.

1.3. Assumptions and Constraints

The following assumptions have been made:

i) The vendors within the process are open to work with the industry participants to modify processes as required.
ii) The vendors will be able to build to multiple message formats, and support participant preference.
iii) The CCP's will be able to incorporate the off-exchange flow into existing net transactions if processing deadlines can be met.
iv) The implementation of T+2 settlement will occur as part of European legislation by 2015.

The following items have been identified as constraints to this proposal:

The broad number of participants will result in a staggered time to adoption, and therefore an extended period to achieve full benefits.

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2. Bilateral Netting via Vendor: Overview

Where the vendor does not have the ability to connect to a CCP or the broker pair is unable to utilise the CCP netting functionality, the vendor should provide functionality which allows brokers the option to have their matched OTC transactions netted via a bilateral netting engine.

Where the vendor offers brokers the possibility to clear their matched OTC transactions via a CCP it is possible that some markets will not be supported by the CCP(s). Therefore, where a market is not supported by a CCP, brokers should have the option to either instruct trades on an individual basis or bilaterally net via the vendor netting engine. Those brokers who opt to bilaterally net their non eligible CCP transactions will require the ability to agree to do so at a broker pair level.

In addition, not all OTC transactions will be eligible for bilateral netting; some market procedures would prevent OTC trades from being netted. Therefore brokers will require functionality within the vendor platform to determine which markets (by PSET) are eligible for netting, and which should be excluded.

Where a market has been excluded from netting, the broker pair will require the ability to instruct trades against excluded markets on an individual basis.

Brokers will also require the ability to determine the netting logic to be used for those markets where bilateral netting is possible; in some markets a pure net is not supported (due to market infrastructure); for example trades which result in the same direction movement of stock and cash, zero stock or zero cash moevment. Therefore, in these scenarios the netting logic should either use a total net with rollback or an aggregated model where by the gross executions will be netted by buy/sell indicator.

This document proposes that the vendor offer the following functionality:

1. Netting Eligible Trades:
    I. Matched trades will be passed to the netting engine to be included a netting cycle run. (See Section 6.1).
    II. Unmatched trades which become matched prior to the final netting cycle run will be passed to the netting engine to be included the next netting cycle run. (See Section 6.4.3.1).
    III. Upon a net cycle being initiated, all gross executions will be netted together, at either a total net with roll back level or aggregation level (See Section 6.3.3).
    IV. At the end of each net cycle run, a net trade report will be generated to brokers for each net created and a status update for each gross execution will also be returned to confirm they have been included in a net. (See Section 6.3.4).
    V. Trades which remain unmatched post the final netting cycle run will receive a status to trigger the broker's in house system or the vendor (where POA is in place) to release the settlement instruction. (See Section 6.4.5.1).

2. Trades Excluded from Netting will:
    I. Receive a status update from the matching platform to trigger the broker's in house system or the vendor (where POA is in place) to release the settlement instruction. (See Section 6.5).

The vendor will also be required to handle cancel and corrects for trades which have been passed to the netting engine and are earmarked for netting, and trades which have been netted. This document also proposes the vendor offer the following functionality:

- It will not be possible to process a cancellation for a gross execution which has been earmarked for netting or has been included in a net without a cancel request procedure being followed.
    - Earmarked Trades: Upon the cancel request being accepted, it is proposed that the matching engine cancel the matched pair and send a cancellation to the netting engine real time. Upon the netting engine accepting the cancellation a status confirming the matched trades have been withdrawn from the net will be returned. (See Section 6.4.1.2).

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- Netted Trades (Post Netting Cycle 1, Prior to Final Net Cycle): Upon the cancel request being accepted, it is proposed that a contra trade (opposite of the original matched trade) be created which is then passed to the netting engine to be included in the next net to reverse the original movement. (See Section 6.4.3.3.2).
- Netted Trades Post Final Cycle: Cancellations will not be processed; the broker should prevent cancels from being passed to the matching engine or the matching engine should mark any cancels received as exceptions. (See Section 6.4.5.4).

Note: Details of the AFME OTC Netting via a CCP requirements can be found in Appendix.

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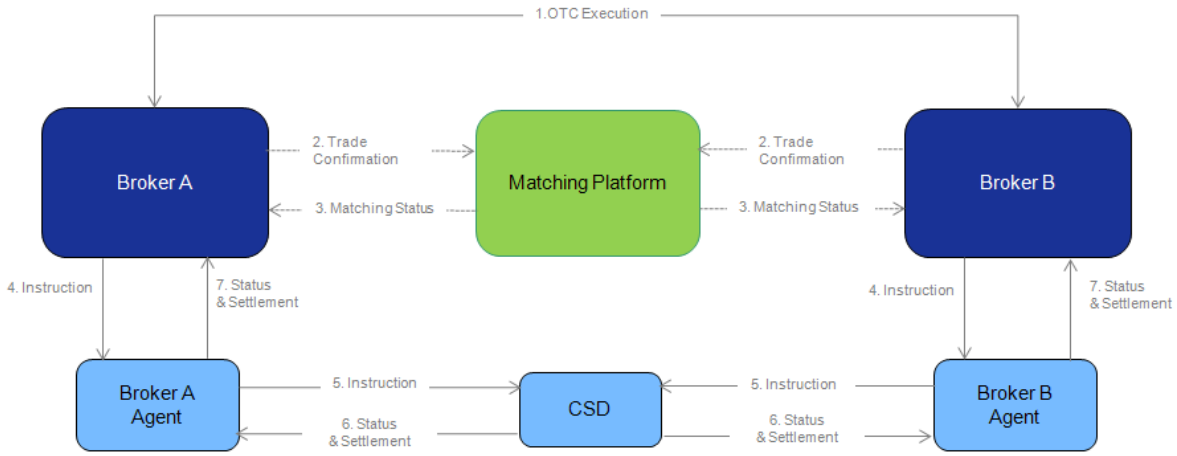
3. Current State Overview

3.1. Current State Overview Diagram



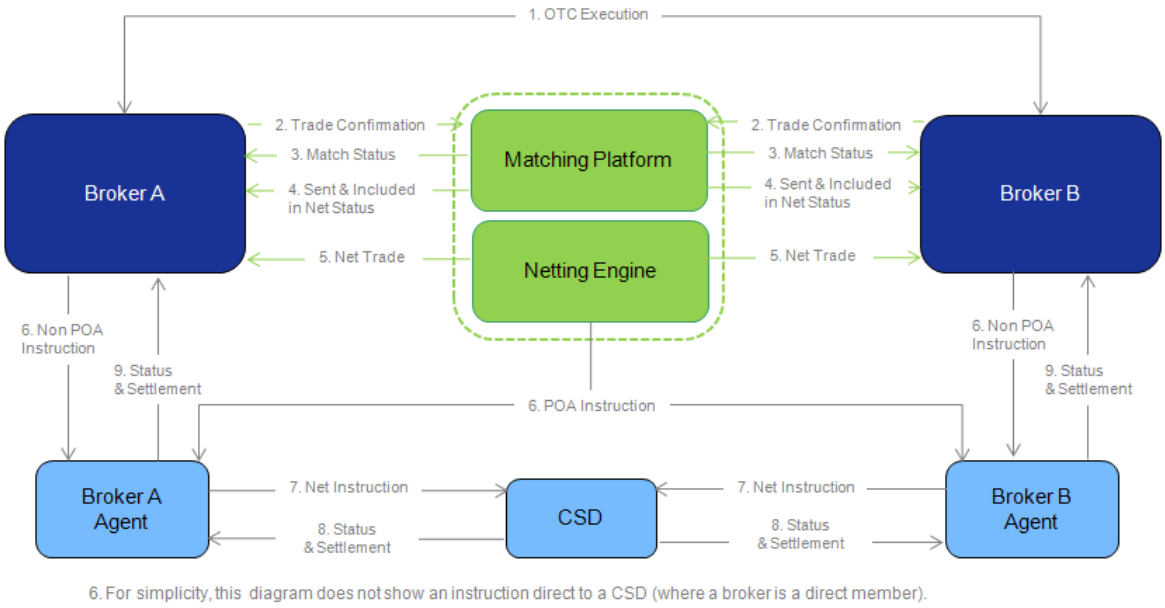
3.1.1. Current State Business Process

At present, there are a number of external matching platforms available to brokers to match OTC transactions. Brokers who are subscribed to these services are able to match OTC transactions real time with other brokers subscribed to the same vendor/service. This approach allows brokers to manage their risk real time.

4. Bilateral Netting via a Vendor Future State

The following section is a high level overview of the proposed future state for netting OTC transactions via a vendor; sections 5 and 6 document the detailed requirements.

4.1. Future State Overview: Netting Eligible Trades



4.1.1. Future State – High Level Business Process

4.1.1.1. Netting Eligible Trades Prior to Completion of Final Netting Cycle

Process ref. #	Process	Application /Owner	Notes
1	OTC transactions will be executed between brokers.	OTC Broker Execution	
2	Both brokers of the execution will generate a trade confirmation message to be sent to the matching platform (format of communication to vendor will be broker preference).	OTC Broker Execution	
3	The matching platform will look to match the corresponding trades.	Matching Platform	See 'AFME Broker Matching Business Process Requirements' Document Appendix.
4	Settlement instructions will be suppressed and not sent to the market.	OTC Broker Execution	
5	All trades matched prior to the completion of the final netting cycle will be passed from the Matching Platform to the Netting Engine. A status update will be returned to each broker to confirm that the	Matching Platform > Netting Engine	Matched trades will be passed to the netting engine immediately after becoming

	trades have been sent for netting. (Timings of when messages will be returned to brokers will be determined by broker static data).		matched.
6	The Netting Engine will place all matched trades into a running net which will calculate the current net position for each broker throughout the day until the first netting run is initiated. For each broker pair, nets will be calculated based on the trade date, value date, Security ID, PSET and currency. Safekeeping Account will also be considered for EB-PB transactions.	Netting Engine	
7	Following the first net run completing at 17:00 on T, the netting engine will return a net report to each broker for all nets calculated at the end of the net run.	Netting Engine	Nets will be locked in. Brokers will be able to opt to receive nets on T or wait till T+1 See section 6.3.3 for further details.
8	Upon receipt of the net report, some brokers will create the net trades within their internal systems. (Other brokers may reconcile the report against their internal netting engines).	Broker Net Trades	Broker specific requirements for inbound net reports to be defined by each broker during on boarding process.
9	Where a POA agreement is in place, the vendor will instruct the market for each broker. Where a POA agreement does not exist between the vendor and a broker, the broker will instruct the market for each net execution.	Settlement Instructions	Broker preference to be confirmed during on boarding.
10	A further netting cycle will be completed by the netting engine at 17:00 on T+1 for all trades which become matched after the first netting run. This second cycle may also include any back-dated trades booked for T and any cancelled and replaced trades which were received post the first net run. Additional netting reports will be sent to executing brokers for the net executions created in the next cycle.	Netting	Second and final net cycle will be completed at 17:00 on T+1. Brokers will also be able to opt to have their T net re-calculated on the morning of T+1. See section 6.3.3

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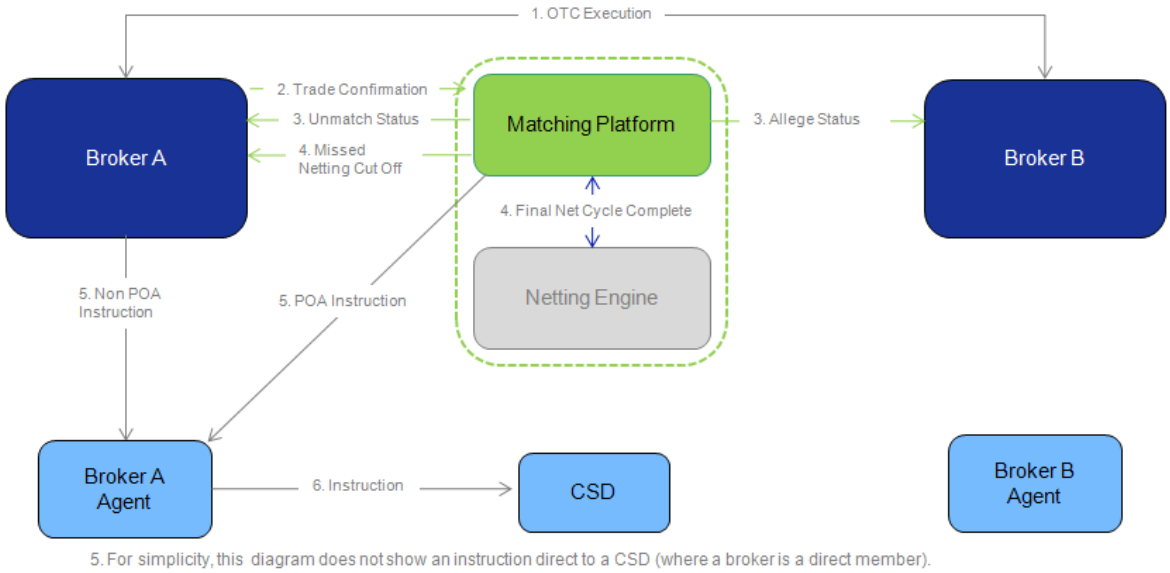
4.1.2. Netting Eligible Trades Post Completion of Final Netting Cycle

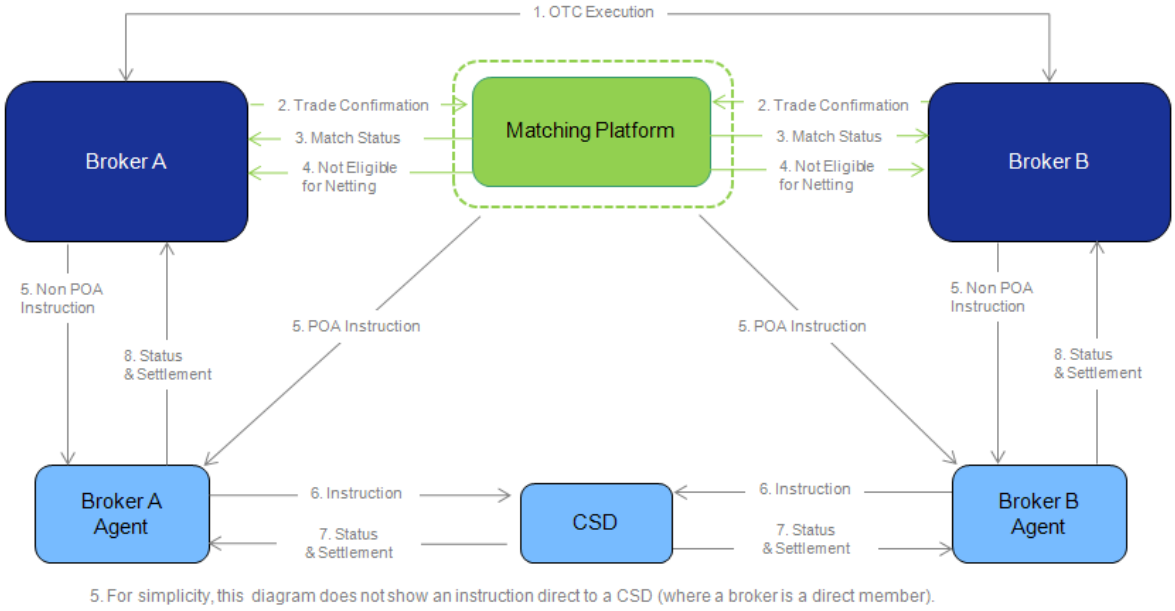
Following the completion of the final netting cycle, the vendor will follow the below process:



Process ref. #	Process	Application /Owner	Notes
1	The matching platform will be required to notify brokers of all trades which remain unmatched post the final netting cycle; allowing brokers to instruct the market for these executions.	Matching Platform > Broker	
2	Upon the final netting cycle being initiated on T+1, the netting engine will notify the matching platform that the netting deadline to net transactions has been reached.	Netting Engine > Matching Platform	
3	A 'Missed Netting Cut Off' status update will then be passed onto brokers for all trades which are not matched (unmatched, mismatched, alleged).	Matching Platform > Broker	Brokers must opt to receive this status update.
4	Brokers will either release their settlement instructions to the market upon receipt of the 'Missed Netting Cut Off' status message, or where a POA agreement is in place the vendor will release the settlement instruction for each trade.	Settlement Instruction	
5	Subsequently, if a trade becomes matched, the vendor should ensure that the trades are not passed to the netting and the 'Missed Netting Cut Off' status is returned accordingly.	Matching Platform > Broker	

4.2. Future State Overview: Non Eligible Netting Trades

Where a trade is deemed 'not eligible for netting'; i.e. a market or trade type has been excluded from netting, it should be possible for the matched trades to be instructed bilaterally



5. For simplicity, this diagram does not show an instruction direct to a CSD (where a broker is a direct member).

Process ref. #	Process	Application /Owner	Notes
1	OTC transactions will be executed between brokers.	OTC Broker Execution	
2	Both brokers of the execution will generate a trade confirmation message to be sent to the matching platform (format of communication to vendor will be broker preference).	OTC Broker Execution	
3	The matching platform will look to match the corresponding trades.	Matching Platform	See 'AFME Broker Matching Business Process Requirements' Document Appendix.
4	The matching platform will identify that the trades are excluded from bilateral netting.	Matching Platform	
5	Upon the trades being identifies as not eligible for bilateral netting, the matching platform will return a 'Not Eligible for Netting status update to brokers	Matching Platform > Brokers	Brokers must opt to receive this status update.
6	Brokers will either release their settlement instructions to the market upon receipt of the 'Not Eligible for Netting status message, or where a POA agreement is in place the vendor will release the settlement instruction for each trade.	Settlement Instruction	

5. Bilateral Netting via a Vendor: Matching and Affirmation

5.1. Changes to Trade Matching and Affirmation Requirements

All OTC broker executions will be processed by the matching platform, as per the flow documented in the 'AFME Broker Matching Business Process Requirements Document' (see Appendix for link to document). However, in order for a broker pair to utilise the netting functionality the following changes will be required:

- Brokers will be required to identify the payment method of the trade to enable the matching platform to identify which trade types are eligible to be passed to the bilateral netting engine. Therefore this field will now be mandatory for matching.
- PSET will be a mandatory field for matching. This will allow the matching engine to identify which trades are eligible for bilaterally netting via the vendor netting engine.
    - This will also ensure that the broker supplies the correct PSET for the location of where the trade is required to be settled.
      Note: Any realignment required will be processed by the broker.
- Where the transaction is an executing broker vs prime broker execution, safekeeping account will need to be included.
- An agency/principal indicator may be required by the vendor on each transaction (this will need to be confirmed by the vendors during the functional analysis stage). Where possible, the broker should provide this indicator on all trade confirmations. Else the vendor should hold this information within each brokers static data configuration.
- Additional analysis may be required to understand if there are any markets where specific handling is required and therefore additional data to either be supplied on a trade confirmation or held by the vendor static data tables.
- A change to the vendor releasing instructions (where a POA agreement is in place) will be required; matched trades which have been passed to the netting engine should not be instructed, matched trades which have not been netted should be instructed upon a status update from the netting engine, i.e. 'Missed Netting Cut Off'.

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6. Bilateral Netting via a Vendor Detailed Future State

6.1. Netting Trade Scope

Each broker pair will have the option to have their OTC transactions netted via the vendor bilateral netting engine;

- Where the vendor does not offer functionality to net via a CCP
- Where the vendor offers CCP netting functionality, but the CCP of choice does not support all markets
- Where the broker pair is unable to utilise the CCP functionality, e.g. the vendor can only connect to one CCP and neither broker has an agreement in place with this CCP.

Note: Requirements for OTC netting via a CCP can be found in the Appendix.

6.1.1. Markets

Each broker pair will require the ability to determine whether they require a particular market to be eligible for netting or not. Current market regulations and restrictions may cause issues when netting OTC transactions, therefore a broker pair may wish to prevent these trades from being netted and handled bilaterally.

Each broker pair should specify which markets they require to be in scope for bilateral netting and which should be excluded, by PSET value, within the static data set up during their onboarding process (section 6.8.2 details onboarding requirements).

Example table of Broker preferences:

Broker Pair		PSET	Eligible?
Broker A	Broker B	SICVFRPPXXX	YES
Broker A	Broker C	INSECHZZXXX	YES
Broker B	Broker D	SICVFRPPXXX	NO

6.1.1.1. Bilateral Netting Eligible Markets

The matching engine will be required to identify the netting eligible PSETS and forward the matched trades to the netting engine.

6.1.1.2. Excluded Markets

Where a broker pair has determined a market as 'excluded' from the bilateral netting process the matched trades should be instructed one for one; either by the vendor where a POA agreement exists, or by the broker.

See section 6.5 for detailed requirements.

6.1.2. Trade Type

The netting engine will be required to include the following trade types in netting:

- Executing Broker versus Executing Broker trades
- Executing Broker versus Prime Broker trades
- Equity Trades
- Fixed Income Trades
- Delivery versus Payment Trades

It is assumed that Free of payment and Cross currency executions (where a free of payment instruction is generated) will be excluded from Bilateral netting. Therefore the vendor should ensure that all free of payment and cross currency trades are prevented from being passed to the netting engine.

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Whilst both the netting engine should be able to process the above mentioned trade types, it may be possible that a broker pair will require certain trades to be prevented by the vendor from being netted. For example, a broker pair may only require executing broker versus executing broker executions to be netted, therefore executing broker versus prime broker executions will need to be prevented from being passed to the netting engine. Each broker pair should be able to determine whether a trade type is eligible for netting or not within the static data tables.

6.1.3. Matching Status

All trades successfully 'matched' within the matching engine will be passed to the netting engine (to be netted) immediately after becoming matched. The netting engine will then earmark the trades to be included in a netting cycle run. See 6.3.3 for detailed requirements.

Trades which remain in the following status following a netting cycle run (including the final run) will not be netted:

- Unmatched
- Mismatched
- Alleged
- Rejected

6.2. Netting Trade Statuses

The matching engine will be required to support the following new status updates required for bilateral netting:

- 'Sent to Netting Engine'
- 'Included in Net'
- 'Cancel Sent to Netting Engine'
- 'Cancel Accepted by Netting Engine'
- 'Missed Netting Cut Off'
- 'Not Eligible for Netting'

Note: All vendors should adhere to the above status update naming standard. This will ensure brokers are not required to build a naming convention look up table if consuming status updates from multiple vendors all with different status identifiers.

It should be possible for each broker to opt to (or not to) receive these status updates, and also select the messaging format and method of communication they wish to receive these updates. Some brokers require additional or specific data to be included on a status update. Therefore, the vendor should allow each broker the flexibility to determine the data requirements for each status update.

All status updates will be returned to broker's real time and the audit history within the GUI updated accordingly; upon the platform carrying out an action on the trade pair.

6.2.1. Sent to Netting Engine Status Update

Upon two trades becoming successfully matched, the matching platform will immediately pass the executions onto the netting platform to be included in the next netting cycle. At this point, the matching engine will inform each broker (if required) that the trades have been sent to the netting engine, in the form of a status update. (See section 6.4.1.1 for detailed workflow).

The matching engine will also be required to return this status update for cancellations of matched and netted trades received prior to the final netting cycle, where the matching engine will pass a contra trade

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(reversal of the original matched trade) to the netting engine. (See section 6.4.3.3.2 for detailed requirements around the contra process).

The status update will include a status qualifier indicating the trade has been 'Sent to Netting Engine.

6.2.2. Included in Net Status Update

Upon the netting engine completing a netting cycle, a status update will be immediately returned to the brokers for each gross execution which has been netted in that cycle. This will also include the system created contra trades which have been included in the net cycle.
See section 6.4.2 for workflow.

The status update will include a status qualifier indicating the trade has been 'Included in Net'.

The status update will also include the reference of the net trade in which it has been included (see section 6.3.4.3 for net referencing details).

Note: The 'Included in Net' status update should be similar to the 'gross trade report' produced by the CCP's today.

6.2.3. Cancel Sent to Netting Engine Status Update

Prior to the netting engine initiating the first net cycle, it should be possible for a broker to cancel a trade which is matched and earmarked for netting.

Following a cancellation being accepted and processed within the matching engine (both parties must agree to the cancellation) the cancellation will be passed to the netting engine. At this point the matching engine will also inform each broker that the cancellation has been sent to the netting engine in the form of a status update. (See section 6.4.1.2.1 for detailed workflow).

The status update should include a status qualifier indicating the cancellation trade has been 'Cancel Sent to Netting'.

6.2.4. Cancel Accepted by Netting Engine Status Update

Upon the cancellation being received and processed by the netting engine, the matching platform will be required to inform each broker (if required) that the cancellation has been accepted in the form of a status update. (See section 6.4.1.2.1 for detailed workflow).

Upon the netting engine completing a netting cycle, a status update will be immediately returned to the brokers for each gross execution which has been netted in that cycle.

The status update should include a status qualifier indicating the cancel has been 'Cancel In Net'.

By the netting engine accepting the cancellation, this will indicate that the trades are no longer earmarked for netting.

6.2.5. Missed Netting Cut Off Status Update

Following the initiation of the final netting cycle, if any netting eligible trades remaining in the matching engine are not matched (unmatched, mismatched, alleged), the matching engine will be required to inform brokers that the trades are no longer eligible for netting, as they have missed the cut off time for the trades to be matched and therefore passed to the netting engine. (See section 6.4.5.1 for detailed workflow).

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This update will be required to include a status qualifier indicating the trade has been 'Missed Netting Cut Off'.

Note: As per the requirements documented in section 6.3.3, the vendor netting cycles will be set at a PSET level, therefore this status update should be released to brokers real time upon the completion of the final netting cycle of each PSET.

Subsequently, if a trade becomes matched, the trades should be prevented from being sent to the netting engine and the brokers informed that the trades have missed the cut off for trades to be netted.

6.2.6. Not Eligible for Netting Status Update

Where a broker pair has opted to exclude trades (due to trade type or PSET) from netting, the vendor should confirm that these trades are not eligible to be netted and have therefore been prevented from being passed to the netting engine in the format of a status update.

This update will be required to include a status qualifier indicating the trade is 'Not Eligible for Netting'.

See section 6.5 for detailed workflow.

Note: Brokers should instruct the market upon receipt of this status update; all market instructions will have been suppressed until the vendor has confirmed whether the transaction has been netted or not, where these transactions are not eligible for netting then the status update should trigger the instruction to be released.

6.3. Net Trade Creation

6.3.1. Netting Criteria

Upon the matched trades being received into the netting platform, the trades will be netted together by the following criteria:

- Broker Pair Combination
- Trade Date
- Value Date
- Security ID
- PSET
- Currency
- Buy/Sell indicator (See section 6.3.1.1 for detailed requirements)
- Safekeeping account will be taken into account for executing broker vs prime broker executions.

The netting engine should net together all matched trades based on the above criteria. This will be irrelevant of the number of matched pairs received; if only one matched pair trade is received, a net should still be created.

The netting engine should net a brokers Executing Broker vs Executing Broker flow separate to the brokers Executing Broker vs Prime Broker flow; therefore creating two nets

6.3.1.1. Buy/Sell Indicator

The buy/sell indicator of a trade will need to be considered based on the netting algorithms required to create the net trades. See following section for detailed requirements.

6.3.2. Netting Algorithm

The preferred model for netting is total net with rollback.

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There are some markets, however, where this model can not be supported; due to market infrastructure it is not possible to process pure nets. Therefore the netting engine will be required to support an aggregated netting algorithm also (see section 6.3.2.2 for detailed requirements).

The netting engine should have a default netting algorithm set for each market, set by PSET in the static data (brokers will supply market preferences to the vendor). However, for markets where total net with rollback is the default, it should be possible for a broker pair to opt to use the aggregation model model as an alternative.

Example table of Broker Preferences:

Broker Pair		PSET	Algorithm
Broker A	Broker B	SICVFRPPXXX	Total Net with Rollback
Broker A	Broker C	INSECHZZXXX	Aggregate
Broker B	Broker D	SICVFRPPXXX	Aggregate

6.3.2.1. Total Net with Rollback

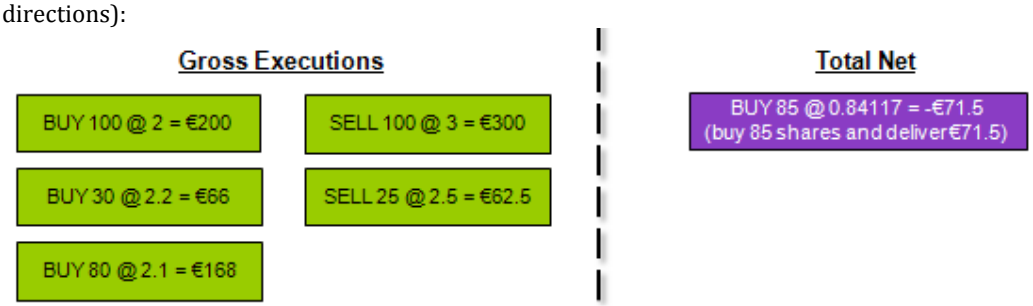
In the total net with rollback model, the netting engine will generate net trades for each broker (of the broker pair) where buys and sells will be offset against one another to produce a single net per ISIN, PSET, currency, trade date and value date. In the case of the netting resulting in an odd net (e.g. zero stock or zero cash or same direction) the trades should be netted with the buy/sell indicator also taken into account to produce one net buy and one net sell per ISIN. In the case of a zero stock zero cash net no net will be generated.

Total netting will produce one of the following types of nets:

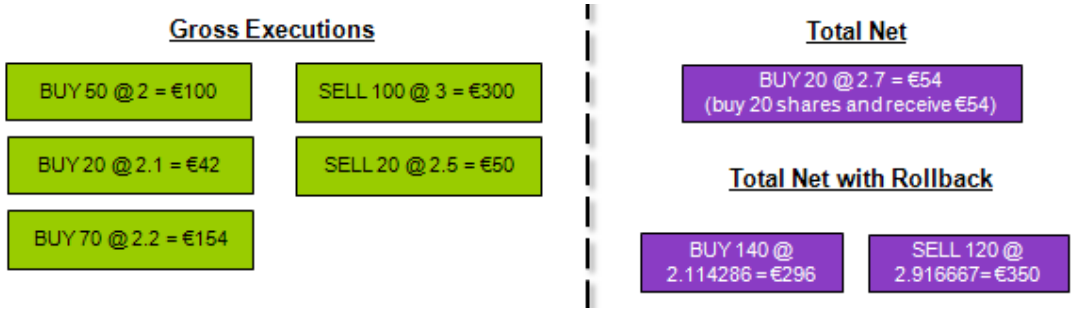
1. Deliver/Receive with stock and cash in opposite directions
2. Deliver/Receive with stock and cash in same direction
3. Deliver/Receive with stock and zero cash movement
4. Deliver/Receive with cash movement and zero stock movement
5. Deliver/Receive with zero stock and zero cash movement

For scenarios 2-5, the net trade will be recalculated with the buy/sell indicator taken into account. This will result in two separate net trades on the same ISIN, one of which will be a RVP trade and the other will be a DVP trade.

The following diagram is an example of Scenario 1 (Deliver/Receive with stock and cash in opposite directions):



The below diagram is an example of Scenarios 2-5 where total net roll back is required:



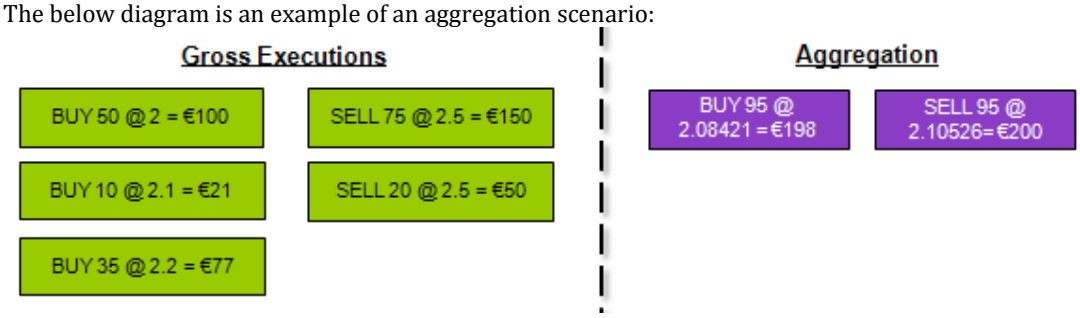
6.3.2.2. Aggregation

In the aggregation model, the netting engine will generate nets following similar logic to the total net with rollback model, however the buy/sell indicator is always included as netting criteria. Therefore nets will be generated for each broker based on ISIN, PSET, currency, trade date, value date and buy/sell indicator, producing one net buy and one net sell per ISIN.

Aggregation will only produce the following types of nets:

1. Deliver with stock and cash in opposite directions
2. Receive with stock and cash in opposite directions

The below diagram is an example of an aggregation scenario:



6.3.2.3. Tolerance Requirements

The netting engine should take into account the net amount of each gross execution when calculating the net. Where the gross executions have been matched within tolerance, the net trades should be calculated at the seller's level and the total net value of the trade will include the write off amount of each gross trade.

6.3.3. Netting Cycles

The netting engine will be required to support two end of day netting cycles for a particular trade date.

The vendor should also offer brokers an optional cycle on the morning of T+1, whereby the end of day net on T will be re-calculated to include any additional OTC trades received since the first cycle was completed.

The broker community will require the netting cycles to be determined at a PSET level; thus allowing for net trades to be created within the relevant time to be instructed, Far East markets where the net trades will need to be created earlier than European markets.

The broker community will be required to determine a standard time for each market. This is expected to be completed at the functional analysis stage. However the below table is an example of the cycles a vendor may need to support:

Lifecycle	Netting Cycle	PSET	Time of netting run
T	Netting Cycle 1	SICVFRPPXXX	17:00
T+1	Re-Calculate Cycle 1	SICVFRPPXXX	09:00
T+1	Netting Cycle 2	SICVFRPPXXX	17:00
T	Netting Cycle 1	JJSDJPJTXXX	17:00
T+1	Re-Calculate Cycle 1	JJSDJPJTXXX	09:00
T+1	Netting Cycle 2	JJSDJPJTXXX	12:00

**Timings throughout this document are in GMT which has been used for documentation purposes only.*

* Note: The vendor should initiate netting at a standard time per PSET across the broker community.

Whilst the broker community require two net cycles; one on T and one on T+1 and a re-calculated net on T+1 (am), it should be possible for each broker pair to choose whether they want to make use of each net cycle. Therefore the netting engine will need to allow for the number of netting cycles being configurable per broker pair.

The following table is an example of how brokers may wish to configure the number of cycles they opt to make use of:

Broker Pair		Cycle 1	Re-Calculate Cycle 1 Net on T+1 (am)	Cycle 2
Broker A	Broker B	Yes	No	Yes
Broker A	Broker C	Yes	No	No
Broker B	Broker C	No	No	Yes
Broker B	Broker D	Yes	Yes	Yes

No additional cycles will be required post the final netting cycle on T+1. Therefore no broker should be allowed to request an ad-hoc netting cycle to be initiated.

6.3.4. Communication of Net Trades to Brokers

The netting engine will return a net trade report of all of the calculated nets to all brokers following the end of a netting cycle. The timing and method in which the net will be communicated to the brokers will be determined by each broker's configuration in static data.

6.3.4.1. Timing of Returning Net Trades to Brokers

It should also be possible for each broker to determine 'when' they wish to receive their net trade reports.

- **Real Time:**
  - Some brokers may require the net trade reports to be released as soon as the net trades have been created.
- **Held up and received at the same time:**
  - Some brokers may require all net trade reports to be received at once (at their pre-determined time of day)
  - Brokers who opt to receive net trades via a manual method, i.e. excel files will receive all trades in one file as opposed to multiple files to be loaded.
    Therefore the vendor will be required to collate all net trade reports after each net cycle run and release a final report with all nets included in one file.

6.3.4.2. Methods of Communicating Net Trades to Brokers

Each broker will have different capabilities as to the format in which they can take in and process net trade reports. Some brokers may have functionality to process automated data, and others may only be

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able to take in data manually, i.e. via an excel file. Therefore, the vendor will be required to support both automatic and manual methods;

Automated methods: SWIFT e.g. MT518 or MT578, FIX, FTP
Manual methods: excel files, csv file

Each method type will have standard format /layout and will convey the required netting data, but it should be possible for the vendor to allow each broker to have variations of the format to allow for their individual requirements. Each broker will provide the vendor with their message specifications as part of the on boarding process.

6.3.4.3. Referencing

6.3.4.3.1. Net trades

The netting engine will be required to apply a unique net trade reference to every net trade created (similar to the referencing logic utilised for CCP flow today). The net reference should be unique to each net trade.

The netting engine will be required to return the net reference on the net trade reports returned to brokers, and display the net trades with their net reference ID's within the GUI.

6.3.4.3.2. Gross Netted Executions

Brokers will require the ability to reconcile their gross executions versus the net trade created. Similar to the on exchange CCP model, the net reference id should be used to link the two together. Therefore the netting engine will be required to return a status update to brokers which quotes the correct net reference id for the associated gross trade executions making up the net.

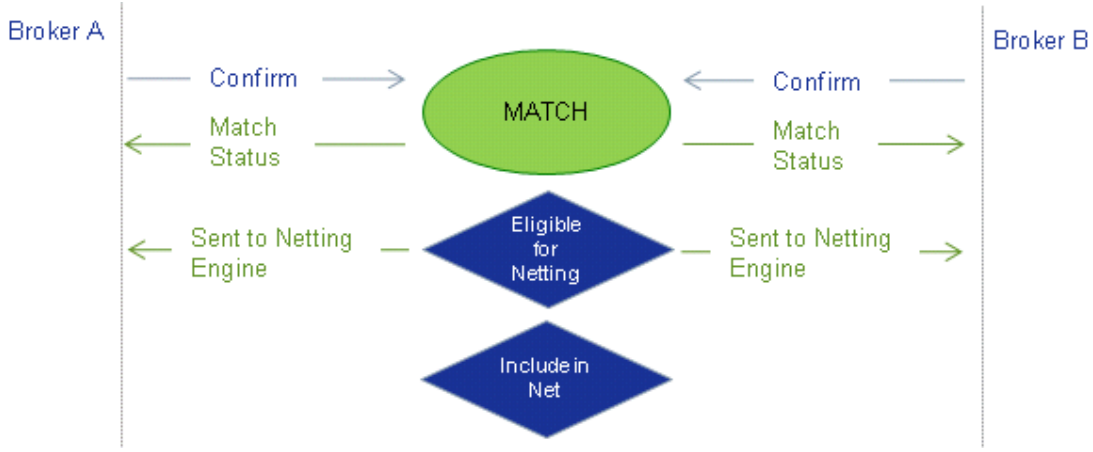
The status update returning the net reference will be the 'Included in Net' status update.

6.4. Netting Cycle Workflows

Note: The following section documents the workflows required for the two standard netting cycles; T and T+1. No additional workflows are required for the additional cycle on T+1 to re-calculate the end of day net created on T; the workflows for processing trades between cycle one and two (documented in sections 6.4.3 and 6.4.4) should be followed for this additional cycle.

6.4.1. Pre First Netting Cycle (EOD on T)

6.4.1.1. Eligible Matched Trades Passed to the Netting Engine : Status Update



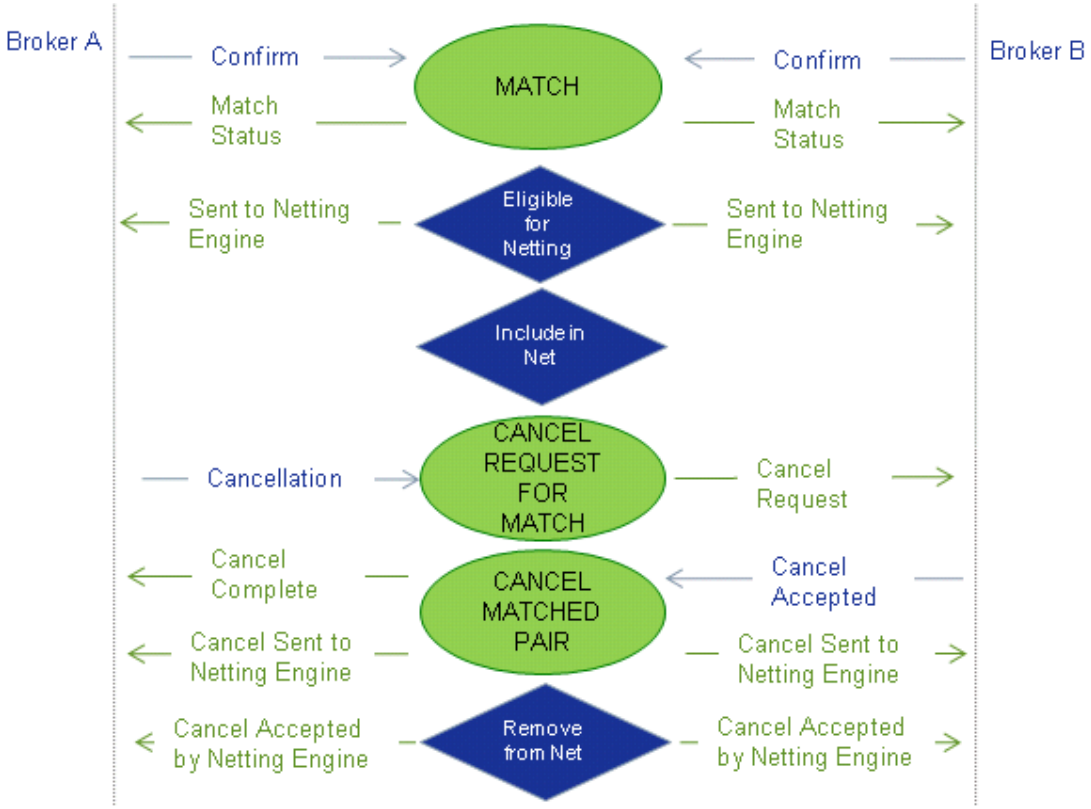
Upon a pair of broker trades becoming successfully matched, the matching engine will immediately pass the trades to the netting engine and will return a 'Sent to Netting Engine' status update (real time) to those brokers who have opted to receive this status.

Within the GUI the trades should be displayed within the 'Matched and Sent to Netting' folder.

The matched trades will be pending inclusion in the first netting cycle.

6.4.1.2. Cancel and Correct Processing

6.4.1.2.1. Outright Cancellation of a Matched Trade



It is assumed that the netting engine will accept cancellations of trades which have not yet been netted, and are therefore not yet locked in.

In order for a cancellation of a matched pair to be processed by the matching engine and then passed to the netting engine, a broker pair must both agree to the cancellation; as the trades are earmarked for netting.

Upon a cancellation being received from a broker (Broker A) for a matched trade pair which have been sent to the netting engine, the matching engine will be required to generate a request status update to cancel the trade to the counterparty broker (Broker B).

The cancellation request should also be placed in the cancel request folder within the GUI until Broker B actions the request. (The trades will remain in the matched and sent to netting folder).

Broker B will be required to accept the cancellation request in order for the cancel to be processed. (See section 6.4.1.2.3 for workflow of a rejected cancellation request).
Broker B will accept the cancellation request by sending the matching platform a consequent cancellation. It should not be possible for the broker to manually accept the cancellation within the GUI.

Upon Broker B accepting the cancellation request, the matching engine will cancel the matched pair and generate an update to the netting engine stating that the trade pair is now cancelled and should therefore be removed from the next netting cycle.

Upon the netting engine confirming receipt of the cancellation, the matching engine will return a 'Cancel Accepted by Netting Engine' status update to each broker (if required) to confirm the trades are no longer eligible to be included in the next net.

The cancelled trades will be shown in the cancel complete folder of the GUI, having been removed from the matched and sent to netting folder, and the cancellation request will have been removed from the cancel request folder.

The audit history of both trades will reflect the activity of the trades with the latest status showing as cancelled and withdrawn from netting.

6.4.1.2.2. Cancellation and Replacement of Matched Trades by Both Parties

Upon a broker pair agreeing to cancel and replace a matched and sent to netting engine trade pair, the matching engine will follow the same process for the cancellation as documented in the previous section, and process the replacement trade as an ordinary matched trade, i.e. pass the matched trade to the netting engine to be included in the next netting cycle.

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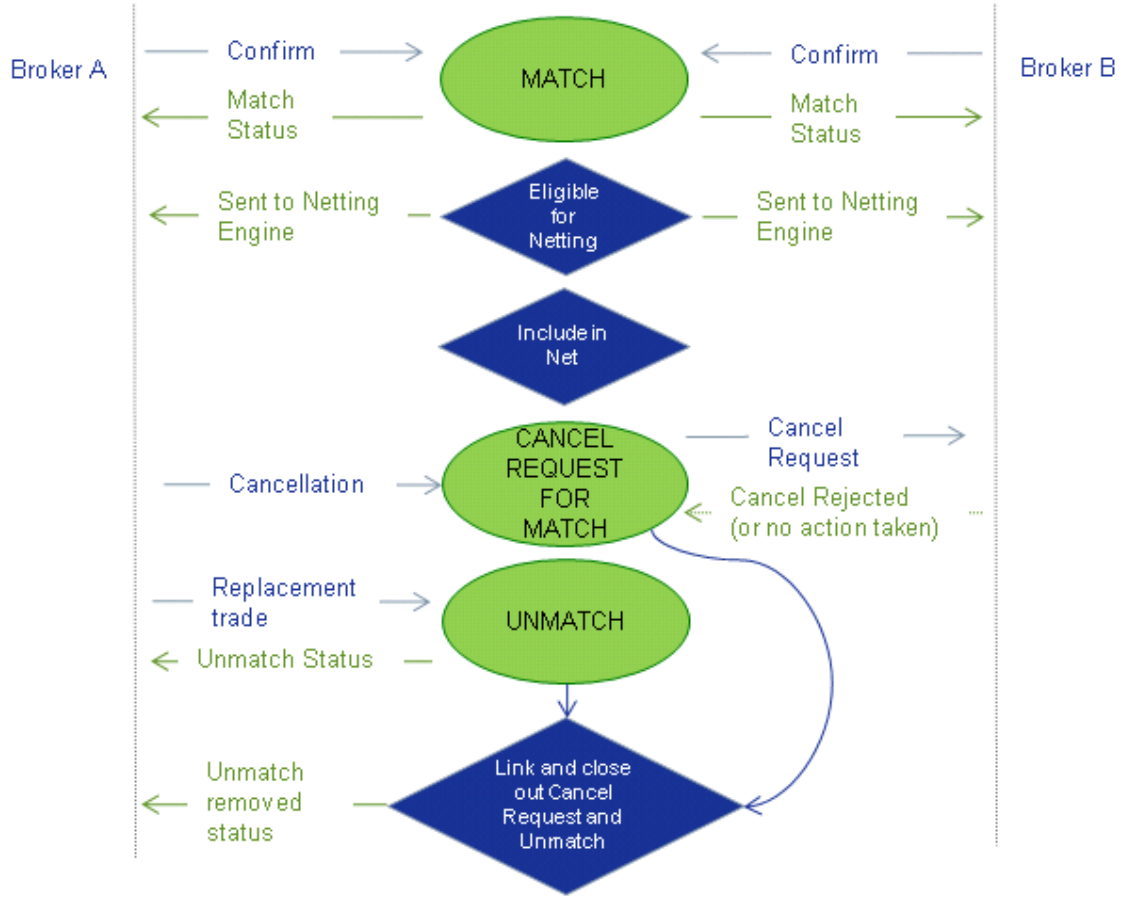
6.4.1.2.3. Cancellation and Replace of Matched Trade by One Party (Mistake)



It is likely that a broker (Broker A) could cancel and replace a matched trade by mistake, or the counterparty broker (Broker B) may not agree the cancellation and replacement. As per the requirement for a broker pair to agree a cancellation for a matched and sent to netting trade pair, the matching platform will follow the cancellation request process upon a cancellation being received.

The cancellation request will be placed in the cancel request folder within the GUI until Broker B actions the request. (The trades will remain in the matched and sent to netting folder). The replacement trade will be placed in the unmatched folder within the GUI and an 'unmatched' status update returned (as per broker requirements agreed for the matching process).

Broker B may reject the cancellation request; by adding a note to the trade (within the cancel request folder) to say that they reject the cancellation. It is also possible that Broker A may recognise the cancel and replace have been sent in error before Broker B is able to reject the cancellation. Therefore it is proposed that the matching platform has the capability to identify that the two trades are identical and can be paired off against one another and closed out;

- The matching engine could automate this process on behalf of the broker
- The broker could manually link the trades and close them out manually; this would need to be processed at a supervisor and four eyes verification level.

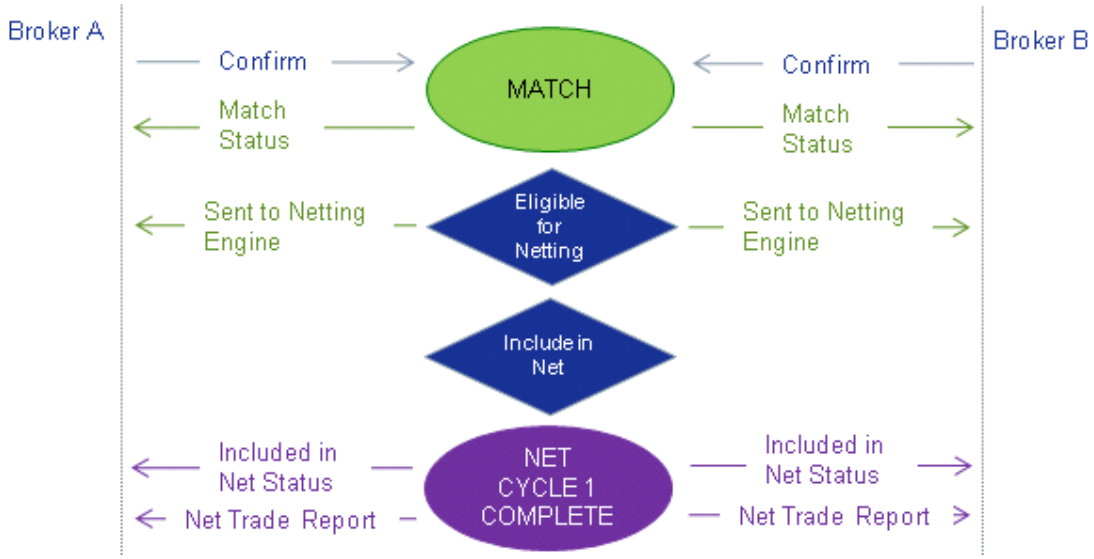
Upon the unmatched trade and the cancellation request being linked and closed out, the vendor should return a status update to the broker (if required) identifying that the unmatched trade has now been closed out.

The original trade pair will remain matched and earmarked for netting within the netting engine.

6.4.1.2.4. Cancellation of Trades which are Not Matched.

If a cancellation or replacement trade is received into the matching platform for any trade which is not successfully matched, the matching engine will process the cancellation and replacement accordingly without the need to follow a cancel request and accept process (as the trades are not earmarked for netting). Detailed workflows for these scenarios can be found in sections 4.4.4 and 4.4.5 of the AFME Broker Matching Business Process Requirements Document.

6.4.2. Result of First Netting Cycle (EOD on T)



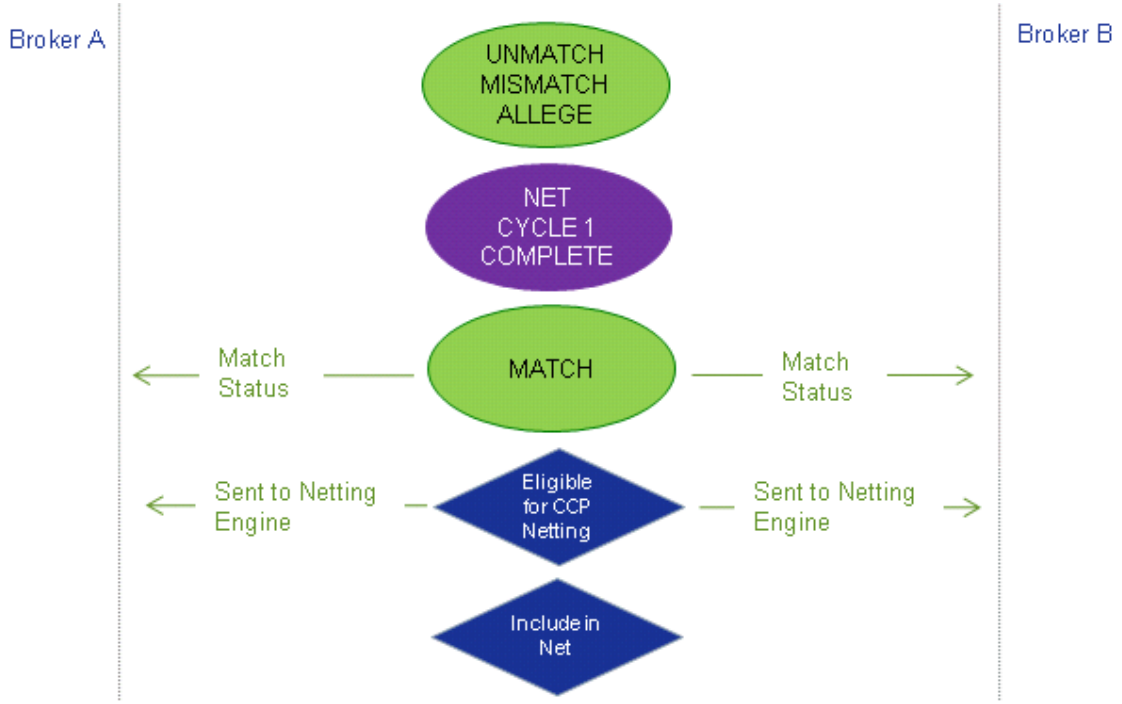
Following the successful completion of a netting cycle run, the gross executions which make up the net will be locked in, the net trades will be generated and sent to brokers and the 'included in net' status update will be returned for each gross execution included in a net.

All gross executions which have been netted should be updated to be displayed within the GUI as 'Matched and Netted' and should also now display the reference id of the net they were included in.

The net trade should also be displayed within the GUI within the 'Net Trades' folder.

6.4.3. Pre Second Netting Cycle (Final Net Cycle)

6.4.3.1. Trades Which Become Matched



Trades which are not matched (unmatched, mismatched or alleged) prior to the first net cycle, but become matched before a subsequent cycle is initiated, will be sent to the netting engine to be included in the second net cycle.

The matched trade pair should be removed from the previous GUI view and displayed within the matched and sent to netting folder of the GUI.

6.4.3.2. Back-Dated Matched Trades (Late Trades)

If a back-dated (late) trade is received and matched following the completion of the first netting cycle, the trade pair will be sent to the netting engine to be included in the second net cycle; being netted with trades with the same netting criteria, i.e. Trade date, Value Date, ISIN, PSET and Currency.

6.4.3.3. Cancel and Correct Processing

6.4.3.3.1. Matched Trades Pending Inclusion in Next Net Cycle

The matching platform will follow the same processes as documented in section 6.4.1.2 (Pre Netting), for cancel and corrects received for trades which have become matched post net cycle 1 and are therefore pending inclusion in net cycle 2.

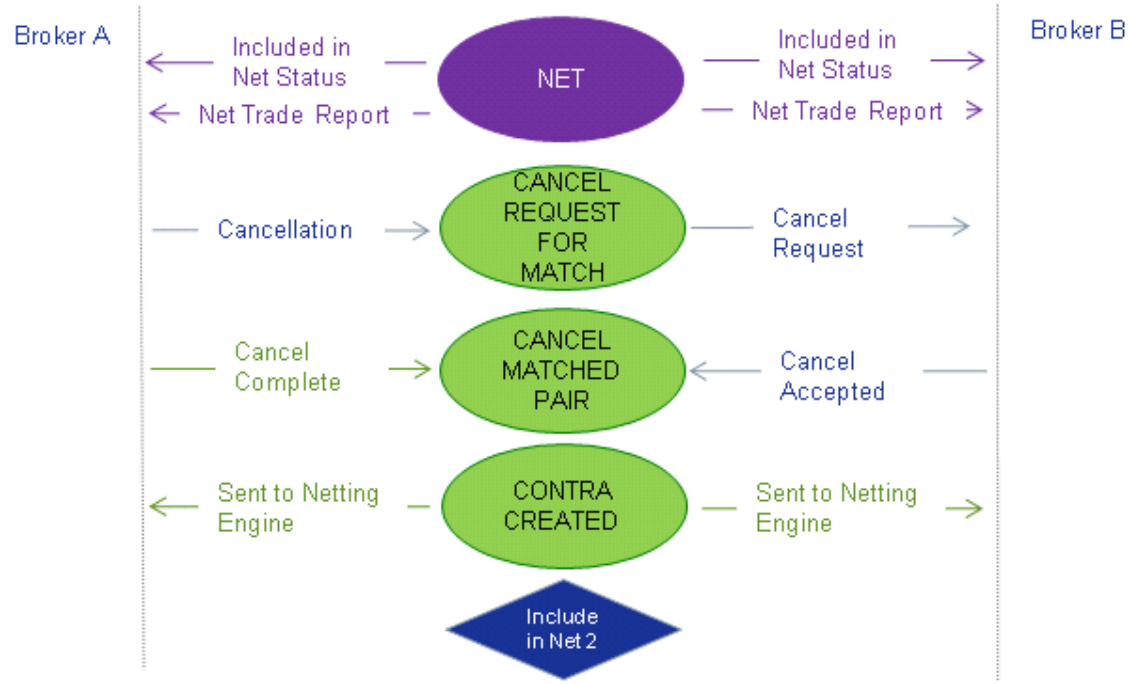
6.4.3.3.2. Matched and Netted Trades (matched and netted in First Net cycle)

Following the completion of the first netting cycle, both the net and the gross executions making up the net will be locked in. Therefore, if a cancel or replacement trade is received into the matching engine for a matched and netted execution additional workflow will be required to reverse the original trade movement.

It is proposed that a contra flow (opposite but equal replacement trade) will provide this functionality.

Note: It is assumed in the following workflows that broker trades have been successfully matched, passed to the netting engine and netted, with the necessary status updates be returned where required.

6.4.3.3.2.1. Outright Cancellation of a Matched and Netted Trade



Upon a cancellation being received for a matched and netted trade from a broker (Broker A) the matching engine will be required to follow the cancel request and accept process as document in section 6.4.1.2.1 i.e. the matching platform will generate a cancellation request to Broker B which will be accepted and the matched pair will be cancelled.

However, as the gross trades have been netted and are therefore locked in, it will not be possible to remove a gross execution from the net (unlike trade cancelled pre netting). Consequently, a contra trade (opposite but equal replacement trade) will be created either by the broker in-house system, or by the matching engine upon the cancel request being accepted by both brokers.*

Note: Brokers will be required to confirm if they will create their own contra trades, or if the vendor should create the contra on their behalf. This will be determined during the on-boarding process and will be held in the broker preference static data tables.

The contra trades will be 'matched' and passed to the netting engine. The matching engine will generate a 'Sent to Netting Engine' status to be returned to the brokers (if required) and display the trades in the matched and sent to netting folder within the GUI.

The netting engine will earmark the contra trade for the next netting cycle as per any other matched transaction; the contra will act as the reversal of the original trade.

*Note: Upon a vendor contra trade being created, the matching platform will be required to apply the trade reference of the original gross execution to the contra trade. Any status updates sent to the broker(s) for the contra trade, i.e. sent to netting engine, and should include this reference, therefore allowing Brokers to link the incoming statuses to the original execution.

6.4.3.3.2.2. Cancellation and Replacement of Matched and Netted Trade by Both Parties

Upon a broker pair agreeing to cancel and replace a matched and netted gross execution, the matching engine /netting engine will follow the same process for the cancellation as documented in the previous section 6.4.3.3.2.1, and process the replacement trade as an ordinary matched trade, i.e. pass the matched trade to the netting engine to include in the second cycle.

6.4.3.3.2.3. Cancellation and Replacement of Matched and Netted Trade by One Party (Mistake)

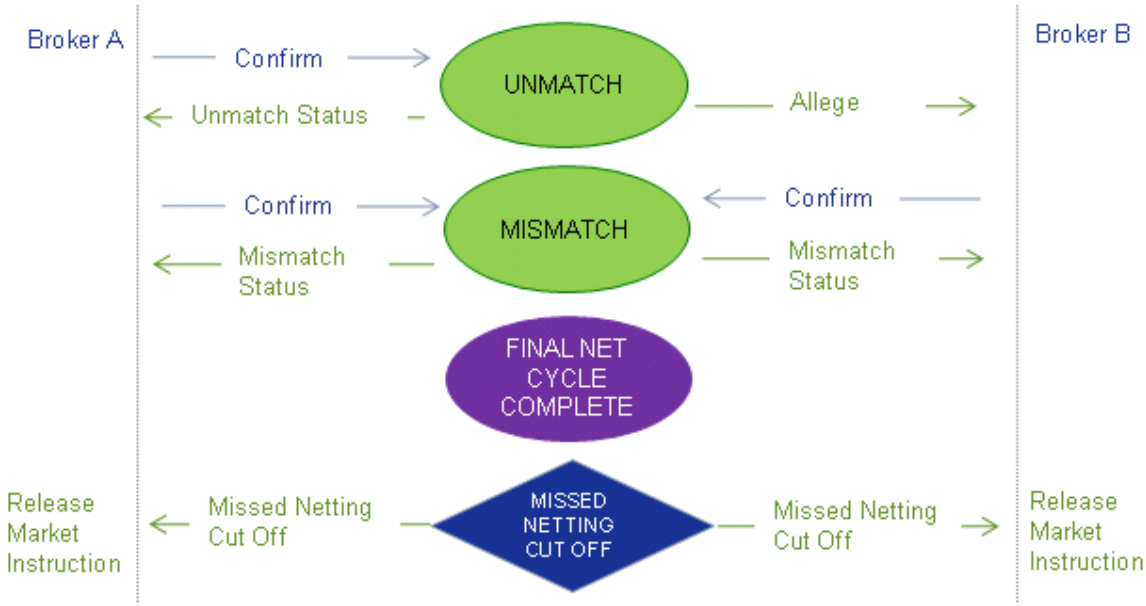
If a cancellation is received for a matched and netted trade from a broker (Broker A), the matching platform will follow the same process as documented in section 6.4.1.2.3 (cancellation and replacement of a matched trade pre netting).

6.4.4. Result of Second Net Cycle (Final Net Cycle on T+1)

Following the completion of the interim netting cycles, the netting engine will create net trade reports and generate the subsequent 'included in net' status updates for all gross executions, as per the flow documented in section 6.4.2.

6.4.5. Post Second Net Cycle (Final Net Cycle)

6.4.5.1. Unmatched Trades Post Final Net Cycle



Trades which are eligible for netting, but are 'not matched' (unmatched, alleged, mismatched) at the time of the final netting cycle being initiated for a particular PSET, the matching platform will inform brokers that the they have missed the cut off time to be matched, and are therefore no longer eligible for netting.

These trades should be prevented from being passed to the netting engine.

The matching engine will return the 'Missed Netting Cut Off' status update(s) to each broker (if required) confirming that their trade was not eligible for netting:

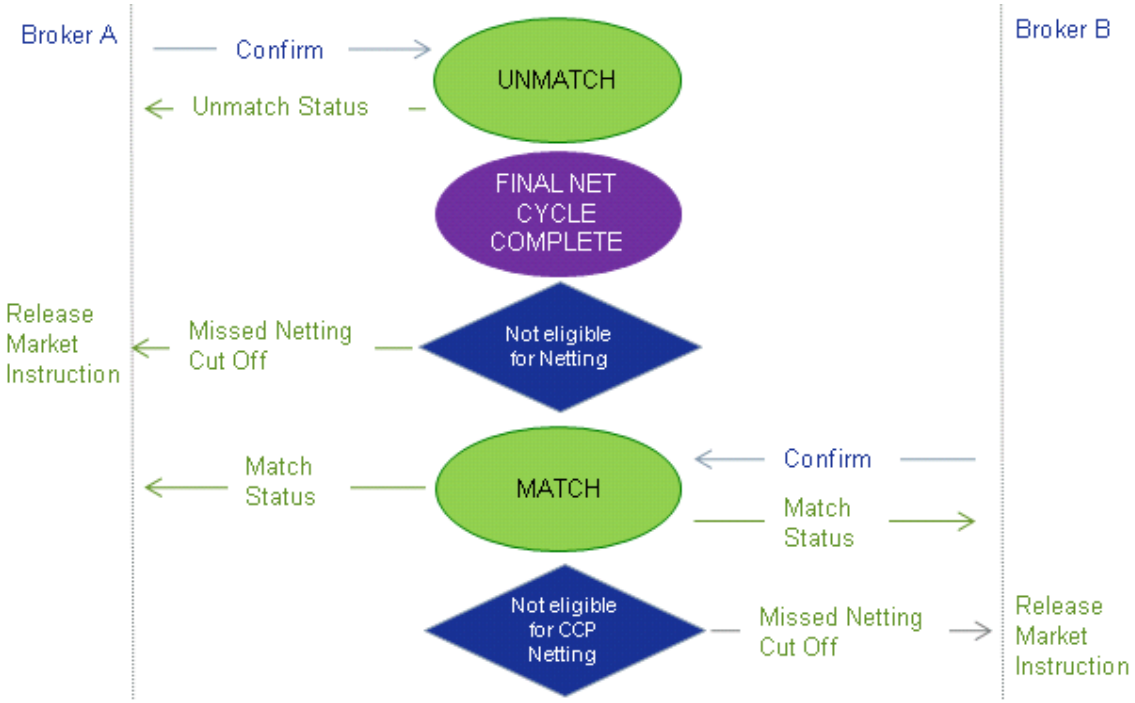
- For trades which were previously unmatched, the matching engine will only return status updates to the originating broker

- For trades which were previously mismatched, the matching engine will return status updates to the both the originating broker and counterparty broker.

The matching platform should also display the trades in the 'Missed Netting Cut Off' folder within the GUI.

The receipt of this status update should prompt the broker or the vendor (where a POA agreement is in place) to release a settlement instruction to the market; where a POA agreement is in place the vendor should release the instruction upon the trade being identified as 'Missed Netting Cut Off; where No POA agreement is in place the broker will release the instruction from within their in house system upon receipt of the status update.

6.4.5.2. Trades Become Matched Post Final Net Cycle



Following the release of the 'Missed Netting Cut Off status update to broker A for trades which are unmatched (and therefore the release of the market instruction by the broker) if a subsequent matching trade is received, the matching engine should;

- Identify that the unmatched trade is now Matched, setting the status to matched within the GUI.
- Return a 'match' status update to Broker A.
- The matching engine should not return any further 'Missed Netting Cut Off' status updates to Broker A; this was released previously for the original unmatched trade.
- The matching engine should return a 'Missed Netting Cut Off' status update to Broker B for their newly matched trade

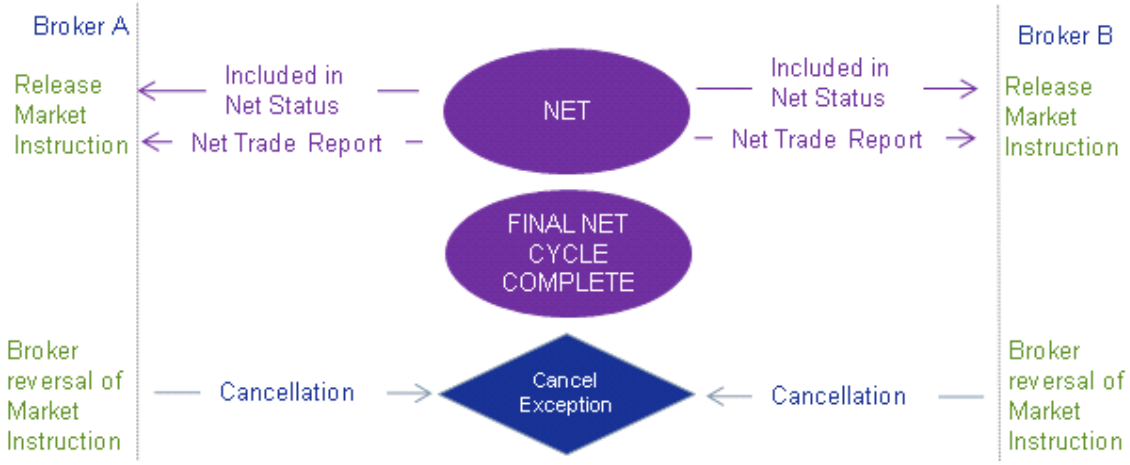
6.4.5.3. Late Trades Received Post Final Net Cycle

If a broker pair books trades post the final net cycle, i.e. with a back-dated trade date, the matching engine will process these trades in the same way as those trades matched post the final netting cycle (documented in the previous section).

6.4.5.4. Cancel and Correct Processing Post Final Net Cycle

6.4.5.4.1. Matched and Netted Trades

6.4.5.4.1.1. Outright Cancellation of Matched and Netted Trade Post Final Net Cycle



Following the completion of the final netting cycle for a particular PSET, if a cancellation is received for a gross execution which has been included in a net, it should not be possible for the cancellation to be processed. Either the broker will need to prevent the cancellation from being passed to the vendor, or if the cancellation cannot be prevented, the vendor should mark it as a 'cancellation exception' within the GUI.

Note: The 'cancellation exception' should only highlight that a broker is attempting to cancel a matched and netted execution. Brokers should not be required to take any actions within the GUI against this update.

The vendor should also return a 'Cancel Request' status update to the counterparty broker (if required); allowing the broker to be informed of the proposed cancellation.

Where both brokers agree the cancellation of the matched and netted execution, the cancellation will be processed bilaterally; both brokers instructing a reversal in the market.

Where both brokers agree the cancellation of the matched and netted execution, the cancellation should be processed between them outside of the matching engine to remove the movement from the market; i.e. both manually instruct a reversal.

6.4.5.4.1.2. Cancel and Replace by Both Parties of Netted Trade Post Final Net Cycle

If two brokers agree to cancel and replace a trade which has been netted post the final netting cycle of a particular PSET, the matching engine will process these trades in the following way:

- Cancellation: will be processed in the same way as documented in section 6.4.5.4.1.1

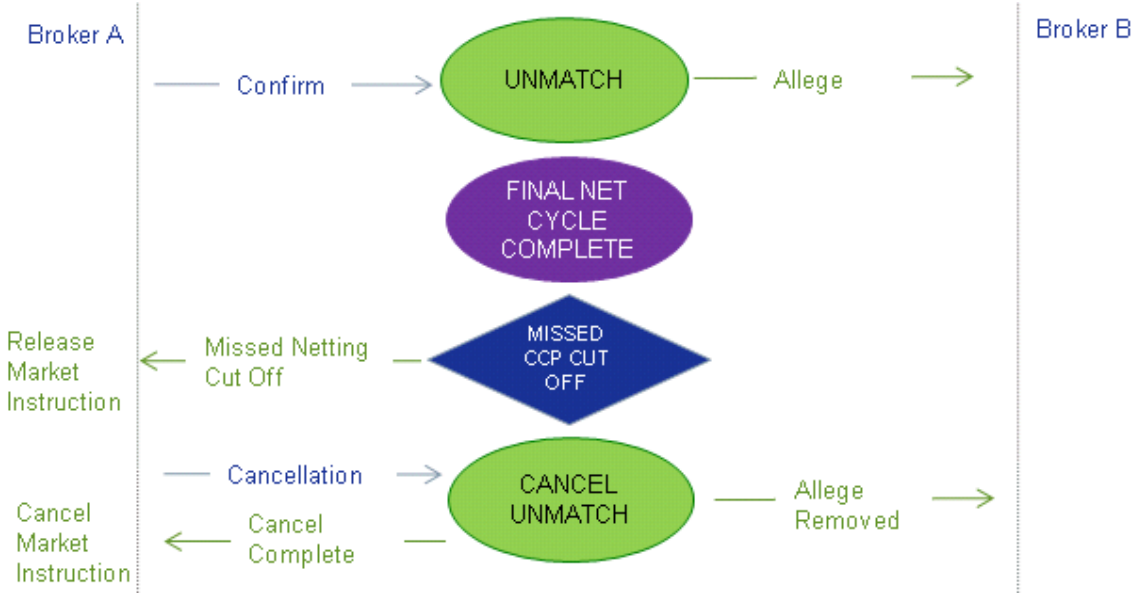
- Replacement Trade: will be processed in the same way as a late trade being received and matched, as documented in section 6.4.5.2.

6.4.5.4.1.3. Cancellation and Replacement of Matched and Netted Trade by One Party (Mistake) Post Final Net cycle

If a cancellation and replacement trade is received for a matched and netted trade (post the final netting cycle) from a broker (Broker A), the matching platform will follow the same process as documented in section 6.4.1.2.3 (cancellation and replacement of a matched trade pre netting).

6.4.5.4.2. Trades Which Are Not Matched

6.4.5.4.2.1. Cancellation of Trades Not Matched Post Final Net Cycle



(The above diagram is an example of an unmatched trade. Mismatched trades will be processed in the same way).

As per the flow documented in section 6.4.5.1, the matching engine will release a 'Missed Netting Cut Off' status to brokers for any trades which remain unmatched after the final netting cycle for a particular PSET.

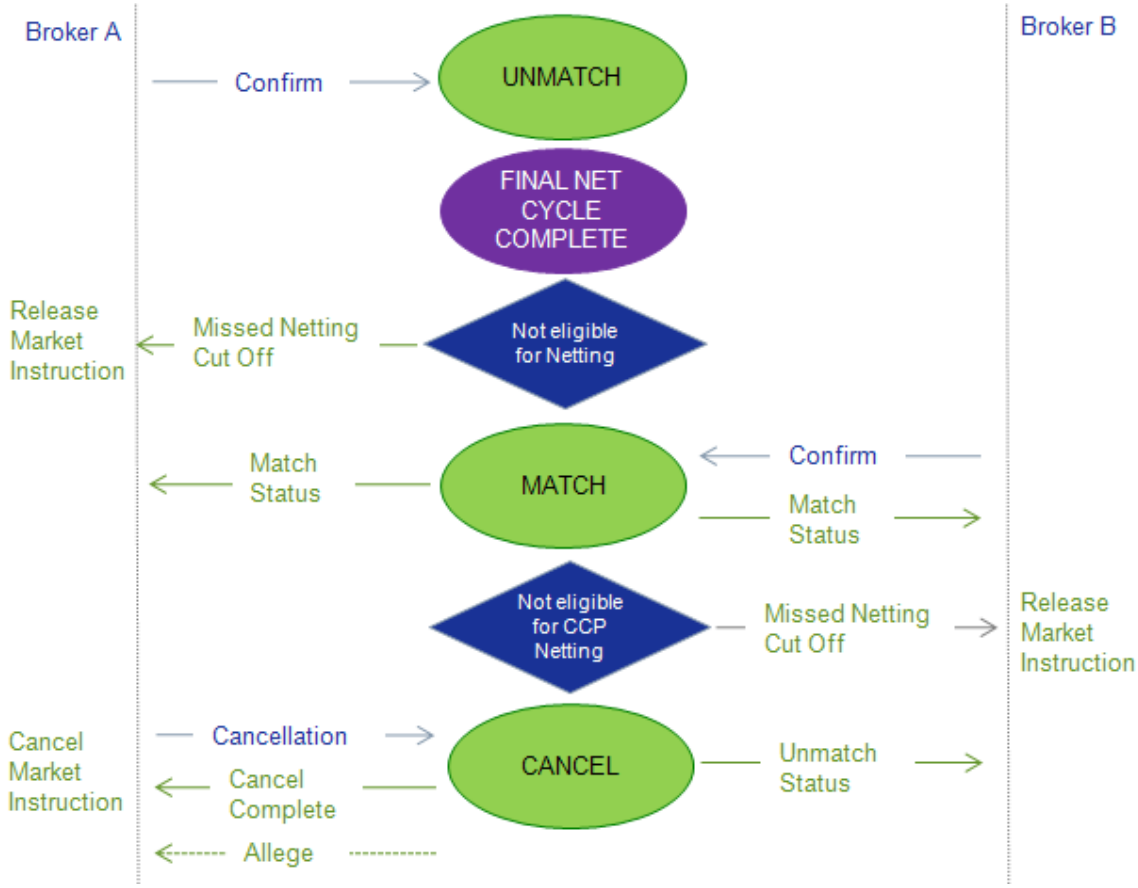
If the originating broker (Broker A) sends a cancellation for their unmatched trade, the matching engine will automatically cancel the unmatched trade; no cancellation request will be required as there is no corresponding trade and the trade has not been netted.

The matching engine will notify the broker that the trade has been successfully cancelled by returning a 'Cancel complete' status update. Upon the cancellation being successfully processed within their in house system, the broker will generate a cancellation of the market instruction where no POA agreement exists. Where a POA agreement is in place, the vendor will generate a cancellation market instruction.

(In this scenario, the allege generated for the unmatched trade will be removed from the view of the counterparty broker, and an allege removal status may be sent if required by the broker. In the mismatch scenario, the corresponding trade will be set to unmatched and the counterparty broker will receive an unmatch status trade. The matching engine will not send a 'not eligible for netting' status for the

unmatched trade as it would have generated this status for the original unmatched trade after the final netting cycle).

6.4.5.4.2.2. Cancellation of Trades Which Become Matched Post Final Net Cycle



Following the release of the 'Missed Netting Cut Off status update to broker A for trades which are unmatched (and therefore the release of the market instruction by the broker) if a subsequent matching trade is received, the matching engine should follow the flow documented in section 6.4.5.2.

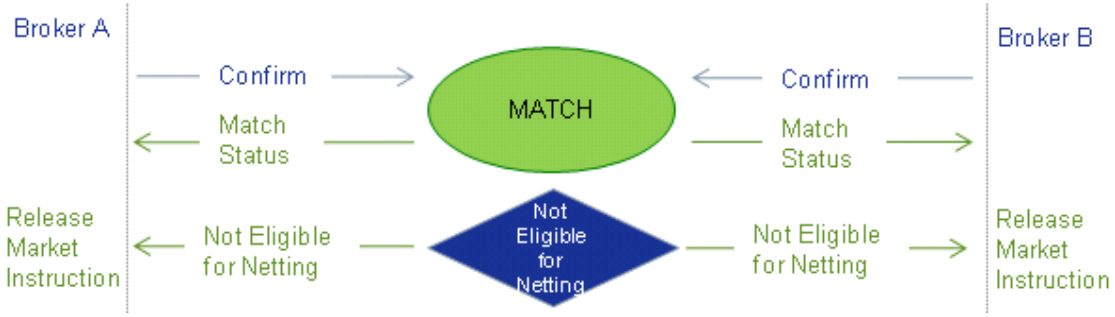
If Broker A subsequently sends in a cancellation for their trade, the matching engine will be required to:

- Immediately cancel the trade of Broker A; no agreement will be required between brokers to allow Broker A to cancel their trade.
- Generate a 'cancel complete' status to Broker A, which will generate the cancellation of the market instruction
  If the vendor has been granted POA for both brokers, the vendor should only release the cancellation instruction for Broker A. Broker B's instruction will remain un-impacted.
- Set Broker B's trade to unmatched and generate an unmatch status message. No further 'Missed Netting Cut Off' status should be returned to Broker B as they have not cancelled their trade.

6.5. Non Eligible Netting Trades (Excluded from Netting)

Where a broker pair has agreed to exclude a market from netting, the matching platform will be required to identify these trades as not eligible for netting.

All non eligible trades will be instructed bilaterally; one for one.



The matching engine will prevent the trades from being passed onto the netting engine.

The matching engine will return a 'Not Eligible for Netting' status (where required) to each broker.

Where a POA agreement is in place the matching engine will immediately release a market instruction for each trade upon identifying the trades as non eligible for netting. Where no POA agreement is in place the broker will release the instruction from within their in house system upon receipt of the status update

The matched pair will remain within the 'matched' folder of the GUI but the audit history of each trade should include an update to confirm the trades are not eligible for netting.

Note: Non eligible netting trades which remain unmatched or have been cancelled and corrected the vendor should follow the same process as the OTC Matching model.

6.6. Settlement Processing

Brokers will have suppressed the release of settlement instructions to the market for gross executions.

Brokers will have the option to release settlement instructions to the market in one of two ways:

- Allow the vendor POA to release settlement instructions to the market on behalf of the broker; the vendor will follow a similar process as is in place for instructing matched transaction for a broker who is not subscribed to the netting service as described in the AFME Broker Matching Business Process Requirements Document (See Appendix).
- Do not allow the vendor POA, and release settlement instructions from the broker in house system; as per the current process today to instruct a matched transaction.

6.6.1. Bilaterally Netted Trades

For trades which are eligible for bilateral netting, the settlement instruction will be released to the market upon the creation of the net.

6.6.1.1. Vendor POA Release of Net Settlement Instruction

Upon the net trades being created by the netting engine, a settlement instruction for each net should be immediately created and passed to each of the relevant agents in the markets the trades have been created for (each agent will be broker specific which should be confirmed during the on boarding process).

The vendor will need to ensure that they instruct each net trade on the net referenced id; following a similar process as CCP's do today for the on exchange and MTF flows.

The vendor will not be required to generate a cancellation market instruction for a netted trade as all nets are locked in.

6.6.1.2. Broker Release of Net Settlement Instruction

Upon receipt of the net trade reports each broker will immediately instruct the market from within their in house system; following a similar process as they do today for the on exchange and MTF flows.

6.6.2. Non Netted Trades

For trades which have missed the cut off deadline for matching and therefore netting, or were not eligible to be netted, the market instruction will be released to the market upon the trigger of one of the following status updates: 'Missed Netting Cut Off' or 'Not Eligible for Netting'.

6.6.2.1. Vendor POA Release of Bilateral Settlement Instruction

Upon the matching platform identifying that a trade has either missed the netting cut off or was excluded from netting, a market settlement instruction should be released accordingly for each trade.

The vendor will be required to follow the same process as an OTC matched transaction (as documented in the AFME Broker Matching Business Process Requirements Document. (See Appendix).

A cancellation market instruction should be released upon a cancel being successfully processed within the matching platform, as per requirements documented in the AFME Broker Matching Business Process Requirements Document. (See Appendix).

6.6.2.2. Broker Release of Bilateral Settlement Instruction

Upon receipt of the missed netting cut off or not eligible for netting status update, the broker should release a settlement instruction to the market.

Brokers who opt to instruct the market will not be required to make any changes to the way in which they generate market instructions today; this includes the way in which they communicate a cancellation to the market.

6.7. Broker Reconciliation

Some brokers may require the ability to reconcile their gross executions against the net trade received from the vendor; i.e. to ensure the net created is inclusive of the relevant gross executions. The vendor will return the 'Included in Net' status update which details the net trade reference which should be used alongside the net trade reports for reconciliation.

Each broker will be required to confirm to the vendor whether they require to receive these reports and the format in which they should be returned.

6.8. GUI Requirements

It is assumed that the 'Matching and Affirmation' GUI requirements have been agreed and the following are additional requirements for the bilateral netting functionality.

6.8.1. Manual Actions

The vendor will be required to ensure that all matched trades, regardless of whether they are eligible for netting or not cannot be manually cancelled within the GUI. This should be prevented by the user profile

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capability; suitable GUI access profiles will be provided to each broker which will include limited access profiles with and without four eye checking processes and the ability to cancel matched trades, as deemed applicable by each broker.

6.8.2. Static Data

6.8.2.1. Broker Static Data

In order for a broker pair to being utilising the bilateral netting functionality they will be required to complete the necessary on boarding process which should include:

- Both brokers opt to utilise the netting functionality
- Broker Pair combinations
    - Netting algorithm per PSET
    - Markets eligible for bilateral netting (these will be the markets not supported by CCP's)
    - Markets excluded from netting
    - Trade Types eligible / not eligible for netting

Following the completion of the on boarding process, it should be possible for a broker pair to update/change their netting requirements, for example removing or including a PSET. Upon a change being made, both brokers will be required to agree the change and also state the time at which it should take effect

Individually, each broker will also be required to;

- Subscribe to bilateral netting service
- Confirm the netting status updates they wish to receive, when and in which format, including any specific data requirements
- Confirm if the vendor will have POA to release market instructions, and if so, in which markets and what the SSI's should be
- Provide agency/principal indicator to be stored in the static data tables (if required by vendor).

6.8.2.2. Matching Fields

The following fields will be required to be included as additional matching criteria within the static data tables to enable brokers to utilise the netting functionality and complete the on boarding process;

- Payment Method
- PSET
    - Currencies supported
- Safekeeping Account

The above, additional fields, will be mandatory for a broker pair to match against if opting to utilise the netting functionality.

6.8.2.3. Trade Types

The vendor should hold a table which maps the following:

- Broker Pair Combination
- Trade Types
    - Executing Broker versus Executing Broker trades
    - Executing Broker versus Prime Broker trades
    - Equity Trades
    - Fixed Income Trades
    - Delivery versus Payment Trades
- Eligibility

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In order for a broker pair to utilise the bilateral netting functionality this information will be required to be supplied during the on boarding process.

This data should be maintained by the broker pair. If any changes are required both brokers will be required to agree and accept the changes via the GUI.

6.8.2.4. Agency/Principal Indicator

If confirmed as required by the vendor, the vendor should provide the ability to hold the agency/principal indicator required by each broker (if a broker is unable to supply the indicator on their trade confirmations).

6.8.3. GUI Views / Display

The vendor GUI should be one application; displaying both matched trades and net trades. The vendor should not have two GUI applications.

Therefore, it should be possible for a broker to search within the one application for a net trade and the gross executions making up the net.

6.8.3.1. Net Trades

In addition to the matching views within the GUI, the vendor should also display net trades in folders. Therefore, upon a matched trade becoming netted, the trade should be moved into a 'Net Trades' folder. Upon a net trade reaching the archive deadline, it should be moved to the 'Net trade Archived' folder.

Within the 'Net Trades' folder, the GUI should display the following at a broker level;

- Counterparty brokers
- Number of Nets Created at end of Net Cycle
- Overall Net Trade details
- Gross trades making up the net

The GUI should show an overview of the number of nets created in a netting cycle, for example:

Trade Date	Originating Broker	Counterparty Broker	# of Nets	Net Creation Time
22/11/2011	A	B	3	23/11/2011 17:00
22/11/2011	A	C	4	23/11/2011 17:00
21/11/2011	A	B	6	22/11/2011 17:00

The GUI should have a second level which displays and overview of each net, for example;

Net	Originating Broker	Counterparty Broker	Trade Date	Value Date	ISIN	B/S	Quantity	Cash	Currency	PSET	# of Gross Trades	Net Reference
1	A	B	22/11/2011	25/11/2011	A	B	500	500	GBP	UK	5	XX123456
2	A	B	22/11/2011	25/11/2011	A	S	350	350	EUR	FRANCE	2	XX234567
3	A	B	22/11/2011	25/11/2011	B	S	210	210	EUR	FRANCE	3	XX345678
1	A	C	22/11/2011	25/11/2011	A	B	750	750	GBP	UK	4	XX456789
2	A	C	22/11/2011	25/11/2011	B	B	300	300	EUR	FRANCE	1	XX567890
3	A	C	22/11/2011	25/11/2011	C	S	450	450	GBP	UK	2	XX678901
4	A	C	22/11/2011	25/11/2011	D	B	500	500	GBP	UK	5	XX789012

The final level should allow brokers to view each gross execution making up the net, for example:

Gross	Trade Status	Gorss Trade Ref	Originating Broker	Counterparty Broker	Trade Date	Value Date	ISIN	B/S	Quantity	Cash	Currency	PSET	Net Reference
1	Matched	AAAA	A	B	22/11/2011	25/11/2011	A	B	450	450	GBP	UK	XX123456
2	Matched	BBBB	A	B	22/11/2011	25/11/2011	A	S	150	150	GBP	UK	XX123456
3	Matched	CCCC	A	B	22/11/2011	25/11/2011	A	B	200	200	GBP	UK	XX123456
4	Matched	DDDD	A	B	22/11/2011	25/11/2011	A	B	100	100	GBP	UK	XX123456
5	Matched	EEEE	A	B	22/11/2011	25/11/2011	A	S	100	100	GBP	UK	XX123456

6.8.3.2. Intra-Day Net Calculation Display

Upon a matched trade being sent to the netting engine it will be earmarked for the next potential netting cycle. Up to the point to the net cycle being completed, the GUI should display these trades as an intra-day net. As per the requirements to view a net trade following the net cycle completing, the GUI should display the overall number of nets to be created in the next net cycle, an overview of each net and the gross executions making up the net.

6.8.3.3. Additional Views

The vendor GUI will require the following additional folders/views:

- Matched and Sent to Netting
- Matched and Netted
- Net Trades
- Cancel Exception
- Missed Netting Cut Off
- Not Eligible for Netting

6.8.4. Archiving

The matching/netting engine should archive all matched / netted gross executions and net trades after three months. The archived trades should be displayed within the archived folder within the GUI.

6.9. Other Requirements

6.9.1. Search Criteria

It should be possible for a broker to search within the GUI on trade economic criteria, ie trade date or ISIN. Search on economic criteria should bring back the gross exections and any net trades which have been created. It should also be possible to search within the GUI on the following:

- Net Trade Reference
  - This should display the overal Net trade and the gross executions
- Gross Trade Reference (Original broker reference)

6.9.2. Vendor Requirements

The broker community would like the vendor to offer transaction reporting of the gross executions from within the platform.

Note: Requirements for transaction reporting will not be documented in this business process requirements document. A separate document will be produced by brokers on a bilateral basis, if required.

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7. MIS Requirements

The vendor will be required to provide brokers MIS either via the GUI or in report format which will be sent to the brokers at an agreed time, for example daily, weekly or monthly.

Whether via the GUI or within a report, the vendor should provide the following:

- Number of trades sent (Total and # per broker)
- Timing of trades being received into the platform
- Number and % of trades, matched, mismatched, unmatched on TD, T+1. T+2 etc across lifecycle (analysed against each broker and against overall volume)
- Number of trades Matched which miss the netting cut off
- Number of trades which are not eligible for netting
- The %age entered by an agreed market standard time
- The %age matched by and agreed market standard time
- The performance achieve per market (incl %age matches, market averages & compression level)
- What is the market average for each metric and how does each broker compare
- Performance across all metrics by broker / cpty pair
- Root cause analysis data of mismatched, unmatched trades to assist in increasing match rates (Price, TD, Consideration differences etc)
- Ability to query raw data and build ad-hoc reports
- Cancel rate / cancel rebook rate pre and post net
- Metrics of late booked trades by counterparty
- Netting compression rates

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8. High Level Business Requirements

8.1. Business Requirements

Ref #	Requirement Name	Notes	Doc Ref #	Required?
Bilateral Netting via Vendor				
	Changes to Trade Matching and Affirmation		**5**	
BN-MA-01	Brokers will include the payment method of their transaction on the incoming trade confirmation.	Payment method should be mandatory for matching. The vendor will be required to ensure Payment method is a mandatory matching field if a broker pair is subscribed to the bilateral netting service.	5.1	Must Have
BN-MA-02	PSET will become a mandatory matching field.	The vendor will be required to ensure PSET is a mandatory matching field if a broker pair is subscribed to the bilateral netting service.	5.1	Must Have
BN-MA-03	Agency/Principal indicator may be required by the vendor. Either the broker should supply this on the incoming trade confirmation, or the vendor should hold this information for each broker within the static data tables.	This will need to be confirmed with the vendors during the functional analysis stage.	5.1	TBC
BN-MA-04	For EB vs PB trades safekeeping account may need to be included as a matching field.	The vendor will be required to ensure safekeeping account is a mandatory matching field if a broker pair is subscribed to the bilateral netting service	5.1	Must Have
BN-MA-05	For markets where specific handling is required, additional data may need to be supplied on incoming trade confirmations, or held by the vendor in static data tables.	This will need to be confirmed during the functional analysis stage.	5.1	TBC
BN-MA-06	POA instructions for matched trades will need to be prevented from being generated if passed to the netting engine. POA instructions should be released for matched trades if trades have not been netted, ie Missed Netting Cut Off.	A change will be required to ensure POA instructions are released at the correct time.	5.1	Must Have
	Trade Scope to be included in Bilateral Netting		**6**	
BN-TS-01	Broker pairs will have the option to have their OTC transactions netted via the vendor bilateral netting engine; - Where the vendor does not offer functionality to net via a CCP - Where the vendor offers CCP	CCP trade scope detailed in the 'Broker Netting via a CCP' documentation (see appendix)	6.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
	netting functionality, but the CCP of choice does not support all markets - Where the broker pair is unable to utilise the CCP functionality, e.g. the vendor can only connect to one CCP and neither broker has an agreement in place with this CCP			
BN-TS-02	Each broker pair will require the ability to determine whether they require a particular market to be eligible for netting or not.	Based on the markets not supported by a CCP, brokers pairs should further have the ability to exclude markets from being netted. Brokers pairs will be required to agree market eligibility during the on boarding process.	6.1.1	Must Have
BN-TS-03	Markets identified as eligible for bilateral netting will be passed to the netting engine to be included in the next net cycle.		6.1.1.1	Must Have
BN-TS-04	Where a broker pair has determined a market as 'excluded' from the bilateral netting process the matched trades should be instructed one for one.	Instructions may be released by the vendor where POA agreement exists or by the broker where no POA agreement exists.	6.1.1.2	Must Have
BN-TS-05	The vendor should support the following: • Executing Broker versus Executing Broker trades • Executing Broker versus Prime Broker trades • Equity Trades • Fixed Income Trades • Delivery versus Payment Trades	The matching engine should identify these trade types as eligible for bilateral netting.	6.1.2	Must Have
BN-TS-06	Free of Payment and Cross currency trades are out of scope for bilateral netting.	The matching engine should identify these trade types as not eligible for bilateral netting and prevent the trades from being passed to the netting engine. These trades will be instructed one for one.	6.1.2	Must Have
BN-TS-07	Broker pairs should have the ability to determine a trade type as 'excluded' from netting.	The matching engine should identify these trade types as not eligible for bilateral netting and prevent the trades from being passed to the netting engine. These trades will be instructed one for one.	6.1.3	Must Have
BN-TS-08	Only successfully matched trade pairs within the matching engine will be passed to the netting engine.	Unmatched, mismatched, alleged and rejected trades will be prevented from being passed to the netting engine.	6.1.3	Must Have
	Bilateral Netting Trade Status Updates		**6.2**	

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-SU-01	The matching engine will support the following additional trade status updates which will be passed to brokers: 'Sent to Netting Engine' 'Included in Net' 'Cancel Sent to Netting Engine' 'Cancel Accepted by Netting Engine' 'Missed Netting Cut Off' 'Not Eligible for Netting'	The vendor should use the status update naming conventions when returning these statuses.	6.2	Must Have
BN-SU-02	It should be possible for each broker to opt to (or not to) receive these status updates.	Each brokers preference should be held within the broker static data tables.	6.2	Must Have
BN-SU-03	Brokers should be able to determine the format and communication method in which they require these status updates to be returned.	Each brokers preference should be held within the broker static data tables. The vendor should allow each broker the flexibility to determine the data requirements for each status update.	6.2	Must Have
BN-SU-04	Status updates should be returned to the brokers real time (for those who opt to receive the updates)	Upon the vendor carrying out an action against a trade, the relevant status update should be returned.	6.2	Must Have
BN-SU-05	The trade audit history within the vendor GUI should reflect the correct status update.	Upon the vendor carrying out an action against a trade, the GUI should display the correct status.	6.2	Must Have
BN-SU-06	Each status update should include a status qualifier indicating the relevant status update, i.e. Sent to Netting Engine will include 'Sent to Netting Engine qualifier.		6.2	Must Have
	Bilateral Net Trade Creation		**6.3**	
BN-NT-01	The netting engine should net all gross executions received by the following criteria: - Broker Pair Combination - Trade Date - Value Date - Security ID - PSET - Currency - Buy/Sell indicator - Safekeeping account will be taken into account for executing broker vs prime broker executions.	A net trade should be created by the netting engine even if only one execution is received. The buy/sell indicator of a trade will also need to be considered depending on the netting algorithms required to create the net trades	6.3.1	Must Have
BN-NT-02	The netting engine should net a brokers EB vs EB and EB vs PB flow separately.	One net should be created for EB vs EB flow and one net should be created for EB vs PB flow.	6.3.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-NT-03	The preferred model for netting is total net with rollback. For markets where this model cannot be supported, an aggregated model should be followed.	The netting engine will be required to support both a total net with rollback model and an aggregated model.	6.3.2	Must Have
BN-NT-04	The netting engine should have a default netting algorithm set for each market, set by PSET in the static data.	Default algorithm by market to be confirmed during the functional analysis stage. Where the market it default to total net with rollback, a broker pair should be able to opt to use the aggregation model as an alternative.	6.3.2	Must Have
BN-NT-05	Total Net with rollback model: The netting engine will generate net trades for each broker (of the broker pair) where buys and sells will be offset against one another to produce a single net per ISIN, PSET, currency, trade date and value date. In the case of the netting resulting in an odd net (e.g. zero stock or zero cash or same direction) the trades should be netted with the buy/sell indicator also taken into account to produce one net buy and one net sell per ISIN.	In the case of a zero stock zero cash net no net will be generated. Total netting will produce one of the following types of nets: 1. Deliver/Receive with stock and cash in opposite directions 2. Deliver/Receive with stock and cash in same direction 3. Deliver/Receive with stock and zero cash movement 4. Deliver/Receive with cash movement and zero stock movement 5. Deliver/Receive with zero stock and zero cash movement	6.3.2.1	Must Have
BN-NT-06	Aggregation model: Buy/sell indicator is always included as netting criteria. Nets will be generated for each broker based on ISIN, PSET, currency, trade date, value date and buy/sell indicator, producing one net buy and one net sell per ISIN	Aggregation will only produce the following types of nets: 1. Deliver with stock and cash in opposite directions 2. Receive with stock and cash in opposite directions	6.3.2.2	Must Have
BN-NT-07	The netting engine should take into account the net amount of each gross execution when calculating the net.	Where the gross executions have been matched within tolerance, the net trades should be calculated at the seller's level and the total net value of the trade will include the write off amount of each gross trade.	6.3.2.3	Must Have
BN-NT-08	The netting engine will be required to support two EOD netting cycles; - Cycle 1 on T - Cycle 2 on T+1		6.3.3	Must Have
BN-NT-09	The netting engine should also offer brokers an optional cycle on the morning of T+1, whereby the end of day net on T will be re-calculated to include any additional trades received since net cycle 1.		6.3.3	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-NT-10	Netting cycles timings should be set at a PSET level.	The netting engine should initiate netting at a standard time per PSET across the broker community. Standard times should be agreed by all brokers – This data should be provided during the functional analysis stage.	6.3.3	Must Have
BN-NT-11	It should be possible for each broker pair to determine which netting cycles they want to make use of.	The netting engine will need to allow for the number of netting cycles being configurable per broker pair.	6.3.3	Must Have
BN-NT-12	No additional cycles will be required post the final netting cycle on T+1.	Therefore no broker should be allowed to request an ad-hoc netting cycle to be initiated.	6.3.3	Must Have
BN-NT-13	The netting engine will return a net trade report of all of the calculated nets to all brokers following the end of a netting cycle.	The timing and method in which the net will be communicated to the brokers will be determined by each broker's configuration in static data.	6.3.4	Must Have
BN-NT-14	It should also be possible for each broker to determine 'when' they wish to receive their net trade reports; Real Time or Held and received at the same time.		6.3.4.1	Must Have
BN-NT-15	It should be possible for each broker to determine the format in which they receive net trade reports: - Automated methods: SWIFT e.g. MT518 or MT578, FIX, FTP - Manual methods: excel files, csv file	Each method type will have standard format /layout and will convey the required netting data, but it should be possible for the vendor to allow each broker to have variations of the format to allow for their individual requirements. Each broker will provide the vendor with their message specifications as part of the on boarding process.	6.3.4.2	Must Have
BN-NT-16	A unique net trade reference should be applied to each net trade created.	The net reference should be unique to each net trade. The net reference should be returned on the net trade reports and displayed on the net trade within the GUI.	6.3.4.3.1	Must Have
BN-NT-17	The netting engine will be required to return a status update to brokers which quotes the correct net reference id for the associated gross trade executions making up the net.	This will allow brokers the ability to reconcile their gross executions versus the net trade created. The 'Included in Net' status update returned for each gross execution will include the net trade ref.	6.3.4.3.2	Must Have
	Bilateral Netting Workflows: Pre First Netting Cycle 1 (EOD on T)		**6.4.1**	
BN-C1-01	Upon a pair of broker trades becoming successfully matched, the matching engine will immediately pass the trades to the netting engine to be included in the next net cycle	Each brokers config/static set up will determine whether they wish to receive a status update upon trades being passed to the netting engine.	6.4.1.1	Must Have

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	and will return a 'Sent to Netting Engine status update to brokers (if required).			
BN-C1-02	Trades which have been sent to the netting engine will be displayed within the 'Matched and Sent to Netting' folder of the GUI.		6.4.1.1	Must Have
BN-C1-03	In order for a cancellation of a matched pair to be processed by the matching engine and then passed to the netting engine, a broker pair must both agree to the cancellation.	It is assumed that the netting engine will accept cancellations of trades which have not yet been netted, and are therefore not yet locked in. 1. A cancellation will be received from a broker 2. A cancel request will be generated to the counterparty broker in the form of a status update (and placed in the cancel request folder within the GUI). 3. The cancel request will be accepted by the counterparty broker generating a consequent cancellation. Brokers should not have the ability to accept a cancellation within the GUI. 4. Upon receipt of the counterparty cancellation the matching platform will cancel the matched executions (the cancel request will also be closed out). The cancelled trades will show as cancelled within the GUI and displayed in the 'Cancel Complete' folder.	6.4.1.2.1	Must Have
BN-C1-04	Upon a cancellation being successfully processed by the matching platform, a cancellation update will be passed to the netting engine. A 'Cancel Sent to Netting Engine' status update will be returned to each broker (if required).	Each brokers config/static set up will determine whether they wish to receive a status update upon cancellations being passed to the netting engine.	6.4.1.2.1	Must Have
BN-C1-05	Upon the netting engine confirming receipt of the cancellation, the matching engine will return a 'Cancel Accepted by Netting Engine' status update to each broker (if required).	The netting engine will remove the trades from the earmarked netting cycle.	6.4.1.2.1	Must Have
BN-C1-06	If a broker pair agree to cancel and replace a matched and sent to the netting engine trade pair, the matching engine will process the cancellation following the cancel request/accept process being completed and will process the		6.4.1.2.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
	replacement trade as an ordinary matched trade.			
BN-C1-07	If a broker sends a cancel and replace by mistake, or a broker pair do not agree a cancellation the matching platform should attempt to link the cancellation and the unmatched trade together and close them out. The previously matching trades will remain matched.	The matching engine could automate this process on behalf of the broker or the broker could manually link the trades and close them out manually; this would need to be processed at a supervisor and four eyes verification level. Upon the unmatched trade and the cancellation request being linked and closed out, the vendor should return a status update to the broker (if required)	6.4.1.2.3	Must Have
BN-C1-08	If a cancellation or replacement trade is received into the matching platform for any trade which is not successfully matched, the matching engine will process the cancellation and replacement accordingly without the need to follow a cancel request and accept process.	The trades are not earmarked for netting). Detailed workflows for these scenarios can be found in sections 4.4.4 and 4.4.5 of the AFME Broker Matching Business Process Requirements Document.	6.4.1.2.4	Must Have
	Bilateral Netting Workflows: Result of First Netting Cycle (EOD on T)		**6.4.2**	
BN-R1-01	At EOD on T the netting engine will complete the first netting; - All net trades will be locked in - Net trade reports will be returned to the brokers.	Netting cycles will be initiated per PSET (timings will be set per PSET).	6.4.2	Must Have
BN-R1-02	An 'Included in Net' status will be returned for each gross execution included in a net.	The status update will include the reference of the net trade the executions has been included in.	6.4.2	Must Have
BN-R1-03	All gross trades successfully netted will be displayed within the GUI as 'Matched and Netted'.		6.4.2	Must Have
BN-R1-04	All net trades should be displayed within the 'Net Trades' folder within the GUI.		6.4.2	Must Have
	Bilateral Netting Workflows: Pre Second Netting Cycle (EOD on T+1)		**6.4.3**	
BN-C2-01	Trades which are not matched (unmatched, mismatched or alleged) prior to the first net cycle, but become matched before the second cycle is initiated, will be sent to the netting engine to be included in the second net cycle.	The matching engine will process these trades in the same was as trades matched successfully on T, ie pass to the netting engine. The matched trade pair should be removed from the previous GUI view and displayed within the matched and sent to netting engine folder of the GUI.	6.4.3.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-C2-02	If a back-dated (late) trade is received and matched following the completion of the first netting cycle, the trade pair will be sent to the netting engine to be included in the second net cycle.	The matching engine will process these trades in the same was as trades matched successfully on T, ie pass to the netting engine. The matched trade pair should be removed from the previous GUI view and displayed within the matched and sent to netting engine folder of the GUI.	6.4.3.2	Must Have
BN-C2-03	If a cancellation is received for a trade matched post cycle 1 and is pending inclusion in cycle 2, the matching platform will follow the cancel request and accept process and pass the cancelled trade to the netting engine to be removed from cycle 2.		6.4.3.3.1	Must Have
BN-C2-04	If both parties agree to cancel a matched and netted trade post the 1st netting cycle, the cancel request and accept process will be followed and a contra trade (opposite but equal replacement trade) will be created remove the original movement in the next net.	Both the net and the gross executions making up the net will be locked in following the completion of a netting cycle. The contra trade will either be created by the broker or the matching platform. Brokers will need to confirm their preference during the on boarding stage The contra trade will be treated by the netting engine as an ordinary matched execution.	6.4.3.3.2.1	Must Have
BN-C2-05	Upon a vendor contra trade being created, the matching platform will be required to apply the trade reference of the original gross execution to the contra trade	Any status updates sent to the broker(s) for the contra trade, ie sent to netting engine, and should include this reference, therefore allowing Brokers to link the incoming statuses to the original execution.	6.4.3.3.2.1	Must Have
BN-C2-06	If both parties agree to cancel and replace a matched and netted trade post the 1st netting cycle, the cancellation will be processed and a contra trade will remove the original movement, and the replacement trade will be treated as an ordinary matched execution.	Both the contra and the replacement trade will be treated as ordinary matched executions by the netting engine.	6.4.3.3.2.2	Must Have
BN-C2-07	If one broker generates a cancel and replace for a matched and netted trade post the 1st netting cycle, the matching platform should look to link the cancellation and the unmatched trade together and close them out.	This is as per the process for cancellation and replacement trades pre netting.	6.4.3.3.2.3	Must Have
BN-C2-08	BN-C2-01 – BN-C2-07 will apply for those brokers who opt to utilise the T+1 am re-calculated net.	Trades processed after EOD on T and the re-calculated net cycle on T+1 am will follow the same processes as trades received post cycle 1 but prior to cycle 2.	6.4.3	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
	Bilateral Netting Workflows: Result of Second Netting Cycle (EOD on T+1)		**6.4.4**	
BN-R2-01	At EOD on T+1 the netting engine will complete the first netting; - All net trades will be locked in - Net trade reports will be returned to the brokers.	Netting cycles will be initiated per PSET (timings will be set per PSET).	6.4.4	Must Have
BN-R2-02	An 'Included in Net' status will be returned for each gross execution included in a net.	The status update will include the reference of the net trade the executions has been included in.	6.4.4	Must Have
BN-R2-03	All gross trades successfully netted will be displayed within the GUI as 'Matched and Netted'.		6.4.4	Must Have
BN-R2-04	All net trades should be displayed within the 'Net Trades' folder within the GUI.		6.4.4	Must Have
BN-R2-05	BN-R2-01 – BN-R2-03 will apply for those brokers who opt to utilise the T+1 am re-calculated net.	Net trades created for the re-calculated net on T+1 am will follow the same process as nets created at EOD on T+1. However the re-calculated net will contain the trades originally netted on T. (whereas the EOD T+1 net will only contain trades received post the final netting cycle).	6.4.4	Must Have
	Bilateral Netting Workflows: Post Second Netting Cycle (Final Net Cycle)		**6.4.5**	
BN-PF-01	Post the final netting cycle the matching engine will return a 'Missed Netting Cut Off' status update to brokers (if required) for any trades which remain 'not matched' (unmatched, alleged, mismatched)	- For trades which were previously unmatched, the matching engine will only return status updates to the originating broker - For trades which were previously mismatched, the matching engine will return status updates to the both the originating broker and counterparty broker. - Trades will be displayed in the 'Missed Netting Cut Off' folder within the GUI.	6.4.5.1	Must Have
BN-PF-02	Where a POA agreement is in place the vendor will release settlement instructions for all trades remaining not matched post the final netting cycle.	Where No POA agreement is in place the broker will release the instruction from within their in house system upon receipt of the status update.	6.4.5.1	Must Have
BN-PF-03	If a subsequent match is received (for a previously unmatched trade), the matching engine should set the trade pair to matched and release a 'Missed Netting Cut Off' status to the counterparty broker.	Only the counterparty broker will be informed that the trade has missed the Netting Cut off. The broker of the original unmatched trade would have received the update post the final net cycle completing.	6.4.5.2	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-PF-04	If a broker pair books trades post the final net cycle, ie with a back-dated trade date, the matching engine will process these trades in the same way as those trades matched post the final netting cycle; a Missed Netting Cut Off status will be returned to each broker.		6.4.5.3	Must Have
BN-PF-05	Cancellations post the final net cycle should not be processed by the matching engine. Either the broker should prevent the cancel from being passed to the vendor or the cancel (if not prevented) should be shows as a 'cancellation exception' within the GUI. The cancellation of the matched and netted execution will be processed bilaterally.	The 'cancellation exception' should only highlight that a broker is attempting to cancel a matched and netted execution. Brokers should not be required to take any actions within the GUI against this update. A 'Cancel Request' status update to the counterparty broker (if required).	6.4.5.4.1.1	Must Have
BN-PF-06	If a cancellation and replacement trade is received from one broker for a matched and netted trade post the final netting cycle the matching platform should look to link the cancellation and the unmatched trade together and close them out	This is as per the process for cancellation and replacement trades pre netting.	6.4.5.4.1.3	Must Have
BN-PF-07	If a cancellation is received for an unmatched trade post the final netting cycle, the matching engine should process the cancellation.	As per the matching process, the matching engine will cancel the unmatched trade and remove the allegement from the counterparty. In the mismatch scenario, the matching platform will set the counterparty trade to unmatched. The GUI will reflect the status update changes for both brokers accordingly. Where a POA agreement is in place, the vendor will generate a cancellation market instruction.	6.4.5.4.2.1	Must Have
BN-PF-08	If a cancellation is received for a trade which became matched after the final netting cycle, the matching engine will process the cancellation and break the match.	As per the matching process the matching engine will cancel the originating brokers trade and break the match. The GUI will reflect the status update changes for both brokers accordingly.	6.4.5.4.2.2	Must Have
	Non Eligible Netting Trades		**6.5**	
BN-NC-01	All trades deemed 'Not Eligible for Netting' will be prevented from being passed to the netting engine; - Trades excluded by the broker pair	The matching engine should identify these trades as not eligible for bilateral netting.	6.5	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-NC-02	Trades which are not eligible for netting will be assigned a 'Not Eligible for Netting status. This status update will be returned to brokers (if required) real time upon the platform identifying the trades as not eligible.	Trades will be displayed will be displayed in the 'Matched Not Eligible for Netting folder of the GUI.	6.5	Must Have
BN-NC-03	Where a POA agreement is in place the matching engine will immediately release a market instruction for each trade upon identifying the trades as non eligible for netting. Where no POA agreement is in place the broker will release the instruction from within their in house system upon receipt of the status update.		6.5	Must Have
BN-NC-04	Trades which are not eligible for netting and remain unmatched or have been cancelled and corrected the vendor should follow the same process as the OTC Matching model.		6.5	Must Have
	Settlement Processing		**6.6**	
BN-SP-01	Brokers will have suppressed the release of settlement instructions to the market for gross executions.		6.6	Must Have
BN-SP-02	Brokers will instruct the market in one of the following ways: 1. Allow the vendor POA 2. Release the instruction from the in house system	Each broker will confirm whether the vendor will have POA to release instructions. This data will be set at a PSET level and will be held in the static data tables.	6.6.1	Must Have
BN-SP-03	The vendor will be required to release market instructions for all net trades created on behalf of those brokers who grant them POA.	Instructions will be sent to each of the relevant agents in the markets the trades have been created for (each agent will be broker specific which should be confirmed during the on boarding process). The vendor will follow a similar process as is in place for instructing matched transaction for a broker who is not subscribed to the netting service as described in the AFME Broker Matching Requirements Document.	6.6.1.1	Must Have
BN-SP-04	Each net trade should be instructed on the net reference id.	This is similar to the process CCP's follow today for the on exchange flow.	6.6.1.1	Must Have
BN-SP-05	The vendor will not be required to generate a cancellation market instruction for a netted trade.	Unlike the matching process, net trades will be locked in and therefore cannot be cancelled.	6.6.1.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-SP-06	For those brokers who do not grant the vendor POA, marker instructions will be released upon receipt of the net trade reports into their in house systems.	This is as per flow CCP flow today where the CCP does not have POA.	66.6.1.2	Must Have
BN-SP-07	For trades which have not been netted, settlement instructions will be released to the market upon one of the following status updates being generated/received: 'Missed Netting Cut Off' 'Not Eligible for Netting'		6.6.2	Must Have
	Where the vendor has POA, settlement instructions will be generated upon the trade being identified as missing the netting cut off or excluded from netting.	The vendor will follow the same process as is in place for instructing matched transaction for a broker who is not subscribed to the netting service as described in the AFME Broker Matching Business Process Requirements Document	6.6.2.1	Must Have
	Where no POA is in place, settlement instructions will be generated upon receipt of the trade status update.	This is as per the current process today to instruct a matched transaction.	6.6.2.2	Must Have
	Broker Reconciliation		**6.7**	
BN-BR-01	'Included in Net' status update should be used alongside the net trade reports for broker reconciliation.	Brokers will need to confirm whether they require to receive these reports and the format in which they require them.	6.7	Must Have
	GUI Requirements		**6.8**	
BN-GR-01	It should not be possible to manually cancel a matched trade within the GUI; whether eligible for bilateral netting or not.	User profiles should prevent manual cancellations of matched trades.	6.8.1	Must Have
BN-GR-02	Broker pairs will need to provide the following during the on boarding process to utilise the bilateral netting functionality: - Both brokers opt to utilise the netting functionality - Broker Pair combinations • Netting algorithm per PSET • Markets eligible for bilateral netting (these will be the markets not supported by CCP's) • Markets excluded from netting • Trade Types eligible / not eligible for netting		6.8.2.1	Must Have
BN-GR-03	It should be possible for a broker pair to update/change their netting requirements, for example removing or including a PSET, once on boarded.	Both brokers will be required to agree the change and also state the time at which it should take effect.	6.8.2.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-GR-04	Each broker will be required to complete the following: - Subscribe to bilateral netting service - Confirm the netting status updates they wish to receive, when and in which format, including any specific data requirements - Confirm if the vendor will have POA to release market instructions, and if so, in which markets and what the SSI's should be - Provide agency/principal indicator to be stored in the static data tables (if required by vendor).		6.8.2.1	Must Have
BN-GR-05	Current matching fields will need to be included as additional matching criteria: - Payment Method - PSET • Currencies supported - Safekeeping Account	These fields will be mandatory for a broker pair to match against to utilise bilateral netting.	6.8.2.2	Must Have
BN-GR-06	The vendor should hold a table which maps the following: - Broker Pair Combination - Trade Types • Executing Broker versus Executing Broker trades • Executing Broker versus Prime Broker trades • Equity Trades • Fixed Income Trades • Delivery versus Payment Trades - Eligibility	This information will need to be provided by brokers during the on boarding process. This data should be maintained by each broker pair. If any changes are required both brokers will be required to agree and accept the changes via the GUI.	6.8.2.3	Must Have
BN-GR-07	The vendor should provide the ability to hold the agency/principal indicator required by each broker (if a broker is unable to supply the indicator on their trade confirmations).	To be confirmed if required by vendor.	6.8.2.4	Could Have
BN-GR-08	The vendor GUI should be one application; displaying both matched trades and net trades.	The vendor should not have two GUI applications.	6.8.3	Must Have
BN-GR-09	Brokers should have the ability to search within the GUI application for a net trade and the gross executions making up the net.		6.8.3	Must Have
BN-GR-10	A 'Net Trades' folder should be available for brokers to search on net trades created by the netting engine.		6.8.3.1	Must Have
BN-GR-11	Within the 'Net Trades' folder, the GUI should display the following at a broker level; - Counterparty brokers - Number of Nets Created at end of		6.8.3.1	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
	Net Cycle - Overall Net Trade details - Gross trades making up the net			
BN-GR-12	The GUI should display an intra-day net calculation.	The GUI should display the overall number of nets to be created in the next net cycle, an overview of each net and the gross executions making up the net.	6.8.3.2	Must Have
BN-GR-13	The vendor GUI will require the following additional folders/views: - Matched and Sent to Netting - Matched and Netted - Net Trades - Cancel Exception - Missed Netting Cut Off - Not Eligible for Netting		6.8.3.3	Must Have
BN-GR-13	The matching/netting engine should archive all matched / netted gross executions and net trades after three months.	The archived trades should be displayed within the archived folder within the GUI.	6.8.4	Must Have
	Other Requirements		**6.9**	
BN-OR-01	It should be possible for a broker to search within the GUI on trade economic criteria, ie trade date or ISIN.	Search on economic criteria should bring back the gross exections and any net trades which have been created.	6.9.1	Must Have
BN-OR-02	It should also be possible to search within the GUI on the following: - Net Trade Reference • This should display the overal Net trade and the gross executions - Gross Trade Reference (Original broker reference)		6.9.1	Must Have
BN-OR-03	The broker community would like the vendor to offer transaction reporting of the gross executions from within the platform.	Requirements for transaction reporting will not be documented in this business process requirements document. A separate document will be produced by brokers on a bilateral basis, if required.	6.9.2	Must Have
	MIS Requirements		**7**	
BN-MI-01	The vendor should provide MIS via the GUI screens and in a report format.	The frequency of MIS will be determined in the SLA.	7	Must Have
BN-MI-02	The GUI should allow a broker to generate ad-hoc MIS reports.		7	Must Have

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Ref #	Requirement Name	Notes	Doc Ref #	Required?
BN-MI-03	The vendor should supply the following: - Number of trades sent (Total and # per broker) - Timing of trades being received into the platform - Number and % of trades, matched, mismatched, unmatched on TD, T+1. T+2 etc across lifecycle (analysed against each broker and against overall volume) - Number of trades Matched which miss the netting cut off - Number of trades which are not eligible for netting - The %age entered by an agreed market standard time - The %age matched by and agreed market standard time - The performance achieve per market (incl %age matches, market averages & compression level) - What is the market average for each metric and how does each broker compare - Performance across all metrics by broker / cpty pair - Root cause analysis data of mismatched, unmatched trades to assist in increasing match rates (Price, TD, Consideration differences etc) - Ability to query raw data and build ad-hoc reports - Cancel rate / cancel rebook rate pre and post net - Metrics of late booked trades by counterparty - Netting compression rates		7	Must Have

8.2. Business Requirements

Ref #	Function / Operation	Requirement	Required?
	SLA Requirements		
1	Trade netting statuses should be identified and displayed in the related GUI folder.	All status updates should be displayed real time. All changes to trade statuses should be reflected real time. The trade should be reflected in the correct GUI view upon a status change taking place.	Must Have
2	The matching platform should ensure all matched and eligible trades are passed to the bilateral netting engine real time.	There should be no delay in the bilateral netting engine processing executions if eligible for netting.	Must Have
3	Creation of contra trades by the matching platform.	Contra trades should be created real time upon both brokers agreeing a cancellation.	Must Have

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Ref #	Function / Operation	Requirement	Required?
4	The matching platform should release settlement instructions real time where POA is in place.	POA settlement instructions should be released to the market upon the system identifying an instruction should be released.	Must Have
5	All actions, whether automated or manual should be recorded and displayed within the GUI by an 'audit trail' for each trade	The audit trail must be updated real time, and should display the user name and contact and time and date of update.	Must Have
6	The matching platform should archive all matched and netted trades after three months. Any trades which are not matched (unmatched, alleged or mismatched) should not be archived and should remain in their current view.	As per the matching process, if a broker requires a trade which is not matched to be archived, they will need to send a request to the vendor to archive the trade manually. A manual archive request will need to be signed off and agreed by a supervisor at the broker.	Must Have
7	Changes to broker pair static data.	Any changes to broker pair static data, ie eligibility of a PSET, should be made by the deadline set by the broker pair.	
8	MIS should be available at all times.	MIS should be updated real time and the GUI should display the real time status for all/each broker.	Must Have
9	On boarding and testing support	As per the matching process, brokers will require vendor support during the on boarding process and should facilitate testing requirements, i.e. on test or live environments.	Must Have

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9. Open Issues

#	Doc Section	Issue	Comment	Status
Bilateral Netting via a Vendor				
		N/A		

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10. Approvals

10.1. Requirements Approval

Who	Signoff	Signoff Received	Title	Date
Bank of America Merrill Lynch	Richard Mills	James Tone Richard Mills	Snr Ops Manager – Equity Post Trade Services Securities Projects & Industry Initiatives	21/03/2012
Barclays Capital	Shaun Blake	Shaun Blake	Head of Strategy for Cash Equities	
Citi Group	Alex Milton	Alex Milton	Equity Settlements (SVP)	14/03/2012
Credit Suisse	Paul Taylor Oliver Wilson	Paul Taylor	CS AG EMEA Domestic Settlement(VP)	09/03/2012
Deutsche Bank	James Rochford Wayne Howard	Wayne Howard	EMEA Head of Cash Equity Trading Product Ops Head of Stock Loan, Prime Brokerage & Synthetic Equity - London	13/03/2012
Goldman Sachs	Ben Duckworth Peter Hodgkinson	Ben Duckworth Peter Hodgkinson	Executive Director – Trading Operations Change Executive Director – Trading Operations	13/03/2012
HSBC	Ian Little	Ian Little	Head of Offshore Equities	27/03/2012
JP Morgan	Julian Alsford	Julian Alsford	Settlements Manager (VP)	12/03/2012
Morgan Stanley	Martyn Nott	Martyn Nott	Global head of Trade Support for Securities (ED)	19/03/2012
Nomura	Jonathan May	Jonathan May	Head of Cash Equities Middle Office	09/03/2012
RBS	Christopher Ralph	Robert Mason	Head of EMEA Fixed Income Middle Office	13/03/2012
UBS	David Grace	David Grace	EMEA Head of Market Initiatives, Securities Operations	12/03/2012

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11. Appendix

To be included once sign off received for documents.

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