New Trading Platform
Release Notes - Derivatives Release 4

INFORMATION CLASSIFICATION - PUBLIC

ASX

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1. Introduction

These release notes provide information on New Trading Platform functionality following Release 4 on the Customer Development Environment (CDE). It is an update of the New Trading Platform Release Notes for Release 3 as at 26 November 2015.

The release notes contain the following information:

- Key Upcoming Dates and Events and Login Details
- Account Maintenance, Shared Order Groups, Pre Trade Risk Management, Trading Protection Limits
- Spread Functionality
- User Defined Combinations
- Packs and Bundles and Electricity Strips

1.1. Key Upcoming Dates and Events

CDE is a futures end-to-end trading to clearing environment used by both futures trading and clearing customers. It is used to test the New Trading Platform as well as trade flow through to clearing in Genium. The following table lists upcoming release dates for the CDE.

Date	Environment	Description
30 November 2015	CDE	Release 4 – Full derivatives functionality
21 December 2015	CDE	Release 5 – Corrective release
18 January 2016	CDE	Release 6 – Corrective release
18 January – 4 March 2016	CDE	Application Accreditation
15 February – 4 March 2016	Production	User Account Configuration
5 March – 19 March 2016	CDE	Industry Wide Testing (3 test runs)

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1.1.1. Important Information for Clearing Customers

Note the following:

- ASX has built a new Genium Development Environment that connects to the New Trading Platform CDE
- Clearing customers can access the new Genium Development Environment via a new Clearing Work Station (CWS) added to their existing test server
- All accounts currently setup in the existing Genium test CWS are mirrored in the new Genium environment on the CDE
- Following the installation of the new CWS to their existing test servers customers are able to test connectivity through to Genium on the new CDE
- The flow between the New Trading Platform and Genium on CDE started from 9th November 2015
- Clearing customers will still be able to access the existing ASX Clear Futures (ASXCLF) test environment which will run alongside CDE for the duration of the New Trading Platform project
- Full end to end testing available from 9th November 2015.

1.2. User Login Naming Convention

ASX has set up user logins or sessions for each customer who has submitted their CDE order form. Each customer's login uses the following naming convention:

Character 1 – 3 = Firm ID

Character 4 = Type (D-FIX Drop Copy, M-FIX Market Data, O-FIX Order Entry, X-Market Data Protocol, R-Participant Admin, S-ASX Trading Terminal Super User, T-ASX Trading Terminal Trader)

Character 5 = Increments for each user. 1 to 9 then A-Z

The following example displays user logins for the firm ABC in the ASX Trading Terminal.

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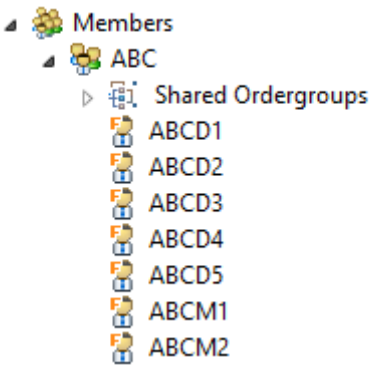

1.3. CDE Logins

Additional logins will be provided to each customer by CTS. Each customer will be provided with the following logins:

- 10 * FIX Order Entry
- 5 * FIX Market Data
- 5* FIX Drop Copy
- 5 * Market Data Protocol
- 1 * Participant Admin (PTRM)
- 1 * Super User (ASX Trading Terminal)
- 1 * Trader (ASX Trading Terminal)

The Password for each login is the same as the user name and never expiries.

The Target CompID for CDE is ASX.

For ASX derivatives market Tag 207 = XSFE.

For NZ derivatives market Tag 207 = NZFX.

Note:

Customers should note that each FIX Order Entry session is throttled to 15 TPS.

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1.4. Derivatives Functionality

The following table details the derivatives features that is available in CDE and current limitations.

Functionality	Available Functionality	Limitations	Additional Resources
FIX Order Entry	• Order management (new, modify, cancel)	• Password change in Logon (A)	See FIX Order Entry specification
FIX Market Data	• Connectivity • Subscription to individual securities with incremental refresh • ASX 24 specific tags and enumerations • Full refresh	• DerivativeSecurity List (AA) for Options Series • MarketDefinition Request (BT) MarketDefinition (BU)	See FIX Market Data specification
FIX Drop Copy	• Connectivity • Receive execution reports • Receive trade capture reports (for Clearing Participants)	• PartyRiskLimits Report (CM)	
Market Data Protocol	• Receive multi cast feed • Glance (snap shot) • System close message	• Change to some directory messages with release 4	See Market Data Protocol specification
Account and Pre Trade Risk Management (PTRM)	• New admin GUI for account and limit maintenance • PTRM setting options for net long positions, net short positions and max order volume • Net Positions updating real time		See ASX Administration and Risk Terminal Guide

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Functionality	Available Functionality	Limitations	Additional Resources
	• Bulk account file upload		
Trading Protection Limit (TPL)	• TPL available to set in all products	•	See ASX Administration and Risk Terminal Guide
Shared Order Groups	• Create shared order groups • Shared order group users can view and act on orders in the same group • Shared order groups set at a product level not by account		See ASX Administration and Risk Terminal Guide
Intra-commodity Spreads	• Available on all products (not all contract months listed) • Implied price creation to 5 cycles or generations • Spread to spread matching algorithm • Leg and net price market data on both protocols	• Some cycle baits are not being created in some non-sequential spreads (in the "wings")	See Section 2
Inter-commodity Spreads	• Available on all products (not all contract months listed). • Shadow prices for ratio spreads	• Matching priority for shadow spreads	See Section 2
User Defined Combinations (UDC)	• Create net price strategy orders up to 6 legs via FIX and ASX Terminal	• Strategies with ratios not interactive with outright markets	See Section 3

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Functionality	Available Functionality	Limitations	Additional Resources
	• Enter, modify and cancel orders Fixed leg strategy orders (used for F&O strategies)		
Packs and Bundles and Electricity Strips	• Order entry and trade execution • Generation of leg prices by Trading System	Not all packs and bundles will be available in CDE	See Section 4
Market Open Event	• Throttle set at 15 TPS per log in / FIX session		

1.5. Known Issues Log

Refer to the ASX New Trading Platform Known Issues Log on the ASX website for details on current bugs and functional limitations.

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2. Spread Functionality

The following spread functionality is contained in Release 3:

- Exchange defined spreads
- Naming conventions for intra-commodity and inter-commodity spreads
- Trading intra-commodity spreads
- Pricing of intra-commodity spreads
- Implied prices for intra-commodity spreads
- intra-commodity spreads order management

2.1. Exchange Defined Spreads

Release 3 supports the following contracts for Intra and Inter Commodity spreads:

Intra-commodity Spreads

The following contracts are supported:

- 30 Day Interbank Cash Rate Futures (Commodity code IB)
- 90 Day Bank Bill Futures (Commodity code IR)
- 90 Day New Zealand Bank Bill Futures (Commodity code BB)
- 3 Year Treasury Bond Futures (Commodity code YT)
- 10 Year Treasury Bond Futures (Commodity code XT)
- SPI Futures (Commodity code AP)
- Grain Futures.

Inter-commodity Spreads

The following contracts are supported:

- 3 year vs 10 year Treasury Bond Spread
- 90 day Bank bill vs 3 Year Bond Spread
- Electricity regional spreads.

2.2. Naming Conventions for Intra- commodity and Inter-commodity Spreads

Intra-commodity spreads will be displayed on the New Trading Platform with the nearest expiring contract first. This is consistent with ASX Trade24 functionality.

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For example, the 3 year calendar spread is listed as YTH6M6

There is a change to the inter-commodity spreads display on the New Trading Platform.

For example the 3 year – 10 year spread will be listed as follows: YTmyXTmy3210

Note:
This differs from how the inter-commodity spread is represented on ASX Trade24 where the 10 year contract (XT) was listed first in the spread display name. The order and trade management for inter-commodity spreads is consistent with current market behaviour. For example, if you buy the spread you buy the YT and sell the XT contract.

2.3. Trading Intra-commodity Spreads

On the new trading platform there are no changes to the trading behaviour for intra-commodity spreads. Examples of trading intra-commodity spreads are:

- Buy the YTH6YTM6 spread means you are buying the near month YTH6 and selling the far month YTM6.
- Sell the APU6Z6 spread means you are selling the near month APU6 and buying the far month APZ6.

2.4. Pricing of Intra-commodity Spreads

The price differential is calculated by taking the far month price from the near month price. For example, Near – Far = Price differential.

The near month of an intra-spread is defined as the month with the closest expiry date.

Example 1: IRH6 futures market price 97500 and IRM6 futures market price 97300. The IRH6M6 intra spread market price differential is +200 points.

Example 2: IRH6 futures market price 97000 and IRM6 futures market price 97230 IRH6M6 intra spread market price differential is -230 points.

2.5. Implied Prices for Intra-commodity Spreads

Implied prices generated, implied in or implied out, will maintain FIFO priority for the volume based on the newest real orders that imply the price. Implied across will also be supported, that is, prices will be calculated up to a maximum of 5 generations (cycle baits).

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2.6. Intra-commodity Spreads Order Management

The following order management rules apply to intra-commodity spreads:

- As per normal order entry, intra spread orders can be set to retain or purge, shared or non-shared
- Intra spread orders cannot be entered during Pre-Open or Price Discovery
- Intra spread orders do not support a GTC order type
- Intra spread orders support all other order types
- The ratio on intra spread orders will always be 1:1
- Spread orders will maintain the same FIFO priority as outright futures orders.

2.7. Trading Inter-commodity Spreads

Inter commodity spreads allow trading between separate instruments listed on ASX Trade24 using spread differential pricing. To trade inter-commodity spreads the dominate leg of the spread needs to be established to determine which leg you are buying or selling. On the New Trading Platform the inter-commodity spreads will be listed with the dominant leg first.

When trading the inter-commodity spread:

- Buying the spread means buying the first leg (dominant contract) and selling the second leg.
- Selling the spread means selling the first leg (dominant contract) and buying the second leg.

For inter-commodity spreads there is no change to the calculation methodology for the determination of the ratios. The ratio assigned to the second leg of the spread will be static, that is, it will not change on a daily basis. The ratio for the second leg may change on a daily basis.

2.8. Pricing Inter-commodity Spreads

The inter-spread market uses spread differential pricing. Differential pricing is based on the dominant (or first leg) contract price minus the price of the second leg. The price 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.

For example:

- XTM6 outright futures are offered at 97.055 and YTM6 outright futures are bid at 97.720. The YTM6XTM63310 spread would be trading at a positive (+) price differential of 0.665. The price 0.665 is the difference between YTM6 97.720 and XTM6 97.055.

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- XTM6 outright futures are bid at 97.450 and YTM6 outright futures are offered at 97.200. The YTM6XTM63310 spread would be trading at a negative (-) price differential of 0.250. The price -0.250 is the difference between YTM6 97.200 and XTM6 97.450.

2.9. Implied Prices in Inter-commodity Spreads

Prices in the outright contract will create implied prices into the inter-commodity spread when volume conditions are met. For spreads with a ratio other than 1: 1, shadow or dark spread prices will imply into the outright contracts. These prices are not visible in the order book but can trade if the volume and price conditions are met. For inter-commodity spreads with a ratio of 1:1 spread prices will imply out and be visible in the outright contracts.

2.10. Inter Spreads Order Management

The following order management rules apply to inter-commodity spreads:

- As per normal order entry, inter spread orders can be set to retain or purge, shared or non-shared
- Inter-commodity spread orders cannot be entered during Pre-Open or Price Discovery
- Inter-commodity spread orders do not support GTC order type
- Inter-commodity spread orders will maintain the same FIFO priority as outright futures orders.

2.11. Spread to Spread Trades

When a spread order trades against other spread orders, the following rule is used to generate the resultant leg prices based on an anchor price:

The anchor price is the last traded price for the leg of the strategy that traded most recently, provided the price is within the accepted Spread. If there is no last trade price for any of the 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.

The Leg Reference Price is defined as:

- Last Trade Price
- If AOT is set, use AOT reference price
- Adjusted closing price.
- Prior settlement price.

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For spread to Spread Trades where no cycle baits exist the Leg prices use the following rules:

The preliminary leg prices for each of the remaining legs (except the anchor leg) is set according to the following steps:

1. If the Leg Reference Price is within the Spread, the preliminary price is set to this Leg Reference Price.
2. If the Leg Reference Price is outside of the Spread, the preliminary price is set to closest bid or offer of the Spread.
3. 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.
4. If the Leg Reference Price exists but no Spread is available, the preliminary price is set at the Leg Reference 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).

Once the preliminary price has been determined for each leg, it is (if needed) adjusted until they add up to the correct net price. System has a defined steps to make the adjustment and is not random.

For Spread to Spread trades involving more than two strategy trades, that is, when cycle baits trade, the trading platform uses the anchor leg price and the traded spread differentials to determine the leg prices.

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3. User Defined Combinations

ASX's New Trading Platform will support two types of User Defined Combinations (UDCs):

- Net price
- Fixed leg price.

UDCs replace the ASX Trade24 Custom Market for trading multiple leg strategies. UDCs cannot be created where there exists an Exchange Defined Strategy.

3.1. Creating User Defined Combinations

UDCs can be created via FIX or through ASX's Trading Terminal. UDCs can be created with up to six legs of any combination of futures and options. For net and fixed leg price UDCs each unique combination will create one order book per strategy. Fixed leg UDCs are used for Futures and Options strategies (F&Os). Where the option component of the F&O strategy has multiple option strikes, the price will be a net price.

The trading platform will not permit the creation of the same unique UDC. Should a specific UDC already exist, an attempt to create the same UDC will result in the user receiving a reject message and the existing strategies ID. Users should note that a net price UDC and a fixed leg price UDC can be created for the same strategy.

UDCs created via the ASX Trading Terminal allow the user to create and place an order in the UDC before releasing the UDC to the market.

All UDCs created must be traded at the lowest common denominator.

3.2. Implied Pricing for Net Price UDCs

Orders in the outright or leg contracts will imply prices into the net price UDCs once the strategy has been created. Imply out prices from the UDC to the outright markets will be shadow prices only. These will not be visible in the order book but are executable if the volume and price conditions are met.

UDCs will have continuous interaction with the outright markets.

3.3. Implied Pricing for Fixed Leg UDC

Fixed leg UDCs will have shadow prices only. Implied prices in and out are not visible in the order books are executable if the volume and price conditions are met.

UDCs will have continuous interaction with the outright markets.

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3.4. UDCs Order Management

The following order management rules apply to UDCs:

- UDCs maintain FIFO position. Consistent with outright and spread orders, order modification (volume increase) will result in a loss of queue positon.
- For fixed leg UDCs the net price component determines queue position.

3.5. Combination to Combination Trades

When a spread order trades against other spread orders, the following rule is used to generate the resultant leg prices based on an anchor price:

The anchor price is the last traded price for the leg of the strategy that traded most recently, provided the price is within the accepted Spread. If there is no last trade price for any of the 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.

The Leg Reference Price is defined as:

- Last Trade Price
- If AOT is set, use AOT reference price.
- Adjusted closing price.
- Prior settlement price.

For spread to Spread Trades where no cycle baits exist the Leg prices use the following rules:

The preliminary leg prices for each of the remaining legs (except the anchor leg) is set according to the following steps:

1. If the Leg Reference Price is within the Spread, the preliminary price is set to this Leg Reference Price.
2. If the Leg Reference Price is outside of the Spread, the preliminary price is set to closest bid or offer of the Spread.
3. 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.
4. If the Leg Reference Price exists but no Spread is available, the preliminary price is set at the Leg Reference Price.

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

Once the preliminary price has been determined for each leg, it is (if needed) adjusted until they add up to the correct net price. The system has defined steps to make the adjustment and is not random.

For Spread to Spread trades involving more than two strategy trades, that is, when cycle baits trade, the trading platform uses the anchor leg price and the traded spread differentials to determine the leg prices.

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4. Packs and Bundles and Electricity Strips

Packs and Bundles on 90 Day Bank Accepted Bill futures allow trading of multiple consecutive 90 Day Bank Accepted Bill futures contracts in a single transaction at an average price of the underlying futures legs. Packs apply to trading four consecutive underlying futures legs, while Bundles apply to either eight or twelve underlying futures legs.

Similarly, Electricity strip futures allow the trading of multiple consecutive underlying futures contracts at an average price while adjusting for differing contract sizes. Electricity Strips are listed over the Australian Quarterly Base Load futures, Australian Peak Load futures and Australian Quarterly Base Load $300 Cap futures.

Packs and Bundles and electricity strips are listed as separate contracts under a unique contract codes. Upon trade execution, individual leg prices for the underlying contracts are determined and subsequently cleared.

Upon execution of a Pack, Bundle or Electricity Strip, underlying futures prices will be determined using the following algorithm:

1. A reference price for each individual futures leg will be the determined.

   For Packs and Bundles the reference prices for the underlying futures contracts will be the adjusted daily settlement price (DSP). For Packs and Bundles executed during the day session, the adjusted DSP will be the closing night session prices of each individual futures leg. For Packs and Bundles executed during the night session, the adjusted DSP will be the closing day session prices of each individual futures leg.

   For Electricity strips the reference price for each individual futures leg will determined. The reference price for the individual futures legs will be the preceding DSP from the prior trading date.

2. A price adjustment factor is determined using the following formula:

   (Traded Pack/Bundle/Strip price – Average of the leg reference price) / Average of the leg reference price.

   Where the average of the leg reference price is calculated as follows:

   ((Leg 1 reference price x Leg 1 contract size) + (Leg 2 reference price x Leg 2 contract size) + (Leg 3 reference price x Leg 3 contracts size) +…..+ (Leg N reference price x Leg N contracts size)) / (sum of contract sizes)

3. The leg prices are allocated using the following formula:

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Allocated Leg 1 price = Leg 1 reference price x (1 + Adjustment factor)

For the 90 day Bank Bill Futures the allocated leg prices are rounded to the nearest 0.5 basis point increment.

For the electricity futures the allocated leg prices are rounded to nearest $0.01.

4. If the traded Pack/Bundle/Electricity Strip traded price does not equate to the average of the allocated futures legs prices, the longest dated allocated futures price is adjusted to satisfy the condition that Traded Pack/Bundle/Electricity strip price equates to average allocated futures legs.
5. Participants are notified of the futures leg prices through a single trade execution report which details the trade price of the Pack, Bundle or Electricity Strip as well as the prices of the individual legs.

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Information Classification - Public

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