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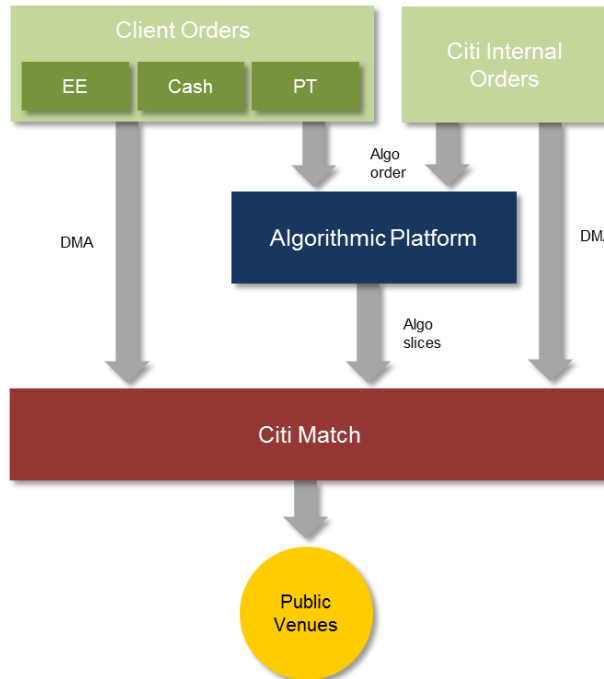
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Citi Match Reference Guide – Asia Pacific

Citi Match is Citi's crossing / dark pool service for Hong Kong, Japan and Australia. It provides anonymous crossing of buy and sell orders supporting a number of products (detail on pages 7 and 8) with the potential to attain executions at more favorable prices than on the exchanges.

Citi Match executes orders within the prevailing best bid and offer prices that are available at the primary exchange.



User of Citi Match

You will be receiving this reference guide as part of the onboarding process if you are a new client and periodically thereafter whenever there is any material change to the operation of Citi Match.

If you do not require your orders to be routed to Citi Match, please contact your sales or coverage desk and they will arrange for your flow not to be routed to Citi Match.

Order Handling

Your orders are eligible for routing to Citi Match via any of the following:

- Electronic orders sent by Direct Market Access or executed via Citi's algorithmic platform
• Portfolio/basket orders sent to the Program desk
• High touch orders sent to the Cash desk

Citi Match does not publish any Indications of Interests based on orders held within its internal order book.

Order Options and Controls

Citi provides a number of options and controls that allow you to customize your execution style and safeguard your flow.

If you would like more information about Citi Match's options and controls, please contact your sales or coverage desk.

Order Classification

Citi Match supports 2 classes of orders: Flow and Resting.

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Flow orders are subject to matching against orders in both Citi Match and orders that are displayed on the exchange. Resting orders, as the name suggests, solely rest and are subject to matching against orders in Citi Match only.

By default, orders are handled as Flow orders unless otherwise specified through pre-agreed order handling instructions.

If you require Resting orders (i.e. orders are matched against orders in Citi Match only), there are 2 options available:

- Set up the appropriate connectivity through your sales and coverage desk to use Direct Market Access orders.
- Select the Citi Match algorithm on your Order Management System (OMS) and your orders will be routed to Citi Match via our algorithmic platform

Order Capacity

All orders within Citi Match are grouped by order capacity. There are two order capacity groups:

- Agency: traditional passive flow from external clients.
- Principal: internal principal desks comprising position unwinding and derivative hedging.

You can specify Do Not Cross Principal (DNCP) on each order sent as Direct Market Access or for execution via our algorithmic platform.

By default, your flow will cross against all flows in either order capacity group.

Cross/Do Not Cross flag

You can specify Cross or Do Not Cross instruction on each order sent as Direct Market Access or for execution via our algorithmic platform.

In addition you can opt to have Citi apply a default handling instruction in the absence of any order level instructions.

By default, your orders will be flagged as crossable and routed to Citi Match.

Mid-Price or better

You can ensure the cross-price will not be outside of near- to mid-price of the prevailing quote. This is a server side setting only and cannot be overridden at the order level.

By default, Mid-Price or better is disabled.

Minimum and Maximum Crossing Quantity

By setting a minimum crossing quantity you can avoid matching against order sizes below a desired threshold. Citi does not aggregate orders to satisfy minimum quantity requirement. Each execution will adhere to your minimum quantity specification.

A maximum crossing quantity option, expressed in terms of executable units i.e. lot size or shares, is also available. This can be used to rest larger sized blocks in Citi Match and avoid being matched beyond a certain size.

You can specify the minimum and maximum crossing quantity parameter on individual orders to tune your crossing to a particular style of execution.

The minimum crossing quantity is defaulted to 1 lot and the maximum crossing quantity is defaulted to the order size.

Price Movement Order Rejection

Citi Match provides you with an option to cancel any order when there are large price movements observed in the primary market and avoid potentially matching at adverse prices levels.

You can choose to enable this feature and specify the percentage price movement.

By default, the price movement function is disabled for your flow.

Operating Procedure and Execution Priority

The figure below shows a comparison of the execution priority across the Asia region.

Execution Priority	Hong Kong	Japan	Australia
Price Priority Orders with more favorable prices (higher price for buy and lower price for sell) have higher priority	Yes	Yes	Yes
Order Capacity Agency orders have a higher priority than Principal orders. Where orders have the same price all Agency orders execute ahead of those classed as Principal regardless of time priority	Yes	Yes	Yes
External MM Flow Category External Market Maker flow category – agency capacity but assigned the same priority as Principal within Citi Match	No	Yes	No
Time Priority The entry time of orders in Citi Match's order book is used for prioritizing orders according to time. For orders that have the same price and order capacity priority, those entered earlier will have a higher priority	Yes	Yes	Yes

Notes:

- i. Citi Match does not support Market orders
- ii. There is no aggregation of orders by client or security

Matching Mechanism

Citi Match supports 2 classes of orders, namely Flow and Resting.

Resting orders must include either a limit price or a pegging instruction (Peg to Bid/Mid/Offer). Citi Match's order book comprises a combination of order queues based on limit price and floating order queues based on the Bid/Mid/Offer price of the primary quotes. Time priority is maintained across both queues.

Flow orders are released to the exchange if there is no crossing opportunity. Any remaining quantity after matching will be posted in the Citi Match order book and routed to the exchange at the order's limit price. If there is a future crossing opportunity, any non-executable quantity posted at the exchange will be pulled back (cancelled or amended down) to facilitate the cross.

Crossing is not allowed for securities that are currently suspended.

Orders are matched in "Price – Order Capacity – Time" priority.

When an order is successfully amended, the timestamp on the order will be updated and the order will lose its queue priority.

Pegged orders will retain their time priority from when the order originally entered Citi Match when joining a new price queue due to a change in the quotes.

Any order that is priced at a higher resolution than the minimum tick size will be rounded to the nearest price increment without breaching the limit price instruction. This prevents orders that have been priced with no economic value from gaining a higher price priority and jumping the queue.

Table below shows the matching rules applied across Asia.

Trading Rules	Hong Kong	Japan	Australia
Matching Mechanism	Orders can be matched at or within the prevailing Bid/Offer of the SEHK	Orders can be matched at or within the prevailing Bid/Offer of the TSE	Orders are matched within the NBBO
Public Order Books	SEHK	TSE SBI Japannext Chi-X	ASX Chi-X
Trade Price Determination	Trade price is derived from the limit price and price instructions on the liquidity maker	Trade price is derived from the limit price and price instructions on the liquidity maker	Citi Match price processing behavior is based upon the prevailing market phase at the primary market, which is currently ASX. The trade price is subject to Meaningful Price improvement – either at the mid-price of the national best bid and offer (NBBO) or within the NBBO
Trade Price Rounding	Trades are rounded to 3 decimal places	Trades are rounded to 2 decimal places	Trades are rounded to 4 decimal places, and reported on tick or NBBO mid
Trade Reporting	SEHK	ToSTNeT	ASX or Chi-X

Order Cancellation

On an order cancellation request, Citi Match will attempt a pull-back on any open orders posted at the exchange and from its internal order book.

There is a risk that these orders may be pending execution at the time of cancellation. If that happens, any remaining balance would be cancelled and any pending executions will be returned back together with the cancellation acknowledgement.

In the event the order is fully filled during the order cancellation process, the cancellation request will be rejected.

Related Publications

Citi Match turnover, crossing rates and spread savings are published on a monthly basis in the Asia Monthly Microstructure Highlights review. You will receive this each month through your sales and coverage representative upon request

Risk and Disclosures

Algorithmic Flow in Citi Match

Citi's algorithmic platform will place orders into Citi Match using both Flow and Resting orders. All clients and Citi's internal principal trading desks have access to the same standard suite of algorithms and interact with Citi Match in the same way.

For coverage purposes, systems placing orders in Citi Match, either DMA gateways or algorithmic system will be monitored by the Electronic Execution coverage desk.



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Order Flow and Eligibility for Citi Match

Citi reserves the right to tag certain orders as non-eligible for Citi Match. This could be due to the following:

- Service level technical reasons under the supervision of APAC Head of Electronic Execution.
- High touch orders routed to the cash desk based on trader discretion.

Regulatory Obligations

Please note that should Citi be asked by a regulator to provide information on specific orders in Citi Match, Citi may request you to provide additional information regarding your orders.

Trade Surveillance

All order submissions to Citi Match are monitored by Citi's trade surveillance system. Any alerts raised by the system based on your order placement will be reviewed by compliance and the coverage desk.

Latency

On order arrival, Citi Match will typically identify a crossing opportunity within a few milliseconds. Any Flow orders that are un-matched in Citi Match will be routed to the public exchange or other trading venues.

Citi Match sources its market data from direct feeds in order to ensure the dark pool reacts to latest market prices with minimum latency.

Service Interruption

Citi Match relies on pricing information from external market data providers. To ensure the pricing information remains current, a control function checks whether any quote has been received across preset universe of symbols within the previous 30 seconds.

If the market data is deemed inactive, crossing is immediately suspended with no disruption to the normal order flow to the exchange.

Policy and Procedures

Outage Procedure

If Citi Match goes offline – due to a potential system issue – the Direct Market Access gateway and algorithmic platform will automatically detect Citi Match is off-line and subsequently route orders direct to the public exchange.

Any further orders with instructions to trade exclusively in Citi Match will be rejected.

Citi's sales and coverage representatives will inform you via phone, email or electronic messaging services.

Continuity of Business

Within a single data center, Citi Match is hosted on primary and secondary servers. In the event of a failure on the primary server, the failover to the secondary server will be instantaneous. All orders are fully recoverable and normal operation will resume.

In the event of a failure of the primary site, the decision to invoke the disaster recovery plan and switch to the secondary site will be made by the Continuity of Business Unit head. Failover of primary site to secondary site would be 4 hours maximum (RTO)

The denial of access plan is tested annually over a 2 day period.

Access Entitlements

Access to Citi Match order book, databases and physical servers is restricted to technology and support personnel, who do not have any trading responsibility or access to pre-execution information. Such access is used only in the event they need to perform some correction action such as amending/cancelling problematic orders, disabling crossing or activating kill switches.

Access control prevents any unauthorized personnel from viewing or performing any action on Citi Match. Entitlements are reviewed periodically by local governance teams.



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The following groups have access to Citi Match:

Title	Department	Function
Product Business Manager	Cash - Electronic Execution	Administration of: <ul style="list-style-type: none"> • Order cancellation when required • Disable crossing and invoke kill switches
Application Support and Monitoring Team	Technology	Administration of: <ul style="list-style-type: none"> • Take Citi Match off-line • Monitoring system well-being • Run start/stop scripts • Configuration changes
Application Development Team	Technology	System level access for: <ul style="list-style-type: none"> • Analysis of potential system issues
Head of Electronic Markets/ Sales and Coverage Teams	Cash - Electronic Execution	Provide post-trade service to clients, reviewing execution and handling any potential queries Note: Sales and Coverage are not allowed to view the internal order-book



Citi Match Summary - Hong Kong

Products Supports

Stocks, Depository receipts, Index (covered Warrants), Mutual Funds, Rights, Trusts, Currency Products, ETFs and REITs listed on the Stock Exchange of Hong Kong Limited ("SEHK") can be crossed in Citi Match.

Trading Hours

- Order Acceptance from 06:30 HKT
- Continuous matching from 09:30:00 to 12:00:00 and 13:00:01 to 15:59:50 HKT

Trading Rules

- Matching in the continuous trading only
- No matching on symbols that are suspended
- Trade price precision is to 3 decimal places
- Crossing beyond the day high/low price is not allowed
- Crossing beyond the VCM price band is not allowed

Restrictions of Use

- Only Qualified Investors as defined under SFC's Code of Conduct Paragraph 19, who trade through Citi's Cash, Program and Electronic trading desks in Hong Kong.
- No short sells allowed

Client Options

- Near/Mid/Far price or better
- Per order Minimum Acceptable Quantity (MAQ)
- No-Self crossing
- Restrict crossing against specific counterparty
- Cross and Do Not Cross Principal on Flow orders
- Do Not Cross Principal on Resting
- Price movement reject on Resting orders

Reporting

All your trades crossed in Citi Match are reported to The Stock Exchange of Hong Kong ("SEHK") within the time prescribed by the SEHK.

Monthly reports are sent to the SFC listing top 10 users matching by notional and traded volume.

Permitted User

Citi Match Hong Kong is available for Qualified Investors, directly or indirectly, as defined by paragraphs (a) to (i) of the definition of "professional investor" contained in section 1 of Part 1 of Schedule 1 of the Hong Kong Securities and Futures Ordinance or a person within the meaning of sections 3(a), (c), (d) (i), d (iii) or d (iv) of the Securities and Futures (Professional Investor) Rules.

For further detail on permitted users please refer to the below link.

http://en-rules.sfc.hk/en/display/display_main.html?rbid=3527&element_id=4539



Citi Match Summary – Japan

Products Supports

Stocks, ETFs, ETNs and REITs listed on Tokyo Stock Exchange can be crossed in Citi Match.

Trading Hours

- Order Acceptance from 05:30 JST
- Continuous matching from 09:00 to 11:28 and 12:30 to 14:59 JST

Trading Rules

- Matching in the continuous trading only and when stocks are not in indication
- No matching on symbols that are suspended, in special quotation or in trading halt
- Trade price precision is to 2 decimal places
- Crossing beyond the day high/low price is not allowed

Restrictions of Use

- No specific restrictions of use in Japan

Client Options

- Near/Mid/Far price or better
- Per order Minimum Acceptable Quantity (MAQ)
- No-Self crossing
- Restrict crossing against specific counterparty
- Cross and Do Not Cross Principal on Flow orders
- Do Not Cross Principal on Resting
- Price movement reject on Resting orders

Reporting

All your trades crossed in Citi Match are reported to ToSTNeT.



Citi Match Summary - Australia

Products Supports

Only equity markets products can be crossed in Citi Match.

Trading Hours

- Order Acceptance from 07:00 AST
- Continuous matching from 10:00 to 15:59:30 AST

Trading Rules

- Matching in continuous trading only
- No matching on symbols that are suspended or in trading halt
- For block trades, crossing is restricted to prices at or within NBBO.
- For non- block trades, crossing is restricted to valid tick prices strictly within NBBO or exactly at mid-point of NBBO.
- Crossing beyond the day high/low price is not allowed

Restrictions of Use

- Access to Citi Match is not provided to High Frequency Trading desks or internal market makers (liquidity providers)

Client Options

- Near/Mid/Far price or better
- Per order Minimum Acceptable Quantity (MAQ)
- No-Self crossing
- Restrict crossing against specific counterparty
- Cross and Do Not Cross Principal on Flow orders
- Do Not Cross Principal on Resting
- Price movement reject on Resting orders

Reporting

All your trades crossed in Citi Match are reported to Chi-X or ASX

For further information about Citi Match Australia, please go to:

http://www.citi.com.au/citigroup/pdf/CGMA_Crossing_System_Public_Information.pdf



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