

ASX 24 Trading Platform Guide

Version 1.05 | April 2018

INFORMATION CLASSIFICATION - CONFIDENTIAL



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1. Introduction

The new ASX 24 Trading Platform (Trading Platform) will support all ASX 24 markets previously operated on ASX Trade 24.

The Trading Platform offers a common set of interfaces to all ASX 24 products and a suite of functionality replicating and enhancing those offered on the platform that it succeeded.

1.1. Document Information

The purpose of this document is to provide customers with the following information:

- a business overview of the ASX 24 Trading Platform
- a high-level technical overview of the Trading Platform, specifically focusing on trading and market data interfaces, user and market configuration, and disaster recovery
- an overview of the generic operation of the Trading Platform.

The detailed operation of each futures and options contract is governed by the specific configuration and contract specifications of that products summarised in appendix A and detailed in the [ASX 24 Operating Rules](#).

1.2. Reference Documentation

This document should be read in conjunction with:

- [The Rules of the Australian Securities Exchange](#)
- [ASX Notices](#)
- [ASX System Status](#)

The complete set of technical documentation for the Trading Platform can be found in the [Trading Platform Technical Library](#). Please contact CTS @ASX.com.au or your Technical Account Manager if you have any questions relating to this document.

1.3. Readership

This document when read in conjunction with the technical specifications is intended to provide participants with the information required to develop to the services available on the Trading Platform. This document is therefore primarily aimed at business, technical, operations and compliance staff at ASX 24 Participants and software providers.

1.4. ASX Support

1.4.1. Customer Technical Support

The Customer Technical Support (CTS) team operates a technical support service desk for ASX customers, providing support coverage during business hours, 08:00 to 18:00 (AEST).



Email: CTS@asx.com.au

Phone: Within Australia — 1800 663 053 (Toll free)

Within Australia — +61 2 9227 0821

Outside Australia — +612 9227 0372

1.4.2. Trading Operations

The Trading Operations team provides a 24-hour trading support desk for Trading Participants for all trading related queries from Monday 05:30am through to Saturday 07:00am (AEST).

Email: tradingoperations@asx.com.au

Phone: Within Australia — 1300 655 560 (Toll free)

Outside Australia — +612 9256 0677

1.5. Terms and Acronyms

Term / Acronym	Description
ASX MDP	ASX Market Data Protocol
FIX DC	ASX FIX Drop Copy interface
FIX Full	Subscription to the FIX Full service on FIX MD
FIX Light	Subscription to the FIX Light service on FIX MD
FIX MD	ASX FIX Market Data interface
FIX OE	ASX FIX Order Entry interface

1.6. Version History

This document has been revised according to the table below:

Version	Date	Comment
V1.00	Dec 2016	First release
V1.01	Feb 2017	
V1.02	Feb 2017	
V1.03	Apr 2017	Additional detail on UDCs and order types included
V1.04	Aug 2017	<ul style="list-style-type: none">Clarification of Time-in-force by product for optionsFormatting and layout changes
V1.05	Apr 2018	Update to system availability



2. Customer Interfaces

The Trading Platform offers interfaces for Trading (Order Entry), Market Data, and Drop Copy. All interfaces support a common symbology and message referencing system and facilitate tracking of message flows across interfaces.

2.1. Trading Interface - FIX OE

The FIX Order Entry interface supports private orders, quotes and certain status messages. FIX OE offers a FIX 5.0 SP2 interface.

Detailed specifications for the ASX FIX Order Entry interface can be found in the ASX Trading Platform [Technical Library](#).

2.1.1. Transactions Per Second Message Throttling

FIX OE connections are throttled in accordance with a user's Transactions Per Second (TPS) subscription on a per session basis. TPS can be 15-75 messages per second, per session. The message rate is measured over a rolling 1-second window. Where the throttle rate is exceeded, excess messages are queued in the FIX OE gateway and transmitted onwards to the matching engine when the rolling 1-second rate drops below the throttle.

2.2. Market Data Interfaces - FIX MD and ASX MDP

The Market Data interfaces support public order, quote, trade, and status broadcasts.

The Trading Platform offers two market data interfaces:

1. **ASX FIX Market Data** is a FIX 5.0 SP2 interface offering two FIX Market Data subscription services:
 - FIX Full – order-by-order (full depth), top-of-book, and trade data in both aggregated and non-aggregated form.
 - FIX Light – non aggregated top-of book, up to five levels of aggregated data and coalesced trades (trade-by-level).
2. **ASX Market Data Protocol** is a high-speed, binary message protocol.
 - Security lists, session status, and other non-order book messages are available from both subscriptions.

The full specifications of the ASX FIX Market Data interface and the ASX FIX Market Data Protocols can be found in the ASX Trading Platform [Technical Library](#).

2.3. Drop Copy Interface - FIX DC

The FIX Drop Copy interface facilitates receipt of outbound messages pertaining to a participant's order and execution flow using the FIX protocol. Drop copies can be used to produce a consolidated view of order status for a configured set of users. A Trading Participant may require drop copies of all executions for trading users within the same firm.



The full specification of the ASX FIX Drop Copy interface can be found in the ASX Trading Platform [Technical Library](#).



3. Customer Terminals

3.1. ASX Trading Terminal - ATT

The ASX Trading Terminal is an order management terminal used for entry and management of orders for trading and supervision purposes. The ASX Trading Terminal allows users to receive market data through the watch list, order depth ladder screens and calendar spread matrix screens, enter, modify and delete orders, receive market messages, enter and receive RFQs, and create user-defined combinations (UDCs).

For detailed information refer to the [ASX Trading Terminal User Guide](#) and [ASX Trading Terminal Installation Guide](#).

3.2. ASX Admin and Risk Terminal - ART

The ASX Administration and Risk Terminal (ART) is designed to provide participants with a greater level of account and risk administration. ASX's ART can be used to create accounts and to set up risk limits, create and manage shared order groups, change user passwords, and to disable users.

For detailed information refer to the [ASX Admin and Risk Terminal User Guide](#) and [ASX Admin and Risk Terminal Installation Guide](#).



4. Market Structure

The Trading Platform supports trading in all ASX 24 products.

4.1. Market Structure

The Trading Platform comprises of two markets:

- XSFE – Australian dollar denominated derivatives
- NZFX- New Zealand dollar denominated derivatives

Markets are further divided into Market Lists of common products are grouped together for example, Interest Rates. Market Lists house the Segments where all tradable instruments are contained. A separate Market List is also assigned under each market for UDCs.

4.2. Instrument Structure and Symbolology

The tradable instruments within a segment should all be of the same type and commodity code. They will share the following features, which are assigned at segment level:

- Trading schedule
- Currency
- Minimum tick increment
- Price band parameters
- Settlement timetable.

Tradable instruments are uniquely defined in Trading Platform by their numeric order book id and symbol.

Symbol is used to identify an instrument on all ASX interfaces. Participants may also use order book id to identify an instrument on the FIX OE interface and ASX MDP. Each tradable instrument is also assigned a Classification of Financial Instruments (CFI) code in accordance with ISO 10962.

4.2.1 Options coding

Customers should note several changes to options on futures and one session options coding under the New trading Platform:

- Individual options strike codes have a 7-digit strike price portion, left-padded with zeros. All options are now listed with a uniform size of 12 characters. For example, the 96.200 April 2017 put serial option on the 10 Year Treasury Bond Futures is listed as XTJ0096200P.
- One session overnight option for 3 and 10 Year Treasury Bond Futures product codes are listed as YO and XO respectively. For example, XOM700796500 for a June 2017 10 Year Bond futures Overnight Option at a 79.650 strike.
- Daily Settlement Prices will be disseminated for one session options instruments equivalent to the daily exercise VWAP. For example, the Intra-day Options on 3 Year Treasury Bond Futures – March



2017 is listed under the code YDH7. The Trading Platform will continue to publish a text message of the VWAP following calculation.

4.3. Trading Sessions

The Trading Platform (TP) supports a number of pre-defined trading sessions where different participant activities may be permitted (or prevented), including:

- Order entry and modification
- Order deletion
- Automatic execution.

Specific timings and durations for sessions vary by product. Further information is available on the [ASX website](#).

Customers should note that products that have Day and Night Sessions may cycle through the same session states more than once in any trading day and/or business day.

4.3.1. Trading Sessions

The trading sessions are summarised in the following table:

Session State	Order Entry and Modification	Order Deletion	Orders Purged Centrally	Matching Enabled
Pre-Open	YES	YES	NO	NO Period ends with an auction
Open	YES	YES	NO	YES
Close	NO	YES	NO	NO
Maintenance	NO	NO	YES*	NO
Regulatory Halt	NO	YES	NO	NO Period is followed by a Pre-Open session

* Some order types such as GTC will not be purged due to the order functionality

Session State Definitions

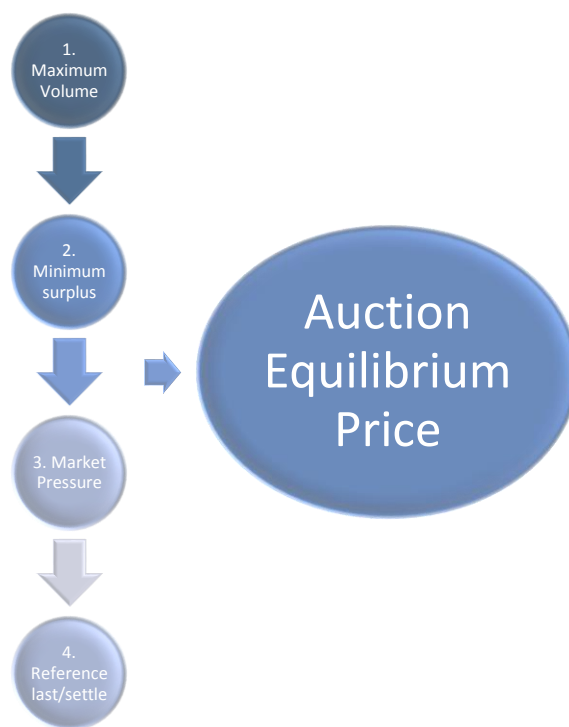
- **Pre-Open:** A period of 10 minutes prior to the Open in respect of a particular Futures Contract or Option Contract during which bids and offers may be entered into the system.
- **Open:** Session where orders on all contract types can be entered, overlapping orders from the Pre-Open (auction) will be matched at the equilibrium price. New orders can be matched and trades can be executed.
- **Close:** Trading day is over and the Market is closed, no orders can be entered or modified at this time.



- **Maintenance:** Relevant orders are purged. Expired instruments are deleted (including day only UDC contracts) and new instruments are added, the trading business day is incremented and pre-trade risk limits are reset.
- **Regulatory Halt:** A pause in trading that resets the AOT reference price. Regulatory Halt transitions into a 2 minute Pre-Open state. Orders in any combination instrument with one or more legs in a Regulatory Halt will be centrally purged and new orders rejected.

4.3.2. Open Auction Algorithm

The Auction Equilibrium Price (EP) algorithm calculates potential matched volume and surplus at each overlapping price level and chooses the price that maximises the traded quantity and minimum surplus. There are up to four steps used by the algorithm.



Step 1. Maximum matched volume. The Equilibrium Price (EP) should be the price at which the maximum volume can be traded. In the case of more than one price level with the same executable volume, the algorithm should go to step 2.

- Step 2.** Minimum surplus. In the case of more than one price level with the same maximum executable volume, the EP should be the price with the lowest surplus (imbalance) volume. The surplus is leftover volume at the EP.
- Step 3.** Market Pressure. If multiple prices satisfy 1 and 2, establish where market pressure of the potential price exists. Surplus with a positive sign indicates buy side pressure while surplus with a negative sign indicates sell side pressure. If multiple positive equivalent surplus amounts exist, then algorithm uses the highest of the potential equilibrium prices. Conversely, if market pressure is on the sell side then the algorithm uses the lowest of the potential prices. If both positive and negative surplus amounts exist, precede to Step 4.
- Step 4.** Reference to previous settlement/closing price. Select the price closest to the last trade price or prior settlement price.

4.4. Trading Day Cycle

The Trading Platform will operate the XSFE and NZFX markets on a 24/6 basis, with the first product pre-opening at 06:20 each Monday and the last product closing at 08:00 each Saturday.

A Trading Day cycle consists of two trading sessions – a Night Session which always precedes a Day Session – on the same Trading Day but across consecutive business days. The Night Session for a given Trading Day begins on the afternoon of the preceding business day. As examples, Friday’s Trading Day starts on Thursday afternoon and Monday’s Trading Day starts on Friday afternoon).

Trading Day and Calendar Day are distinct concepts in the Trading Platform. Trading business date may be referred to as a “Trade Date”, which is a marker for transaction activity that pertains to a logical time period in the trading cycle. For multiple session products, there will be a night and a day session which can span multiple calendar days, that is, a Monday trade date will start the night session on the Friday evening and close Saturday morning, and re-open as the day session on Monday morning, and finally close Monday evening.

A number of broadcast messages carry both Trade Date and Calendar Date to ensure clarity. Further details are provided in the specifications for the ASX FIX Market Data interface and for ASX FIX Market Data Protocol.

4.4.1. Illustrative Trading Day Cycle

An illustrative trading day cycle for the 90 Day Bank Accepted Bill Futures contract (IR) is set out below.

Calendar Day	Time (AEST)	Session State	
Trade Date: TUESDAY		Session: NIGHT	
Monday	16:58:00	Pre-Open	Start of the Night Session. A 10 minute auction call period that ends with an uncrossing of overlapping orders at the price that maximises execution volume.



Calendar Day	Time (AEST)	Session State	
Monday	17:08:00	Open	Continuous trading.
Tuesday	07:00:00	Close	End of the Night session. No further order entry or modification permitted.
Tuesday	08:00:00	Maintenance	Purge of orders in accordance with their Time in Force.
Trade Date: TUESDAY		Session: DAY	
Tuesday	08:18:00	Pre-Open	Start of the Day Session. A 10 minute auction call period that ends with an uncrossing of overlapping orders at the price that maximises execution volume.
Tuesday	08:28:00	Open	Continuous trading.
Tuesday	16:30:00	Close	End of the Night session. No further order entry or modification permitted. End of day settlement prices are disseminated to market within a few minutes of market close.
Tuesday	16:40:00	Maintenance	Purge of orders in accordance with their Time in Force. Expired instruments are deleted (including all UDCs). Trading Day is incremented. Pre-trade risk limits are reset.

Participants should note that the Trading Day cycle for business day Monday begins with the Night Session for Trading Day Monday commencing on the previous Friday. In this circumstance, and additionally around public holidays, there may be one or more calendar days between the Night Session and the Day Session for a given Trading Day.

Specific contract session timings follow the production times and are detailed [here](#).

4.4.2 System Availability

The following weekly schedule applies to these services: FIX order entry, FIX market data, FIX drop copy, ASX Market Data Protocol (MDP): Glance, Blink and multicast data.

Service	Time (Sydney Timezone)	Ping?	Telnet?	Login?	Data?
FIX Order Entry FIX Drop Copy	Sunday 19:00 – Saturday 09:00	Yes	Yes	Yes	Yes
	Saturday 09:00 – Saturday 12:00	Yes	No	No	No
	Saturday 12:00 – Sunday 12:00	Yes	Yes	No	No



	Sunday 12:00 – Sunday 19:00	Yes	No	No	No
FIX Market Data	Sunday 19:00 – Saturday 09:00	Yes	Yes	Yes	Yes
	Saturday 09:00 – Saturday 12:00	Yes	No	No	No
	Saturday 12:00 – Sunday 12:00	Yes	Yes	No	No
	Sunday 12:00 – Sunday 19:00	Yes	No	No	No
ASX MDP – Glance	Sunday 19:00 – Saturday 09:00	Yes	Yes	Yes	Yes
	Saturday 09:00 – Saturday 12:00	Yes	No	No	No
	Saturday 12:00 – Sunday 12:00	Yes	Yes	No	No
	Sunday 12:00 – Sunday 19:00	Yes	No	No	No
ASX MDP - Blink	Sunday 19:00 – Saturday 09:00	Yes	N/A	N/A	Yes
	Saturday 09:00 – Sunday 19:00	Yes	N/A	N/A	No
ASX MDP - Multicast	Sunday 19:00 – Saturday 09:00	N/A	N/A	N/A	Yes
	Saturday 09:00 – Sunday 19:00	N/A	N/A	N/A	No
ASX Terminal (ART/ATT)	Sunday 19:00 – Saturday 09:00	Yes	Yes	Yes	Yes
	Saturday 09:00 – Saturday 12:00	Yes	No	No	No
	Saturday 12:00 – Sunday 12:00	Yes	Yes	No	No

	Sunday 12:00 – Sunday 19:00	Yes	No	No	No
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After each start up event, customers may logon to all services, and FIX connections must reset sequence numbers to 1. FIX sequence numbers are maintained until the next shut down event.

4.4.2. Early close on contract expiry

There are some contracts that will have an early expiry; examples are Bill and Bond products where, on the last trading date of the spot month, the spot contract will close at noon.

Final settlement prices may be reported after the spot close, however, settlement prices are generally distributed after the close of the segment.

Where Anomalous Order Thresholds (AOT) are enforced, on the last trading date of the spot month, there are technical differences for how the far month prices are generated (see AOT rules for further information).

4.4.3. Statistics update rules – OHLL & auction events

The table below describes the trade match type that would contribute to the calculation of trade statistics (Open, High, Low, and Last). The trade match type is disseminated for a trade on the market data message.

Match Type	Open	High	Low	Last	Total Traded Volume
NORMAL TRADE	Y	Y	Y	Y	Y
AUCTION	Y	Y	Y	Y	Y
UCP Booking (applicable to combination and strip contracts as well)	N	N	N	N	N
COMBINATION TO OUTRIGHT					
Underlying Legs	Y	Y	Y	Y	Y
Combination	Y	Y	Y	Y	Y
COMBINATION TO COMBINATION					
Underlying Legs	N	N	N	N	Y
Combination	Y	Y	Y	Y	Y
STRIP TO STRIP					
Underlying Legs	N	N	N	N	Y
Combination	Y	Y	Y	Y	Y

4.4.4. Settlement prices

The final settlement price and prior day settlement price for an instrument are disseminated using market data messages. Generally the final settlement prices are reported after the close of the segment and prior to



the segment transitioning to the next trade date. In some circumstances the final settlement price, or correction to the final settlement price, may be distributed after the segment has moved to a new trade date. See the ASX Market Data Protocol Specification and ASX FIX Market Data Specification documents for full details of messaging.

4.4.5. VOI

Volume and Open Interest (VOI) information is disseminated on the market data feeds for each trade date. As the VOI is generally reported after the trade date has ended, the message includes the trade date the VOI pertains to.

Further details about the message protocol can be found in the FIX and ITCH market data specifications:

- [Market Data Protocol Specification](#)
- [FIX Market Data Specification](#)

5. Order Types and Controls

ASX's Trading Platform supports two order types, Limit and Market-to-Limit described in further detail below. Each order type supports a range of time validity and execution price. Both order types are available for all products on the Trading Platform.

5.1. Limit order

A Limit order is an order that executes against resting displayed liquidity at all permitted prices up to and including its Limit price. The limit price can be priced aggressively to cross the spread at any price within the allowed user defined Trading Protection Limits (TPL) or (AOT) limits. The Limit order type behaves as a sweep order type and will fill level by level adhering to the limit price. Any unexecuted volume is posted to the order book at the order's limit price.

5.2. Market-to-Limit order

A Market-to-Limit order is an order that executes against resting displayed liquidity only at the best opposing price. Market-to-limit orders can therefore execute only at one price level (the best opposing price).

Any unexecuted volume is posted to the order book at what was previously the best opposing price – that is, where a market-to-limit order exhausts all resting displayed liquidity at the best opposing price, it then becomes top of book at that price.

Market-to-Limit orders cannot be entered when an instrument is in a session state that does not have automatic execution.

5.3. Time in Force (TIF)

The Trading Platform supports a range of time validities that control when an order is centrally cancelled by the Trading Platform. The supported values are set out in the table below.

Time in Force Value		Order posted to order book	Order cancelled by the Trading Platform
Day	GFD	YES	At the end of the current trading session.
Good Till Cancel	GTC	YES	If the security expires or is cancelled.
Good Till Date	GTD	YES	At the end of specified trading date.
Good Till Time	GTT	YES	At the earlier of the specified time on the current trading session or the end of current session.
Fill or Kill	FOK	NO	Executes immediately in full or is cancelled in full.
Immediate or Cancel	IOC	NO	Executes immediately with available quantity with any remaining quantity cancelled.

The user submitting an order, or any other user with the appropriate privileges, may amend or delete the order at any time prior to the order being cancelled by the Trading Platform.

TIF values that are not persistent will be rejected when the product in which the order is submitted is not in continuous trading

Orders that are supplied with no TIF are defaulted to Day (GFD).

5.3.1. Time in Force by product

The table below set outs which TIF values are supported for ASX 24 products.

TIF Value		Futures	Options	EDCs		UDCs
				Spreads	Packs, bundles, strips	
Day	GFD	YES	YES	YES	YES	YES
Good Till Cancel	GTC	YES	YES*	NO	NO	NO
Good Till Date	GTD	YES	YES*	NO	NO	NO
Good Till Time	GTT	YES	YES*	NO	NO	NO
Fill or Kill	FOK	YES	YES	YES	YES	YES
Immediate or Cancel (FAK)	IOC	YES	YES	YES	YES	YES

* Dual session options only. Single session options (Overnight and Intraday Options) cannot be entered as GT orders

5.3.2. GTC order behaviour with tick size changes

GTC orders that are on-tick will remain in the order book when the minimum tradeable tick increment is increased. Orders with off-tick prices (non-tradeable prices) will be deleted from the order book.

5.4. Order Identifiers

Orders in the Trading Platform carry three identifiers, generically:

- a Client Order ID
- a Private Order ID
- a Public Order ID.

5.4.1. Client Order ID

Client Order ID is a user-defined identifier for the order provided on every order management message (add, modify, delete).



- Client Order ID can be used as the target order code for subsequent modification or deletion. Modifications based on Client Order ID must carry a target Client Order ID (Previous Client Order ID) and a new Client Order ID, and will result in a chaining of Client Order IDs. Only the most recent Client Order ID in the chain can be used to manage the order.
- Duplicate Client Order IDs will be rejected.
- Client Order ID is not made available in market data.

5.4.2. Private Order ID

Private Order ID is a defined identifier for an order generated on initial receipt of the order that is provided in the response to the participant who entered the order.

- Private Order ID can be used as the target order code for subsequent modification or deletion. Modifications based on Private Order ID will not result in a change of Private Order ID. Private Order ID does not change throughout the lifetime of the order.
- Private Order ID will be unique.
- Private Order ID is not made available in market data.

5.4.3. Public Order ID (Secondary Order ID)

Public Order ID is a defined identifier for an order that is used in market data. A new Public Order ID is generated in the following scenarios:

- Initial order entry
- modification to an order that results in loss of queue priority
- restatement of a long order at the start of a new trading session.

Note the additional characteristics of Public Order IDs:

- Public Order ID cannot be used as the target order code for modification or deletion.
- Public Order ID will be unique.
- Public Order ID can be used by participants to track their orders in the Trading Platform market data feeds.

5.5. Account Identifiers

Orders in the Trading Platform carry three account identifiers, generically:

- Account
- Customer Account
- Account Type.

To understand how Account identifiers are mapped in Genium, Clearing Participants should refer to the [considerations for clearing participant's](#) document.

5.6. Order Cancellation Requests

Participants are advised to use their order management systems or ASX Trading Terminal for order cancellations. In the event that Participants require ASX Trading Operations assistance to cancel order(s), Participants must advise ASX of their Private Order ID.

5.7. Order Modification and Priority

A number of the fields on an order may be modified after the order has been accepted by the Trading Platform – for details see the ASX FIX Order entry specification that is located in the ASX Trading Platform [Technical Library](#).

The following modifications (if successful) will result in a change of price-time priority and a new Public Order ID:

- a change in order price
- an increase in order size
- a change of account type

All other modifications will not impact price-time priority and the existing Public Order ID will be maintained.

5.8. Order Workflow

Order messages must be submitted to the Trading Platform by a permissioned user via the ASX FIX OE Interface or the ASX Trading Terminal. The Trading Platform will respond with an acknowledgement of the order.

For every order accepted, the Trading Platform will assign a private order code, which is provided only to the participant that submitted the order, and a Public Order ID, which will be used to identify the order in market data.

The Private Order ID will not change throughout the lifetime of the order, that is, it will remain until the order is fully executed, expires, or is deleted. The Public Order ID of the order will change whenever the order is amended and the amendment results in a change in priority.

Where an order executes aggressively, on entry the Trading Platform will provide an execution report detailing the execution that is separate from the acknowledgement. The owner of the order which is already resting on the order book and which is executed, passively, against will also receive an execution report.

Where an execution involves a combination instrument, the execution report will contain details of the combination instrument and all the legs.

In addition to the owner of the order, a copy of the execution reports will also be sent to any user that is appropriately permissioned to receive copies either through the shared order group functionality or via an ASX FIX DC interface.



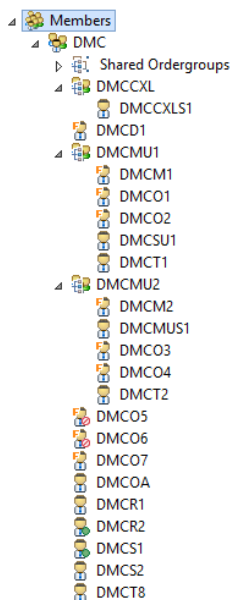
5.9. Order Management

The Trading Platform offers the ability for multiple users to manage and / or to receive the events relating to an order. This can be done using the following controls:

- Firm & Member Unit (MU) Hierarchy
- Shared Order Groups (SOGs)
- ASX Trading Terminal (ATT) Specific Super User & Trader Roles.

5.9.1. Firm & Member Unit (MU) Hierarchy

Member Units (MU) sit one level below the firm itself, that is, they act as a sub-firm. MU can be used to split out the account access within the firm. In the example below, there are 3 MU's set up under Firm DMC – DMCCXL, DMCMU1, and DMCMU2



Note – TPL is also set at the Firm and/or MU level, see TPL in section 5.

5.9.2. Shared Order Groups

The Trading Platform supports the concept of Shared Order Groups (SOGs). A SOG is a set of participant-defined users that can manage and receive information relating to all orders submitted by users within the SOG. SOGs are independent of the hierarchical user structure set out in [reference above]

Any user that is a member of a Shared Order Group:

- will receive execution reports for all orders submitted by members of that group
- can amend or delete all orders submitted by members of that group

Further information on Shared Order Groups can be found in the specification of the ASX FIX Order Entry interface located in the ASX Trading Platform [Technical Library](#).

When an amendment is made to an order by a member of a SOG, ownership of the order is transferred from the current owner to the amending user.

5.9.3. ASX Trading Terminal Super Users and Trader User Roles

The ASX Trading Terminal supports a number of User Roles:

- Super User (SU) – A Super User can view and cancel all orders within the same or lower MU level. Although a Super User can view and cancel other user's orders within the firm, they can only update shared orders if they are part of the SOG or their own orders.
- Trader User (TU) – A Trader User set under the Firm Level has the ability to "See all" orders within the firm but only act on their own orders.

Note – A Super User or Trader set up within a MU will see the activity for that MU only.

5.9.4. Summary of order management options

User	Amend and delete	Receive updates
User submitting or last amending order	YES	YES
Member of a Shared Order Group containing the user that last amended the order	YES	YES
Drop-copy user listening to user that last amended the order	NO	YES

5.10. Central Order Deletion

5.10.1. Cancel on Disconnect

The Trading Platform supports an optional Cancel on Disconnect facility at order level. A disconnect is defined as a drop in the TCP session between a participant and the Trading Platform, irrespective of which party initiated the drop.

Users can elect to flag any individual order to be purged or retained on disconnect. In the absence of an explicit instruction, orders are as a default retained on disconnect.

On disconnect, all orders marked to be purged will be centrally deleted when the Trading Platform is in a session state that permits deletions. There is no wait period. For further detail refer to the ASX FIX Order Entry Specifications. This document also describes dissemination of execution reports informing of the order cancellation.

Where an order is submitted by a user that is a member of a SOG and is marked to be purged on disconnect, the order will be purged only in the event of a disconnect of the current owner of the order.



5.10.2. User Maintenance

The Trading Platform will centrally cancel live orders where a user changes its configuration or when processing certain security maintenance events for effect at the start of the subsequent trading day. Participants can disable a user or an account in real-time through the ASX Admin and Risk Terminal. This action will result in the participant receiving an unsolicited delete message for each affected order.

It may be necessary for ASX to centrally delete orders in other circumstances, including in the event of catastrophic site failure. ASX's approach to disaster recovery for the Trading Platform is set out in the [failover and recovery guide](#).

5.11. Password Reset

The following password policy is enforced in ASX 24 production environment:

- Passwords must have a minimum password length of 8 characters and must meet at least three of the following criteria:
 - Contain an English upper case character (A – Z)
 - Contain an English lower case letters (a-z)
 - Contain a Hindu Arabic numeral (0 – 9)
 - Contain one or more of the following non-alphanumeric special characters: [!@#\\$%^&*\(\) +|~-=\`{}\[\]:;';<>?.,./\)](#)
 - Contain any character that is categorised as an alphabetic character but is not uppercase or lowercase, this includes characters from Asian languages.
- Password must be different to the previous 12 passwords used.
- Passwords will need to be reset every 90 days. Customers will not be given prior warning in the days leading into password expiry that it will need to be changed.
- Accounts will be locked out after six consecutive invalid logon attempts within 24 hours. This setting will require administrator to re-enable the account through the Admin Risk Terminal under the Member Admin function.

6. Pre-Trade Risk Management (PTRM)

The Trading Platform allows Participants to set hard, pre-trade risk management limits. Before being allowed to enter an order, customers must create an account and set up limits for each product they wish to trade. Account access can be granted to the Participant or Member Unit(s). If a firm has member units and SOGs, the SOG owner will determine account access for shared orders. It is mandatory to set maximum order quantity, net long, and net short position limits for each product. Participants can also set options delta and intra-spread weightings to reduce the effect of open orders on the calculated positions in those products. the Trading Platform generates warnings to the user when traded positions and open orders reach 75% and 90% of the account's net long or net short limits for a product. An order that would exceed the 100% limit if placed will be rejected. Accounts and limits can be created using the [ASX Administration and Risk Terminal](#) (ART).



Participants remain responsible for ensuring they are meeting their Market Integrity Rules (MIR) obligations, whether they are ASX 24 market MIRs or the competition's MIRs.

MIR obligations are mandatory. Where we offer some functionality that may assist a user in meeting some of their MIR obligations, it is still the ultimate responsibility of the user to ensure they meet their MIR obligations.

Some of the limit setting capability within PTRM should meet some but not all of the limit requirements of s2.2.1 of the ASIC/ASX 24 Market Integrity Rules. Users are advised to check that they are meeting all of the [MIR requirements](#).

7. Trading Protection Limits (TPL)

TPL's replace Maximum Price Changes Limits (MPC) and allow Participants to set price reasonability checks. TPLs can be applied at the Participant or Member Unit level and can be set for product categories or individual tradeable instruments. The limits are set in the product's trading unit (i.e. basis points, index points, or cents). TPL applies during all trading phases where order entry is allowed and checks that the price entered is within the configured price range, away from either the last traded price or prior settlement price.

TPL can be created using the [ASX Administration and Risk Terminal](#) (ART).

TPLs are not mandatory from a functional perspective but there are regulatory obligations under MIRs. Trading Protection Limits perform a similar function to the Anomalous Order Threshold (AOT), which is required to be applied under the ASIC Competition Market Integrity Rules to the SPI, Mini SPI, and Sector futures. A user can set their TPL narrower than the MIR limits but if the TPLs are set wider than the relevant AOT, then the narrower AOT will apply.

8. Anomalous Order Threshold (AOT)

ASX applies exchange-defined order entry controls to prevent anomalous trading in ASX 24 contracts subject to the ASIC Competition Market Integrity Rules, being the index and sector futures. In the Open session state. The Trading Platform calculates an AOT reference price from trading in the spot contract and applies offsets to generate a reference price in the non-spot months. The AOT reference price is initially set as the spot contract's opening price and updated regularly with the volume weighted average price over a rolling time period. Serial contracts and non-spot quarterly months are offset by the prior settlement price differential from the spot contract. The Trading Platform calculates a percentage range from the AOT reference price as the lower and upper price bands for order entry. The AOT reference price and ranges are published over FIX Market Data and Market Data protocols. Bids which are higher than the upper price bands and offer less than the lower band are rejected.

ASX can invoke a Regulatory Halt to reset the AOT reference price. The Regulatory Halt is a momentary pause in trading followed by a 2-minute Pre-Open phase. Spread and UDC orders are purged centrally when one or more underlying legs are halted.

For further information on AOT, please refer to the [ASX 24 Operating Rules Procedures](#).



9. Unintentional Crossing Prevention (UCP)

The [unintentional crossing prevention](#) is an optional service that allows Trading Participants to assign a unique crossing key to orders. In the event that two opposing orders with the same crossing key for the same member firm are entered, the resulting trade creates an internal booking report to the trading firm. These trades are not reported to the market through the FIX Market Data and Market Data protocols and do not affect open, high, low prices, or market volume. The internal booking reports support Participant's administrative activities, including accounting and back-office processes. All internal booking trades are reported through to Genium Clearing. The crossing key is a 4-byte integer and can be applied to outright, spread, and UDC orders.

10. Message Facility

The Trading Platform message facility is a text message service used to disseminate expiry settlement prices, option volatilities, and off market trade activity. It may also be used to communicate regarding trade cancellations and other market incidents.

11. Off Market Trade Reporting

Trade Reports for Block trades and Exchange for Physicals (EFPs) are facilitated by ASX's TradeAccept system. Please refer to the [TradeAccept User Guide](#) for further details. Market notification of off-market trades will be facilitated via the Trading Platform message facility.

12. Combinations

The Trading Platform supports both ASX-defined and user defined combination strategies. The combination strategy exists as a separate instrument with its own Security ID and order book.

- Orders in the combination order book can interact with orders in the order books of the outright legs.
- Orders in a combination instrument cannot exist if one or more of the outright books are in a state that does not allow automatic execution. New orders cannot be placed in this state and existing orders will be purged.

The availability of order types and Time In Force values for combination instruments is described in section 5 above.

12.1. Implied Orders

The Trading Platform supports interaction between combination instruments and outright instruments and the automatic generation of implied orders including

- Implied IN (to the combination instruments) orders: outright orders or visible implied order in both underlying legs of a combination instrument will create an implied order in the combination instrument



- Implied OUT (of the combination instruments) orders: an outright order or visible implied in a combination instrument and an outright order or visible implied order in one of the underlying legs of the combination instrument will create an implied order in the other underlying leg of the combination instrument
- Implied ACROSS (calendar spreads) orders: top-of-book outright order or a visible implied order in two or more of the calendar spreads imply across to create an implied order in another spreads. There is no limitation on the number of spreads that can together form a cycle to create an implied order in a spread market.

The priority and visibility of implied orders depends on a number of factors including:

- the nature of the combination instrument
- the pricing model for the combination instrument
- whether there is a ratio between the legs of the combination instrument.

Further details on implied orders are set out in each section below.

12.1.1. Implied Order priority

Implied orders will have time priority derived from the worst of the top-of-book underlying orders that generate the implied orders. Implied orders at a given price level will be grouped in the order book at the priority of the oldest implied order (irrespective of which underlying orders generated the implied order).

When an underlying order that creates an implied order at a given price level trades, the remaining implied orders at that price level will continue to be grouped and will inherit the time priority of the next oldest implied order.

The following example illustrates how implied orders (in IRH6) are grouped.

Event	ID	Product	Direction	Size	Price	Priority
New order	A	IRH6Z6	Buy	100	00.11	1
New order	B	IRH6U6	Buy	100	00.10	2
New order	C	IRH6M6	Buy	100	00.00	3
New order	D	IRM6	Buy	15	97.25	4
C+D generate implied order	Z1	IRH6	Buy	15	97.25 (97.25 + 0.00)	4 (from D)
New order	E	IRH6	Buy	5	97.25	5
New order	F	IRU6	Buy	3	97.15	6
B+F generate implied order	Z2	IRH6	Buy	3	97.25 (97.15 + 0.10)	6 (from F)
IRH6 order book (as published) now:			18 @ 97.25 (implied orders Z1 + Z2, priority 4) 5 @ 97.25 (outright order E, priority 5)			

Event	ID	Product	Direction	Size	Price	Priority
New order	G	IRH6	Sell	16	97.00	
G + Z1 match	T1	IRH6		15	97.25	
D-C-G trade	T2	IRM6		15	97.25	
	T3	IRH6M6		15	00.00	
Order C reduced to 85, Order D removed, Order Z1 removed, Order G reduced to 1						
G + E2 match	T4	IRH6		1	97.25	
E-G trade						
Order G fully executed, order E reduced to 4						
IRH6 order book (as published) now:			4 @ 97.25 (outright order E, priority 5)			
			3 @ 97.25 (implied order Z2, priority 6)			

¹ Although the two implied orders (Z1 and Z2) are generated from different underlying orders, their volume will appear combined in market data as a single volume of 18 at price level 97.25. When the order that created the implied order in the order book is traded, the remaining implied orders will continue to be grouped and will inherit the queue order priority of the next oldest order. This differs from the current platform where implied prices generated from different paths are bundled together per path and shown in the top of book as separate orders.

² Even though the volume from implied orders is published as combined, matching occurs in order priority. Order E matches has priority over order Z2 and therefore matches.



Note:

In scenarios where there are both multiple top-of-the-book shadow implied prices generated from separate paths and cross book orders with insufficient volume to satisfy the minimum leg ratio, when sufficient volume becomes available from multiple orders (whether at a single price or multiple price levels) the matching engine will match with the intention to maximise the volume of the spreads in accordance with their ratio.

12.2. Order Management

Standard order types, behaviours, and time in force values can be used in Exchange Defined Combinations with the following exceptions:

- Time in Force values with potential durations beyond the current session – GTC, GTD, and GTT - are not supported
- Orders cannot be entered in an Exchange Defined Combination instrument, when the instrument is not in continuous trading
- Orders in combinations follow the same priority rules on amendment as orders in other instruments.

12.3. Combinations to Combination Trades

When an order in a combination instrument trades against another order in the combination instrument, the following rule is used to generate the resultant leg prices based on an anchor price:



Anchor leg

The anchor price is the last traded price for the underlying leg of the combination instrument that traded most recently, provided the price is within the accepted spread. If there is no last trade price for any of the underlying legs, then the anchor leg and its price will be based on AOT Reference Price, Adjusted Closing Price, or Prior Settlement Price, within the accepted spread.

Other leg(s)

The price of the remaining legs is then determined for each leg from the Leg Reference Price, the Spread, and the leg price determination methodology described below.

The Leg Reference Price for the remaining underlying legs is defined as the first available price in the following sequence:

- last trade price
- if AOT is set, the AOT reference price
- the adjusted closing price
- the prior settlement price

The Spread is defined as is the tightest interval of Price bands (AOT) and Best Bid and Offer (BBO). BBO includes both orders and visible implied prices.

The leg price determination methodology is described below:

1. Determine the preliminary leg price:
 - If the Leg Reference Price is within the Spread, the preliminary leg price is set to this Leg Reference Price; or
 - If the Leg Reference Price is outside of the Spread, the preliminary leg price is set to the closer bid or offer of the Spread; or
 - If the Leg Reference Price and a bid (or ask) exists but no Spread is available, the preliminary price is set to the bid (or ask) if it improves market, otherwise it is set at the Leg Reference Price.
2. Adjust the preliminary leg price (in a sequence of defined steps) until the legs add up to the correct net price.

For combination to combination trades involving more than two combination instruments, the Trading Platform uses the anchor leg price and the trade price differentials to determine the leg prices.

Please see the [UDC information pack](#) for further details about the Trade Price algorithm.

Leg prices resulting from Combinations to combination trades do not affect daily open, high, low and last statistics.



12.4. Exchange Defined Combinations¹

ASX will pre-define a number of combination strategies across a range of products including:

- Intra-commodity spreads between listed months of a specific contract, traded at a net price
- Inter-commodity spreads between different contracts, traded at a net price (weighted by contract size where appropriate)
- Packs, Bundles and Strips – multiple listed months of a specific contract, traded at an average price (weighted by contract size where appropriate).

Full details of the Exchange Defined Combinations are available in the reference data available from the ASX FIX Market data interface and the ASX Market Data Protocol.

12.4.1. Intra-commodity Spreads

The naming convention for Exchange defined intra-commodity spreads will reference the nearest expiring contract first. For example, the 3-year calendar spread is listed as YTH6M6. The ratio between contracts on Exchange defined intra-commodity spreads will always be 1:1.

A BUY order in an intra-commodity spread results in a BUY of the nearest expiring contract and a SELL of the furthest expiring contract (and vice versa for a SELL order). For example, a BUY order in YTH6M6 results in a BUY of YTH6 and a sell of YTM6.

Intra-commodity spread orders are priced at a net price. The net price is calculated as the price of the nearest expiring contract minus the price of the further expiring contract.

The Trading Platform will generate top-of-book implied in, implied out, and implied across orders. All implied orders will be visible. The time priority for an implied order from intra-commodity spread will be that of the newest real order that implies the price.

The supported Exchange defined intra- commodity spreads are detailed in Appendix A.

12.4.2. Inter-commodity Spreads

Inter commodity spreads allow trading between separate instruments using spread differential pricing. The naming convention for Exchange defined inter-commodity spreads will reference the dominant contract first. For example, the 3 year – 10 year spread is listed as YTmyXTmy3210.

A BUY order in an inter-commodity spread results in a BUY of the dominant contract and a SELL of the subordinate contract (and vice versa for a SELL order).

Inter-commodity spread uses spread differential pricing and is ratio independent. The net price is calculated as the price of the dominant (first) contract minus the price of the subordinate (second) contract. The price

¹ Known as Market Operator Defined Strategy Orders under the ASX 24 Operating Rules.

differential can be a positive or a negative figure. A positive spread price indicates the dominant contract is priced higher than the second leg and vice versa. The ratio between the legs will be static for a Trading Day.

Where the ratio between legs is 1:1, the Trading Platform will generate visible implied in, implied out, and implied across orders. The time priority for an implied order, for volume base on the underlying orders, from inter-commodity spread will be that of the newest real order that implies the price.

Where the ratio between legs is not 1:1, the Trading Platform will generate visible implied in orders, where the volume conditions required by the ratio are met. The Trading Platform will look for volume in the underlying legs at multiple price points to meet the volume condition. The Trading Platform will also generate implied out orders but these orders will not be published, however, the price, size and priority of these implied orders can be determined from other published market data. Whilst the implied orders are not published, they will trade if volume and price conditions are satisfied. The implied out order will also look for volume at multiple price points if the price condition is met.

Market-to-Limit orders are not supported in Inter-commodity spreads.

The supported Exchange defined inter- commodity spreads are detailed in Appendix B.

Ratio adjustments

Generally, ratios are adjusted by amending the antecedent term – that is the multiplier assigned to the dominant contract – which may be adjusted on a daily basis. The consequent term – the multiplier assigned to the subordinate contract – is fixed.

However, for the XT-XX spread the antecedent term – the multiplier for the XT contract – is fixed at 10 and consequent term – the multiplier for the XX leg – is adjusted.

Ratios are adjusted, when necessary, before the start of each Trading Day.

12.4.3. Bank Bill Butterflies

Each bank bill butterfly is a combination instrument equivalent to two intra-commodity spreads with a common contract month.

The naming convention for Exchange defined bank bill butterflies will reference the nearest expiring contract. For example, the IRH7M7 / IRM7U7 butterfly will be listed as FLH7. The ratio between contracts in Exchange defined bank bill butterfly will always be 1:2:1.

A BUY order in a bank bill butterfly results in a BUY of the nearest and furthest expiring contracts – the wings - and a SELL of the central contract (the centre) (and vice versa for a SELL order). For example, a BUY order in FLH7 results in a BUY of IRH7 and IRU7 and a sell of IRM7.

Bank bill butterfly orders are priced at a net price. The net price is calculated as the price of the nearest expiring contract plus the furthest contract (the wings) minus the price of the central contract (the centre).

The Trading Platform will generate implied in orders from the bank bill futures. Implied out orders will not be supported.

ASX will list the front three bank bill butterflies under the commodity code FL. For example, in February 2017 the listed bank bill butterflies and their underlying legs will be as per the following table:

Symbol	Front leg (Front Wing)	Front leg multiplier	Second leg (Centre)	Second leg multiplier	Third leg (Far wing)	Second leg multiplier
FLH7	IRH7	1	IRM7	2	IRU7	1
FLM7	IRM7	1	IRU7	2	IRZ7	1
FLU7	IRU7	1	IRZ7	2	IRH8	1

12.4.4. Packs, Bundles and Strips

A Pack, Bundle, or Strip is a combination instrument representing a sequence of consecutive underlying futures contracts:

- a Pack represents four consecutive underlying futures contracts
- a Bundle represents either eight or twelve consecutive underlying futures contracts
- a Strip represents a defined number of underlying futures contracts.

The Pack or Bundle trades at an average price of the underlying futures contracts. Upon execution, individual leg prices are determined for the underlying futures contracts, which are subsequently cleared.

The Trading Platform will not generate implied in and implied out orders for Packs, Bundles, and Strips.

The allocated leg price for an underlying futures contract representing leg n of a Pack, Bundle, or Strip is determined as follows:

$$\text{Step 1: } AvgSettPrice = MROUND \left(\frac{\sum_{n=1}^N R_n * C_n}{\sum_{n=1}^N C_n}, 6 \right)$$

$$\text{Step 2: } A_n = MROUND \left(R_n * \left\{ 1 + MROUND \left[\frac{P - AvgSettPrice}{AvgSettPrice}, 6 \right] \right\}, T \right)$$

Where:

P Traded Price of Pack or Bundle

N Number of legs in Pack or Bundle

R_n Reference price of leg n

- for Electricity contracts this is the adjusted daily settlement price from the prior trading day
- for other contracts this is adjusted closing price from the prior trading session



C_n	Contract size of leg n
T	Tick Size
A_n	Allocated price of leg n (as calculated)

The average price of the pack/bundle/strip is calculated with the allocated leg price as:

Step 3: $Average\ Price = MROUND\left(\frac{\sum_{n=1}^N A_n * C_n}{\sum_{n=1}^N C_n}, T\right)$

If the trade price P , does not equate to the average of the allocated leg prices, the allocated price of the longest dated futures contract (*leg N*) is adjusted by tick increment (T) and Average Price is recalculated. The step is repeated until average of the allocated leg price is equal to the trade price (P).

If the average of the allocated leg price is equal to the trade price P , then the allocated leg price is the final leg price and is published to the market.

The process for allocating leg prices for average price products is the same as the existing Strip Allocation Process described in the [ASX24 procedures](#).

12.5. User Defined Combinations (UDCs)

The Trading Platform supports the creation of new User Defined Combination (UDC) instruments by Trading Participants.

- UDCs instruments will have continuous interaction with the outright markets in the underlying legs of the UDC.
- UDC instruments are centrally deleted at the end of each Trading Session.

12.5.1. Creating UDCs

UDCs may be created via a FIX Security Definition Request (c) and via the ASX Trading Terminal. Where the UDC is created via the ASX Trading Terminal, the Trading Participant can submit an order in the UDC along with the request to create the UDC. If the request to create the UDC is successful, the ASX Trading Terminal will auto-populate the order with the Order Book ID of the newly created instrument and submit the order.

UDCs can be created without entering a buy and / or sell order.

To create a UDC, the Trading Participant must specify:

- underlying instrument legs; up to 6 future and option instruments may be included in a UDC.
- where appropriate, the ratios between the legs; UDC ratios will always be reduced to the lowest common denominator.
- the pricing model:
 - net price between legs; or

- for combination strategies including both Futures and Options, fixed leg price. Where the option component of such a strategy has multiple option strikes, the price will be a net price.
- underlying instrument legs belonging to the same partition, same currency and same trade date
- futures and/or options legs only, i.e. UDC cannot reference another UDC
- different underlying legs; Same contracts cannot be used more than once in the UDC definition

A successful request to create a new UDC will result in a response to the creator providing an identifier for the instrument and a market data broadcast to publish the new instrument.

Requests that would result in the creation of a duplicate UDC will be rejected – the reject message will include the Order Book ID of the existing combination. Examples of such requests could include:

- the same underlying instrument legs but in a different sequence
- buy and sell legs reversed
- leg ratios not reduced to the lowest common denominator
- the UDC is the same as an existing Exchange Defined Combination.

The same combination of instruments can be used to create a net price UDC and a fixed leg price UDC.

UDCs that are the same as an Exchange Defined Combination but with different ratios are not permitted under ASX 24 Operating Rule 4022(b).

Multiple UDCs that are the same strategy and a combination of the same futures and options are permitted if the futures basis differs.

12.5.2. Implied Orders and UDCs

The Trading Platform will generate visible implied in orders in net price UDCs from the underlying legs.

The Trading Platform will generate implied in orders in the fixed price UDC from the underlying legs but would not be published to the market. The price, size, and priority of these implied in orders can be derived from other published market data. Whilst the implied orders are not published, they will trade if volume and price conditions are satisfied.

The Trading Platform will not support the implied out orders for net price or fixed price leg UDC.

12.6. Combinations - Summary

The following table summarises the combinations supported by the Trading Platform:

	Product	Pricing model	Implied IN	Implied OUT	Implied ACROSS
Exchange	Intra-commodity spreads	Net price	Visible	Visible	Visible



	Product	Pricing model	Implied IN	Implied OUT	Implied ACROSS
Defined Combinations	Inter-commodity spreads	Net price (1:1 ratio)	Visible	Visible	Visible
		Net price with ratio	Visible	Not visible	Not Applicable
	Bank Bill Butterflies	Net price with ratio	Visible	No Implied orders	Not Applicable
	Packs and Bundles	Average price	No implied orders	No implied orders	Not Applicable
		Average price with ratio	No implied orders	No implied orders	Not Applicable
	Strips	Average price with ratio	No implied orders	No implied orders	Not Applicable
User Defined Combinations	Futures	Net price	Visible	No implied orders	Not Applicable
	Options	Net price	Visible	No Implied orders	Not Applicable
	Futures and Options	Net price	Visible	No Implied orders	Not Applicable
	Futures and Options	Fixed leg price	Not visible	Not visible	Not Applicable

13. Request for Quote (RFQ)

RFQ replaces the Messaging Facility. An RFQ can be submitted with or without quantity and seeking a Bid, Offer, or Crossing quote.

Appendix A: Exchange Listed Intra-Commodity Spreads

Contract	Commodity Code
XSFE Products	
30 Day Interbank Cash Rate Futures	IB
90 Day Bank Accepted Bill Futures	IR
3 Year Treasury Bond Futures	YT
10 Year Treasury Bond Futures	XT
20 Year Treasury Bond Futures	XX
30 Day Interbank Cash Rate Futures	IB
3 Year Deliverable Swap Futures	YS
5 Year Deliverable Swap Futures	VS
10 Year Deliverable Swap Futures	XS
SPI 200™ Futures	AP
Mini SPI 200™ Futures	AM
A-REITS ex Financials Sector Futures	AA
Financial Sector Futures	AF
Resource Sector Futures	AR
Volatility Index Futures	VI
Eastern Australia Wheat Futures	WM
WA Wheat Futures	WK
Eastern Australia Feed Barley Futures	UB
Australian Sorghum Futures	US
Eastern Australia Canola Futures	VC
Base Load Electricity Futures	BN, BQ, BV , BS
\$300 Cap Futures	GN, GQ, GV, GS
Base Load Electricity Strip Futures	HN, HQ, HV, HS

Contract	Commodity Code
NZOE Products	
NZ Official Cash Rate Futures	ZO
90 Day New Zealand Bank Bills Futures	BB
NZ 3 Year Government Stock Futures	TY
NZ 10 Year Government Stock Futures	TN

Appendix B: Exchange Listed Inter-commodity Spreads

Dominant Contract		Subordinate Contract	
XSFE Products			
90 Day Bank Accepted Bill Futures	IR	3 Year Treasury Bond Futures	YT
3 Year Treasury Bond Futures	YT	10 Year Treasury Bond Futures	XT
10 Year Treasury Bond Futures	XT	20 Year Treasury Bond Futures	XX
3 Year Treasury Bond Futures	YT	3 Year Deliverable Swap Futures	YS
10 Year Treasury Bond Futures	XT	10 Year Deliverable Swap Futures	XS
SPI 200™ Futures	AP	SPI 200™ Mini-Futures	AM
SPI 200™ Futures	AP	SPI 200™ A-REIT Futures	AA
SPI 200™ Futures	AP	SPI 200™ Financials Futures	AF
SPI 200™ Futures	AP	SPI 200™ Resources Futures	AR
SPI 200™ Financials Futures	AF	SPI 200™ A-REIT Futures)	AA
SPI 200™ Financials Futures	AF	SPI 200™ Resources Futures	AR
SPI 200™ Mini-Futures	AM	SPI 200™ A-REIT Futures	AA
SPI 200™ Mini-Futures	AM	SPI 200™ Financials Futures	AF
SPI 200™ Mini-Futures	AM	SPI 200™ Futures	AP
SPI 200™ Mini-Futures	AM	SPI 200™ Resources Futures	AR
SPI 200™ Resources Futures	AR	SPI 200™ A-REIT Futures	AA
QLD Baseload Electricity Futures	BQ	NSW Baseload Electricity Futures	BN
VIC Baseload Electricity Futures	BV	SA Baseload Electricity Futures	BS
NSW Baseload Electricity Futures	BN	VIC Baseload Electricity Futures	BV
QLD Baseload Electricity Futures	BQ	QLD \$300 Cap Futures	GQ
NSW Baseload Electricity Futures	BN	NSW \$300 Cap Futures	GN
VIC Baseload Electricity Futures	BV	VIC \$300 Cap Futures	GV
SA Baseload Electricity Futures	BS	SA \$300 Cap Futures	GS
Eastern Australia Feed Barley	UB	Australian Sorghum	US
Eastern Australia Feed Barley	UB	Eastern Australia Wheat	WM
Australian Sorghum	US	Eastern Australia Wheat	WM
WA Wheat	WK	Eastern Australia Wheat	WM
NZFX Products			
3 Year Government Stock Futures	TY	10 Year Government Stock Futures	TN

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