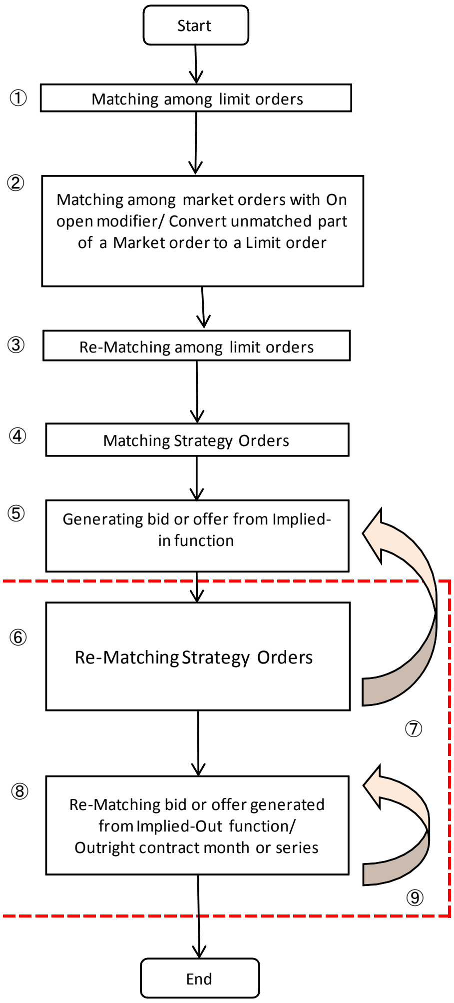
Matching Algorithm at the opening of Market Trading Period



① By matching among limit orders (not generated from Implied function) , calculating one specific price (Uncrossing price) to generate maximum order volume if executed and executing limit orders at such Uncrossing price.

② For contract month or series where Uncrossing price is available, if market orders with On open modifier are on the both bid and offer sides, these orders are matched at the Uncrossing price and any unmatched orders are converted to Limit Orders at the said Uncrossing price. (Market orders with On open modifier for contract month or series that were not filled in the process ① will be pulled）

③ Re-Matching among limit orders (unmatched orders in the proccess ① and orders converted to the limit orders in the process ②), and executing them at the Uncrossing price.

④ By matching among strategy orders (not generated from Implied-in function), calculating one specific price to generate maximum order volume if executed and executing strategy orders at such one specific price.

⑤ Bid or offer is generated from Implied-in function.

⑥ Re-matching among strategy orders (unmatched orders in the process ④and orders generating from implied-in function), and executing at the price of the Bid or offer generated from Implied-in function.

⑦Repeat ⑤ and ⑥ if bid or offer can be generated from implied-in function. (When a bid or offer from implied-in function cannot be generated in a certain strategy, move to match other strategy orders.)

⑧ Generating a bid or offer from Implied-out function and matching among these orders (generally, at the mid-price between a best bid and a best offer generating from implied-out function).

⑨ Repeat ⑧ until all outright contract months and series are matched. Stop repeating the process if a bid or offer cannot be generated from Implied-out function anymore. (⑧ should be repeated if even one bid or offer from implied -out function can be matched.）

【Process】

①～③ : Repeat ①～③ in all contracts or series by the contracts or series Unit.
(After processing a leading contract month, the process is handled in the order of nearest to farthest month.)

④～⑦ : Repeat ④～⑦ in all strategies by the strategy unit.
(After processing a leading contract month, the process is handled in the order of nearest to farthest month.)
In generating bid and offer from implied-in function,
executing trades at the price of the Bid or offer generated from Implied-in function.

⑧～⑨ : In generating bid and offer from implied-out function,
executing trades at the mid-price between a best bid and a best offer generated from Implied-out function.
（Odd price is given to the Bid or Offer including far month）

・The original of this publication has been prepared in the Japanese language only and the Japanese language texts shall govern for all purposes and in all respects. Accordingly, all questions that may arise shall be decided in accordance with the Japanese language texts.
・Whilst reasonable care has been taken to ensure that this translation is accurate and free from errors, no liability is accepted by TFX in any circumstances.

The way of calculating uncrossing price

1. Narrowing down the range of possible matching by calculating accumulated total of corresponding bids (Bid accumulation) and corresponding offers (Offer accumulation)

＜Condition1＞

(1) Narrowing down the range of price by determining the highest price in which Bid accumulation exceeds Offer accumulation.

(2) Narrowing down the range of price by determining the lowest price in which Offer accumulation exceeds Bid accumulation.

Offer Accumulation	offer	Mar price	bid	Bid Accumulation
60		99.010		0
60	30	99.005	20	20
30		99.000	10	30
30	20	98.995	20	50
10	10	98.990		50
0		98.985		50

(1)The higest price in which Bid accumulation exceeds offer accumulation is 98.995
(2)The lowest price in which Offer accumulation exceeds Bid accumulation is 99.005
⇒98.995、99.000、99.005

2. Specifying the price at which either the volume of Offers or the volume of Bids can be completely executed.

＜Condition2＞

Among the prices that satisfies requirement of condition 1, determining the price that satisfies the following requirements ((1) and (2)) .

(1) Bid accumulation of the said price ≧ Offer accumulation of the one-tick-size lower price than the said price

and

(2) Offer accumulation of the said price ≧Bid accumulation of the one-tick-size higher price than the said price

Offer Accumulation	offer	Mar price	bid	Bid Accumulation
60		99.010		0
60	30	99.005	20	20
30		99.000	10	30
30	20	98.995	20	50
10	10	98.990		50
0		98.985		50

(1) Prices that satisfies condition 2 (1) is
99.000～98.995
(2) Prices that satisfies condition 2 (2) is
99.005～98.995
⇒98.995、99.000

3. Specifying the price that coincides with or nearest to the reference price.

＜Condition3＞

If there is more than one price specified in the condition 2, uncrossing price will be either;

(1) the reference price when there is the same price among the said prices as the reference price, or

(2) the closest price to the reference price when there is not.

Offer Accumulation	offer	Mar price	bid	Bid Accumulation
60		99.010		0
60	30	99.005	20	20
30		99.000	10	30
30	20	98.995	20	50
10	10	98.990		50
0		98.985		50

When the reference price (the Official Closing Price on the previous business day or the price designated by the Exchange) is 98.995, uncrossing price is 98.995.

As stated above, 30 lots traded at a price of 98.995. (Shaded areas show Traded orders)