



CLSA Limited
ALP Japan
“Crossing Engine”
User Guidelines

Version 1.0
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A. GENERAL

1. Introduction

- a. CLSA’s ALP (hereafter referred to as “Crossing Engine”) is a continuous, anonymous order crossing and automated trade reporting system which seeks to cross buy orders with sell orders, and report successful cross trades to the ToSTNet.
- b. The purpose of this document is to provide guidance to clients of CLSA who are “users” of the Crossing Engine or 3rd party ALPs i.e. whose orders may be routed to the Crossing Engine or 3rd party ALPs for crossing.
- c. Prior to routing orders to the Crossing Engine or 3rd party ALPs, users are advised to familiarize themselves with the information contained in this document.
- d. This document is subject to change from time to time, due to the update of relevant rules and regulations by the Tokyo Stock Exchange (TSE).
- e. Users should contact their regular CLSA sales-trading contact with any queries related to the Crossing Engine or this document.

B. TRADING AND OPERATIONAL MATTERS

1. Client Tier Preferences

- a. Crossing Engine recognises a set of pre-defined tiers and each client is designated to a specific tier based on the type of order flow from the client as mentioned below.

Client Tier	Value
Institutional	I
Liquidity Provider	L
Principal	P
Broker Dealer	B
Aggregator	A

- b. Each client can choose the crossing preference for their orders i.e. to cross with the orders from clients belonging to a particular tier or group of tiers.

Example: A Liquidity provider client (“L”) can choose to cross only with Institutional (“I”) and Broker Dealer (“B”) orders. Crossing Engine will cross the client orders only with the orders from clients belonging to “I” and “B” tiers.

2. Client Exclusion

- a. A client can restrict his/her orders from interacting with the orders from a client or list of clients irrespective of the tier they belong to.

Example: A Liquidity provider client (“L”) who is willing to cross with Aggregator (“A”) orders, can still restrict their orders from crossing with a specific “client/clients” orders belonging to “A” tier.

3. CLSA Principal Flow

Orders in which the CLSA group of companies have any interest (“Principal Flow”) can be routed to the Crossing Engine Internal Order Book for crossing, Principal Flow includes:

- a. Where CLSA is trading as principal in the transaction;
- b. Where a group company of CLSA is trading as principal in the transaction;
- c. Any account in which CLSA or its group companies have an interest;
- d. The account of any employee or agent of CLSA, or its group companies; or
- e. Client facilitation orders

However, the agency orders will always have better priority over the principal orders for crossing at any given point of time (please refer Section D-2).

4. Opt-in/Opt-out Arrangement

a. CLSA Crossing Engine

- i. High Touch Users may opt-out of routing their orders to the Crossing Engine for crossing by notifying CLSA in writing of their desire to Opt-out by emailing clsa_alp_optout@clsa.com.
- ii. Electronic Trading Users may opt-in to routing their orders to the Crossing Engine for crossing.
- iii. Users may request to opt-out their cash desk orders but opt-in their electronic trading orders, or vice versa.
- iv. Users may specify that their orders do not cross with orders from another user if these orders originate from another broker's ALP.
- v. Users may opt-out individual orders by indicating as such on the relevant FIX tag in the order message.

b. Routing to 3rd party ALPs

- i. CLSA has established FIX connectivity with other licensed ALPs as detailed in table 1 below .
- ii. By default user orders will not be routed to 3rd party ALP's.
- iii. Users may request that their orders are eligible for routing to 3rd party ALP's.

5. Supported Securities

Securities listed on the Chi-X Japan, SBI Japannext, and the TSE.

6. Crossing Sessions

- a. The Crossing Engine will operate during the continuous trading hours of the TSE. The Crossing Engine will not operate during the pre-open session, during the lunch break, or any period that is not deemed as continuous trading by the TSE.
- b. The Crossing Engine will cease crossing orders 15 seconds before the close of the AM continuous trading session, and 15 seconds before the close of the PM continuous trading session to allow the Crossing Engine sufficient time to report any crossed trades to the ToSTNet. The Crossing Engine will not start crossing orders until 15 seconds after each session opens to avoid the volatility that is common at the exchange open. These time-periods may be changed from time to time by CLSA.
- c. Furthermore, if a stock has not opened during the continuous trading session or it has entered into the intraday volatility auction during the continuous trading session, the Crossing engine will not

cross the order for that stock until stock enters into the continuous trading session on the exchange.

- d. The table below details the operation of the Crossing Engine during the various TSE trading sessions.

TSE Trading Session	Time (JST)	Crossing Engine Operation
Before AM Pre-Opening	Before 08:00	Will not cross
AM Pre-Opening	08:00 – 09:00	Will not cross
AM Continuous Trading	09:00 – 11:30	Crossing permitted from 09:00:15 – 11:29:45
Lunch Break	11:30 – 12:05	Will not cross
PM Pre-Opening	12:05 – 12:30	Will not cross
PM Continuous Trading	12:30 – 15:00	Crossing permitted from 12:30:15 – 14:59:45
Market Close	After 15:00	Will not cross

7. Order Routing and Execution Methodology

- Orders from user or ALP user may route to Crossing Engine or 3rd party ALPs or the exchange via CLSA order management and execution system as per their instructions. .
- CLSA Smart Order Router (SOR) has the functionality to allow user and ALP users to opt-out from crossing in as per order basis via FIX Tag Crossing Indicator "0 – Do not cross".

8. Cross Preferences

Users may route orders to the Crossing Engine and 3rd party ALPs via the client's own FIX enabled trading system. The FIX message may include an identifier in a FIX Tag to instruct whether or not the order may be considered for crossing in the Crossing Engine.

FIX Tag Crossing Indicator	Name	Description
0	Do Not Cross	Bypass the Crossing Engine, routing orders directly to the Exchange. These orders can only be traded in the exchange order book.
1	Can Cross	Route the order to the Crossing Engine or 3 rd party ALPs, which will cross the order if there is a matching order or if the opportunity for a cross arises. If there is no immediate match, the Crossing Engine will route the order to the exchange. If a cross is found within the Crossing Engine or 3 rd party ALPs, a trade cross report will be sent to the ToSTNet.
2	Cross Only	Route the order to the Crossing Engine or 3 rd party ALPs only. The order will not be routed to the exchange under any circumstances for crossing. The order will be crossed if and when there is a matching order in the Crossing Engine or 3 rd party ALPs under which circumstances a cross trade report will be sent to the ToSTNet.
3	Cross Mid	The order may be crossed in the Crossing Engine or 3 rd party ALPs or be routed to the exchange. If crossed in the Crossing Engine or 3 rd party ALPs, the order crossing price will be the mid-point between the best bid and the best ask prices, or better, if that price is within the limit price of the order.

FIX Tag Crossing Indicator	Name	Description
4	Cross Mid Internal	Route the order to the Crossing Engine or 3rd party ALPs only. The order will not be routed to the exchange under any circumstances for crossing. The order crossing price will be the mid-point between the best bid and the best ask prices, or better, if that price is within the limit price of the order.
5	Does not exist	
6	Near Touch	The order may be crossed in the Crossing Engine or 3 rd party ALPs or be routed to the exchange. If crossed in the Crossing Engine or 3 rd party ALPs, the order crossing price will be the best bid price for a buy order, and the best ask price for a sell order, if that price is within the limit price of the order.
7	Near Touch Internal	Route the order to the Crossing Engine or 3rd party ALPs only. The order will not be routed to the exchange under any circumstances for crossing. The order crossing price will be the best bid price for a buy order, and the best ask price for a sell order, if that price is within the limit price of the order.

If a client has not "opted in", the FIX Tag Crossing Indicator will be considered ineffective and the order will not be considered for the crossing in the Crossing Engine or 3rd party ALPs.

9. Crossing Mechanism

Order types 1, 3 and 6 (Section B-7) are routed to the Crossing Engine first to check for liquidity, if there are no crossing opportunities, the orders are then routed to the exchange. If there is liquidity in the Crossing Engine but it was insufficient to fill the whole order, the liquidity available in the Crossing Engine would be crossed first and the remaining unfilled order would then be routed to the exchange. However, any unfilled portions of the order in both cases will continue to be available to be crossed in both the Crossing Engine Internal Order Book and exchange. Please see below illustrations for details.

Illustration 1 – No crossing opportunities in Crossing Engine

1. 10:15 am JST – Prior to order receipt

Crossing Engine Internal Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	20	¥30.10	80
¥29.95	90	¥30.15	70

Exchange Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	40	¥30.10	20
¥29.95	50	¥30.15	30

2. 10:16 am JST – Sell order of 150,000 shares @ ¥30.05 is routed to the Crossing Engine with FIX Tag Crossing Indicator = 1.

No crossing opportunities available and hence order remains in the Crossing Engine Internal Order Book.

Crossing Engine Internal Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	20	¥30.05	150
¥29.95	90	¥30.10	80

3. 10:16 am JST – Order is also routed to the exchange

Exchange Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥29.95	40	¥30.05	150
¥29.90	50	¥30.10	20

Illustration 2 – Partial crossing opportunities in Crossing Engine

1. 10:15 am JST – Prior to order receipt

Crossing Engine Internal Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	20	¥30.10	80
¥29.95	90	¥30.15	70

Exchange Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	40	¥30.10	20
¥29.95	50	¥30.15	30

2. 10:16 am JST – Sell order of 150,000 shares @ ¥30.00 is routed to the Crossing Engine with FIX Tag Crossing Indicator = 1.

Only 20,000 shares are crossed in the Crossing Engine. Remaining quantity in the Crossing Engine Internal Order Book, 130,000 shares, is routed to the exchange for execution.

Crossing Engine Internal Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥29.95	90	¥30.00	130
¥29.90	80	¥30.10	80

Exchange Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥30.00	40	¥30.00	130

¥29.95	50	¥30.10	20
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3. 10:16 am JST – Remaining quantity is routed to the exchange.

40,000 shares are matched in the exchange order book. Remaining quantity in the exchange order book is 90,000 shares. Remaining quantity in the Crossing Engine Internal Book will also be updated. However, order priority remains unchanged in the Crossing Engine.

Crossing Engine Internal Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥29.95	20	¥30.00	90
¥29.90	90	¥30.10	80

Exchange Order Book			
Price	Volume ('000)	Price	Volume ('000)
Bid		Ask	
¥29.95	50	¥30.00	90
¥29.90	70	¥30.10	20

10. Minimum and Maximum cross size

- a. The FIX message may include an identifier in a FIX Tag to specify the minimum number of shares that may be crossed in the Crossing Engine Internal Order Book. If this identifier is not included then the minimum number of shares will be one board lot.
- b. The Crossing Engine will not cross a single trade or order in value more than ¥10,000,000,000. These limits may be changed as necessary by CLSA from time to time.

11. Tick boundary

- a. The Crossing Engine will accept an order that does not align with the exchange tick boundaries. The Crossing Engine will store orders in the Crossing Engine Internal Order Book with the price limited to at most four decimal places.
- b. Where an order contains a price instruction (i.e., not 'Market' orders), should the price not lie on a exchange tick boundary and the order cross indicator is set to either "Can Cross", "Cross Mid" or "Near Touch" the price will be rounded to a tick boundary before being sent to the exchange. Buy orders will be rounded down to the nearest tick boundary, while sell orders will be rounded up. Orders designated "Cross Only" will be held in the Crossing Engine Internal Order Book at the original price limit.

12. Order Crossing Mechanicsm

- a. The Crossing Engine Internal Order Book is a continuous order matching system. Order crossing will occur under the following circumstances:
 - i. When a new order is received by the Crossing Engine;
 - ii. When the limit price of an existing order is amended;
 - iii. Where there is a change in the best bid price or best ask price in the exchange ; and
 - iv. By the periodic running of a timer.
- b. Orders from different users are continuously executed in price and time priority. An order entered into the system at an earlier time must be executed in full before an order from a different user, at the same price, entered at a later time is executed.
 - i. For buy orders, the Crossing Engine will search for a sell order with a limit price lower than or equal to the limit price of the buy order. The search is conducted such that the lowest

priced sell orders are checked first. If a sell order is found then the two orders may cross subject to further restrictions (outlined in Section C-1). The number of shares that may cross will be the lower of either the unfilled quantity of the buy order, or the quantity of the available sell order.

- ii. For sell orders, the Crossing Engine will search for a buy order with a limit price higher than or equal to the limit price of the sell order. The search is conducted such that the highest priced buy orders are checked first. If a buy order is found then the two orders may cross subject to further restrictions (outlined in Section C-1). The number of shares that may cross will be lower of either the unfilled quantity of the sell order, or the quantity of the available buy order.
- c. The Crossing Engine will only cross orders if the client tier of one order is in the cross tiers of the opposite order and vice versa.
- d. The Crossing Engine will only cross orders if the client exclusion list of one order does not contain the client of opposite side order and vice versa.
- e. The Crossing Engine will only cross orders at a price between the current best bid and best offer price on the exchange.
- f. The Crossing Engine will only cross orders at a price between the current day high and day low prices on the exchange.
- g. When the Crossing Engine has determined that two orders may be potentially crossed, the cross is then subject to a series of validations rules (outlined in Section C-1). Should any one of the validation rules fail, then a cross will not be performed.
- h. After all validation checks are performed, the Crossing Engine will then report the crossed transaction to the ToSTNet. Upon successful reporting, the crosses will be reported to the client.

13. Order cancellation

Users may cancel orders by sending a FIX cancel message. Orders, which have been routed in whole or in part to the exchange and are cancelled during periods that the exchange does not support cancellation, will then be cancelled when the exchange reopens.

C. Crossing Restrictions

1. The Crossing Engine operates the following restrictions reflecting the trading rules of exchanges or other regulatory considerations:
 - a. The Crossing Engine will not cross any instrument that is suspended from trading on the exchange.
 - b. The Crossing Engine will not cross odd lots.
 - c. The crossing price will not have more than four decimal places.
 - d. The Crossing Engine will not cross buy and sell orders from the same client.
 - e. Other restrictions as deemed to be appropriate by CLSA from time to time.

D. Order Priority

1. Orders from different users are continuously executed in price and time priority. An order entered into the system at an earlier time must be executed in full before an order at the same price entered at a later time is executed.
2. Agency orders priority over Principal orders

- a. If there are orders from both Agency and Principal flow in the crossing engine internal orderbook at the same price, the Agency orders will always have better priority over principal orders irrespective of the time they were sent to the crossing engine.
3. Consecutive User Agency Order Priority
Where multiple agency orders queue in the Crossing Engine Internal Order Book consecutively from the same user:
- a. Orders that were not sent to the exchange (Section B-8, order types 2, 4 and 7) will be given a higher time priority relative to orders that were sent to the exchange (Section B-7, order types 1, 3 and 6).
 - b. Orders that were sent to the exchange (Section B-8, order types 1, 3 and 6) will be considered for crossing in reverse time priority when such crossing order results in an improved queue priority on the exchange for the user.

This order priority only applies to orders from the same user, in the Crossing Engine Internal Order Book consecutively, at the same price.

E. Other Dealing Matters

1. Order aggregation

Orders within the Crossing Engine will not be aggregated with any other orders for crossing.

2. Fair and orderly operation

CLSA aims to provide a fair and orderly platform for operation of the Crossing Engine:

- a. The Crossing Engine is an automated order crossing system, free of human intervention under normal operation;
 - b. A "Price Time Priority" methodology is imposed upon all users trading in the Crossing Engine with the exception of consecutive orders from the same user (Section D-3).
3. The Crossing Engine is subject to CLSA group policies relating to information technology and regulatory compliance.
4. Potential conflict of interest

CLSA has implemented a broad set of control measures addressing potential conflict of interests in the Crossing Engine.

F. Order confidentiality

The Crossing Engine does not publish indication of interest or any information regarding its order book to any CLSA trading desk or other market participant. In addition the Crossing Engine will provide users an option to hold an order within its own internal order book only, and not forward that order to the exchange.

G. Risk disclosure relating to the Use of Crossing Engine

- 1. On occasion there may be a time delay before the best bid and best ask price of the exchange is reflected in the Crossing Engine, due to technology or communication delay or interruption related to market data or otherwise. In such an event the price crossed in the Crossing Engine may not reflect the market price on the exchange.
- 2. Where users specify "Cross Only" as the crossing identifier, there is no assurance given with regards to the liquidity of orders in the Crossing Engine. The liquidity of the Crossing Engine may be less

favorable than the same in the exchange.

3. CLSA have taken reasonable steps to protect the integrity and confidentiality of orders in the Crossing Engine to a level we consider appropriate, however leakage of trading information may occur beyond our reasonable level of system and internal control.
4. The service of Crossing engine is provided on an "as is" basis and we make no warranty, representation or other assurance in connection with the system, including as to availability, accuracy, completeness, results, functionality, reliability, performance, timeliness, non-infringement, suitability, quality, merchantability, fitness for a particular purpose or otherwise. We also do not warrant that access and/or use of the system will be uninterrupted or error-free.

H. Legal Information

1. This document is not intended to have any force of law, be it in contract or tort. This document also does not seek to introduce, and should not be seen as imposing, any obligation or liabilities between you and CLSA beyond those defined in our terms of business or contractual agreement.
2. This document/communication is for information purposes only and does not constitute any recommendation, representation or warranty in respect of the Crossing Engine or 3rd party ALPs. This is not a solicitation or an offer to buy or sell any financial products or services. This document/communication is not intended to provide professional, investment, technical or any other type of advice or recommendation. Before acting on any information in this document/communication, you should consider whether the Crossing Engine or 3rd party ALPs described herein is suitable for your particular circumstances and, if appropriate, seek professional advice.

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