HOW THE ICE MARKET WORKS
ICE DERIVATIVES MARKETS
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HOW THE ICE MARKET WORKS

1. INTRODUCTION

The Intercontinental Exchange, Inc. (ICE) operates regulated futures exchanges and OTC markets across a diverse range of asset classes — from energy and interest rates to equity indices, currencies and agricultural commodities.

This document will provide a high-level overview of the derivatives exchanges operated by ICE.

1.1. ICE FUTURES U.S (IFUS)

With a heritage dating to the 1870 founding of the New York Cotton Exchange, ICE Futures U.S. is a regulated market offering futures and options contracts for agricultural commodities, as well as equity indices, currencies and North American natural gas and power. ICE Futures U.S. contracts are cleared by ICE Clear U.S. and ICE Clear Europe.

1.2. ICE FUTURES EUROPE (IFEU)

Established in 1981 as the International Petroleum Exchange, ICE Futures Europe is a regulated futures exchange for crude and refined oil, natural gas, power, coal and emissions. More recently ICE Futures Europe has welcomed the Liffe commodities, interest rates and equity derivatives to its franchise. All contracts are cleared by ICE Clear Europe.

1.3. ICE FUTURES SINGAPORE (IFSG)

ICE Futures Singapore offers regional hedging opportunities across financial and commodity derivatives for market participants to manage risk in a regulated, transparent market. ICE Futures Singapore products will be cleared by ICE Clear Singapore.

1.4. ICE ENDEX (NDEX)

Established in 2013 in conjunction with the leading Dutch gas infrastructure company N.V. Nederlandse Gasunie, ICE Endex is the leading continental European energy exchange for regulated and transparent markets for European natural gas and power derivatives, gas balancing markets and gas storage services. The ICE Endex futures and options markets are cleared by ICE Clear Europe.
2. MEMBERSHIP

Whilst it is not an exchange requirement to become a member in order to participate in trading, for those who do wish to pursue membership there are various options available for each ICE market. Participants should note that trading and clearing memberships are independent of each other. Membership requirements differ for each market and clearing house. Applicants should refer to theice.com for membership requirements specific to each market and clearing house.

To become a member of ICE a candidate must complete an application form, undergo a due diligence review and execute an agreement stating they will adhere to all exchange and/or clearing house regulations.

Trading members of any ICE markets must either be clearing members or, as non-clearing members, must enter into a clearing agreement with a clearing member.

For further information on membership fees, as well as trading and clearing fees, participants can refer to Fees.

2.1. ICE FUTURES U.S.

There is a single class of membership available to both individuals and firms at ICE Futures U.S. (PLEASE NOTE: while members and member firms are entitled to trade all products, membership is not a pre-requisite for trading access. Participants may obtain access to trade ICE Futures U.S. products on the ICE trading platform through the completion of certain required agreements).

For more information on ICE Futures U.S. membership requirements and/or trading access please visit ICE Futures U.S. Membership.

2.2. ICE FUTURES EUROPE

There are six membership categories available for ICE Futures Europe. The Membership categories are:

- **General Participant** – General Participants may trade their own business and clients' business, including via ICE Block. A General Participant who is a member of ICE Clear Europe may clear their own business, clients' business or clear for any other member of the exchange who is not a member of the clearing house.

- **Trade Participant** – Trade Participants may trade their own business, including via ICE Block, but may not trade on behalf of clients. A Trade Participant who is a member of ICE Clear Europe may only clear his own business.

- **Individual Participant** – Individual Participants are sole traders or companies which are 90% owned or are 90% vote-controlled by a sole trader. Individual Participants may trade their own** business only, including via ICE Block.

Companies may also apply to be a General, Trade or Individual Participant ICE Block Member. This type of membership allows the Member to only make off-order book trade submissions to the Exchange. Applicants can refer to the Block Broker Application for further details.
- **General Participant ICE Block** - May transact own business and business for clients (whether such clients are other Members or non-Members) and report the business through ICE Block.
- **Trade Participant ICE Block** - May transact own** business or affiliate business only and report through ICE Block.
- **Individual Participant ICE Block** - May transact business for clients (where the Individual Participant has the permission from its client’s Clearing Member(s) to execute business on the client’s behalf).

**It is understood that "own" business is business transacted solely for the benefit of that Member, a wholly owned subsidiary of that Member, the parent company of that Member, or a company in that Member's group of companies. Such business undertaken by a Member on behalf of another group company must not in turn be business undertaken on behalf of a third party.

For more information on ICE Futures Europe membership requirements as well as a list of current members please visit [ICE Futures Europe Membership](#).

### 2.3. ICE FUTURES SINGAPORE

There are two membership categories available for ICE Futures Singapore; members can be General Participants or Trade Participants.

- **General Participants** – General Participants may trade their own business and clients’ business. If the General Participant is a clearing member as well, they may clear their own** business, clients’ business or clear for any other member of the exchange who is not a member of the clearing house.
- **Trade Participants** – Trade Participants may trade their own business, but may not trade on behalf of clients. Likewise, if a Trade Participant is a clearer, he may only clear his own** business.

General Participants and Trade Participants must either be clearing members or must enter into a clearing agreement with a General Participant who is a clearing member. Both categories of membership are eligible for ICE Block which allows the member to make off-order book trade submissions to the exchange. Members who opt to solely conduct ICE Block activities can be admitted under ICE Block membership either as General Participant ICE Block or Trade Participant ICE Block. The information for ICE Block membership is accessible in [Section B](#) of the ICE Futures Singapore Rules.

**It is understood that "own" business is business transacted solely for the benefit of that member, a wholly owned subsidiary of that member, the parent company of that member, or a company in that member's group of companies. Such business undertaken by a member on behalf of another group company must not in turn be business undertaken on behalf of a third party.

For more information on membership requirements as well as a list of existing members please visit [ICE Futures Singapore Membership](#).
2.4. ICE ENDEX

There are two membership categories available for ICE Endex; members can be General Participants or Trade Participants.

- **General Participants** – General Participants* may trade their own** business and clients’ business. They may also do give ups. If the General Participant is a clearing member as well, they may clear their own business, clients’ business or clear for any other member of the exchange who is not a member of the clearing house.

- **Trade Participants** – Trade Participants* may trade their own** business, but may not trade on behalf of clients or do give ups. Likewise, if a Trade Participant is a clearer, he may only clear his own business.

*General Participant and Trade Participant categories of membership must either be clearing members or, as non-clearing members, must enter into a clearing agreement with a General Participant who is a clearing member. An Individual Participant cannot be a clearing member and, as a non-clearing member, must enter into a clearing agreement with a General Participant who is a clearing member.

**It is understood that "own" business is business transacted solely for the benefit of that Member, a wholly owned subsidiary of that Member, the parent company of that Member, or a company in that Member’s group of companies. Such business undertaken by a Member on behalf of another group company must not in turn be business undertaken on behalf of a third party.

For more information on membership requirements as well as a list of existing members please visit [ICE Endex Membership](#).

2.5. JURISDICTIONS

Prospective participants of ICE markets should note that ICE details jurisdictional restrictions of which the exchange has been made aware in the documents listed below.

- **ICE Futures U.S.**
- **ICE Futures Europe**
- **ICE Futures Singapore**

The exchange does not constitute legal advice, nor should it be relied upon by any such party, in any context. Market participants or prospective market participants should obtain their own legal, licensing and tax advice in relation to trading activities in the jurisdictions from which they propose to access the ICE platform to trade ICE Futures contracts.
3. TECHNOLOGY

ICE's widely distributed electronic trading tools, high-speed connectivity and mobility options provide unparalleled speed and flexibility for customizing and executing risk management strategies across multiple markets and geographies.

3.1. ICE TRADING PLATFORM

Since 2000, ICE has pioneered the development of electronically traded markets across a range of derivatives markets, bringing accessibility and transparency to customers around the globe. Focused on the evolving needs of market participants, the flexible trading platform allows new products and functionality to be added quickly, without requiring users to upgrade their own systems.

3.2. WEBICE

WebICE is feature-rich trading interface offering a single point of access to all ICE derivatives markets via an internet browser. The interface includes electronic options market functionality, Request for Quotes ("RFQ"), User Defined Strategies ("UDS"), support for a full range of futures and options trading strategies, off-order book trade submission and self-block submissions. WebICE offers a fully customizable interface, as well as mobile access via ICE mobile. Further information can be found in the WebICE User Guide.

3.3. ICE BLOCK

ICE Block is an independent, neutral platform that can be used for the submission of off-order book transactions for products offered by ICE Futures. ICE Block helps Clearing Members eliminate the need to manually submit off-order book trades for clearing by providing an electronic, automated and auditable alternative.

3.4. ICE MOBILE

The first mobile application designed specifically for futures traders and risk managers, ICE mobile offers WebICE users quick and simple access to real-time market information, trading and risk management functionality, along with instant messaging capability.

3.5. ICE CHAT

ICE Chat is an Instant Messaging ("IM") platform for traders and brokers. By combining the power of IM, automation and data integration, ICE Chat streamlines market communications to help make better trading decisions faster.

3.6. ICE CONNECT

ICE Connect is a new platform that offers the tools to keep users connected to the people and information that move markets. Featuring an easy-to-use, customizable user interface, users can launch ICE Connect from WebICE or as a standalone client using a WebICE or ICE Chat ID.
3.7. ICE OPTIONS ANALYTICS

Designed by options traders for options traders, ICE Options Analytics is an advanced option pricing and risk management platform for options analysis and pricing tools that allow users to quickly price nearly all options/futures spreads via an intuitive point-and-click interface.

3.8. CSCREEN

Cscreen is an electronic global pre-trade multi asset price discovery platform. It provides banks, inter-dealer brokers (IDBs) and market makers with a simple and efficient means of centralizing indicative prices. Cscreen is available as a web-based GUI and as an API for integration into internal systems.

4. ICE TRADING PLATFORM

ICE offers a complete range of front-to-back-office trading and risk management services powered by an integrated technology platform.

4.1. API CONNECTIVITY

ICE offers Application Programming Interfaces (APIs) to market participants and ISVs to create custom applications and services around the ICE platform to suit specific needs, including customized algorithmic trading, risk management, data services and straight through processing.

ICE supports version 4.2 of the Financial Information Exchange (FIX) Protocol for Order Routing and the ICE iMpact Multicast Data Feed is the primary API for market data dissemination. iMpact supports TCP-based messaging for login/logout, product definitions and historical replay.

Clearing members also have the option of using the Risk Management API which supports version 4.4 of FIX protocol. The Risk Management API allows clearing members to perform risk management functions.

Market participants have the option of building to the API themselves. Alternatively participants can elect to use a certified third party application. Please refer to the ISV Conformance document for more details on certified ISVs and the ICE markets each supports.

Access to APIs requires prior approval. For more information on the approval process please contact ICE Sponsorship.

4.2. RECONCILIATION TOOLS

ICE offers two interfaces that allow market participants to track their orders and trades, Trade Capture and Private Order Feed (POF).
4.2.1. TRADE CAPTURE

Trade Capture is a FIX based interface for real-time deal capture. Users should note that FIX version 4.2 is supported for order routing; FIX version 4.4 is supported for Trade Capture.

This interface enables trading participants to receive real-time notifications for all trades executed by participants in the same firm. It also supports a request to query historical trades for a given set of markets and time windows. The data includes all trading activity across WebICE, ICE Block and FIX Order Routing.

Three subscription models for FIX Trade Capture are available:

1. **Trading Firm** – Real-time feed of all deals across all products for a specific trading firm.
2. **Broker** – Real time feed of all deals across all products submitted by a specific broker.
3. **Clearing Firm** – Real-time feed of all deals (pre-clearing) across all products that are cleared by a specific clearing firm.

For a list of certified third party applications, please visit Trade Capture Vendors.

4.2.2. PRIVATE ORDER FEED (POF)

The ICE FIX Private Order Feed (POF) allows clients to connect to the exchange and receive real-time and historical order and trade information for their company’s trading activity over a trading session. The data available includes trading activity from WebICE and FIX Order Servers (FIX OS).

This service should not be considered a FIX drop copy service or a complete transactional reference, as it is intended to only provide real-time order and trade data from the entire trading platform.

Please note that only deals will be sent via POF for New Order - Cross messages. The orders produced by Mass Quotes submission will not be sent as orders via POF.

Two subscription models for FIX Private Order Feed are available:

1. **Trading Firm** – Real-time feed of orders and trades for a specific trading firm
2. **Clearing Firm** – Real-time feed of orders submitted and trades executed by a participant where a specific clearing firm’s account is specified on the order or trade message. ICE supports single and multi-sessions for clearers to receive all customer order and trade data.

Markets supported on each API can be found in Supported Market Types.
4.2.3.  MASS CANCEL

The ICE FIX Private Order Feed as well as the ICE FIX Order Routing API support mass cancellation of orders which is a feature that allows a group of orders to be cancelled via a single message. The attributes that can be specified for cancellation are:

- **Mass Cancel Request Type** - This is a mandatory tag that specifies the scope of the request. The valid options are Session, All, or Trader ID. FIX Order routing only supports Session and Trader ID, while FIX Private Order Feed only supports All and Trader ID. All is inclusive of WebICE orders.

- **Market** - This is a mandatory tag on the mass cancel request and will cancel all orders in the market subject to additional filtering as specified in other attributes below. The market must specify a futures market and can be for an outright, spread, or futures UDS market.

- **Side** - This specifies the buy or sell side. It is optional unless the price level filter is also specified. If price level is not specified, then all orders on the specified side will be cancelled.

- **Price Level** - This is an optional tag. If the side specified is “buy”, then all order with price >= price level will be cancelled. If the side specified is “sell”, then all order with price <= price level will be cancelled.

- **Trading Session Sub ID** - This is an optional tag that allows for order with a matching Authorized Trader ID (Tag 116 Right) value to be cancelled.

The cancel can only be sent for a single market at a time and affects all order types, including GTC, GTD, and unelected STOP orders.

Mass Cancel is not supported for Options, mass quotes, non-futures markets, or via the FIX Private Order Feed for Clearers.

Firms are required to complete a Mini-Conformance with the Conformance team prior to enabling this feature in ICE production environment. Contact the conformance team at conformancesupport@theice.com.

4.3. RESPONSIBLE INDIVIDUALS

Each ICE exchange has a different type of identifier which is used for

- **eBadge (ICE Futures U.S.)** – An eBadge is a four digit number assigned by the exchange to a clearing member or a user with direct access. Each Clearing Member and Customer with Direct Access (other than a Floor Broker) shall request one or more eBadges as it deems necessary to accommodate the nature and volume of its business. An eBadge is associated with a Responsible Individual, someone registered with the exchange as the individual with authority to modify or withdraw any order submitted under any of the eBadge(s) with respect to which such individual is registered, and who is able to immediately identify the source of any order submitted under such eBadge.

- **Responsible Individual Mnemonic (RIM) (ICE Futures Europe, ICE Futures Singapore & ICE Endex)** – Each Responsible Individual will have a RIM. A firm must have at least one RIM. The three character alphanumeric should be used to link a user’s
clearing account to their membership. A user will not be able to trade until their account is linked to their RIM.

4.4. ICE USER IDS

There are a number of IDs available to users. Which of these IDs they require is dependent on the interfaces they are interacting with.

4.4.1. ADMINISTRATIVE IDS

- **ICE Administrator** – This is the primary contact for adding, modifying or deleting ICE users on the ICE trading platform or website. It is not necessary for the individual to have access to the trading platform to be the administrator. An ICE Administrator can have ReportsOnly, SuperUser or RiskManager access as needed. Further information can be found in the *ICE Administrator Guide*.
- **Risk Manager** – Primary contact for managing trading and clearing access for ICE users. It is necessary for the individual to have Risk Manager or Super User access to manage clearing. This user cannot add, modify or delete ICE users.
- **Accounting** – Primary contact for paying monthly ICE invoices. User can retrieve deal reports or invoices from theice.com. This user cannot add, modify or delete ICE users. Accounting access is generally provided through a ReportsOnly user.

4.4.2. API IDS

- **FIX Order Server ID** – Identifies the gateway used by FIX Trader IDs to route orders to the ICE Trading Platform. A user would typically have at least one server ID per application/software vendor.
- **FIX Trader ID** – Identifies an individual or group. Assigned by ICE User Administration when a firm or individual has been approved for trading. At least one Trader ID is required for each Order Server for FIX Order Routing applications. There can be one or multiple FIX Trader IDs routing through a single Order Server ID. Where a FIX Trader ID is shared, each order message can be identified by specifying a registered Authorized Trader ID.
- **Authorized Trader ID** – An Authorized Trader ID is an ID that identifies an individual or Automated Trading System entering orders on the ICE Trading Platform via a FIX Trader ID. Authorized Trader IDs should be registered in the Authorized Trader Management System (ATMS) for those market participants required under the Rules of each exchange. ATMS is an application accessible via the Trader Dashboard. It allows trading firms to register and manage the details of individuals entering orders on the Trading Platform with FIX Trader IDs. This application is accessible via the Trader Dashboard or Credit Management. Further information can be found in the *Authorized Trader Management System (ATMS) Guide*.
- **Price Server ID** – Used to connect to the TCP server to access the iMpact feed security definition data and historical replay in conjunction with the ICE iMpact Multicast Feed.
- **FIX Trade Capture ID** – Used to connect to the ICE FIX Trade Capture API which provides a real-time notification of all trades executed by participants in the same firm. FIX Trade Capture supports three levels of data visibility – Trading Firms, Brokers, and
Clearing Firms. A Trading Firm can connect and receive all of its trade data, a Broker can receive all trades that it acted as Broker for, and a Clearing Firm can receive all trades that it clears.

- **FIX Private Order Feed ID** – Used to connect to the ICE FIX Private Order Feed API which provides real-time notification of orders and trades. FIX Private Order feed supports Trading Firm and Clearing Firm level data visibility. FIX POF IDs for Clearers must be requested by and set up under the specific trading firm that the clearer wants to monitor. The FIX POF ID will be configured to only send orders and trades for the specified clearing firm via the FIX POF session. All other order and trade information for the Trading Firm will be filtered out and not accessible via the FIX POF session. Trading Firms will retain administrative control of the FIX POF ID.

- **Risk Management API ID** – Used to connect to the FIX Risk Management API which provides support for clearing accounts, including product limits, retrieval and management (new account creation and updates for existing accounts).

### 4.4.3. GUI IDS

- **WebICE ID** – Gives a user the ability to connect to the ICE trading platform via their internet browser. Additionally the user can view and manage orders that are routed from their FIX API.

- **ICE Block Broker ID** – Gives a user the ability to enter off-order book trades on ICE Block via their internet browser.

Trader Identification Frequently Asked Questions (FAQ) can be found [here](#).

Fees are applicable to any ID (API, GUI or Administrative) if it allows the user to receive market data. Accounting IDs and Report Only Risk Managers do not receive any market data. Consequently they would not incur any fees.

When setting up IDs for order entry and/or market data, users will need to specify which markets they would like to have added to their IDs. The available market types and corresponding market IDs can be found in [Supported Market Types](#).

### 4.5. THROTTLING

The Trading Platform imposes a restriction on inbound message traffic. All FIX requests, with the exception of order cancel and security definition requests have throttle limits that are configured on a FIX session-level i.e. at the FIX Order Server. If there are multiple Trader IDs sharing a FIX session this will be a throttle on their cumulative behaviour (throttles are applied at the FIX Gateway). The throttle limit is set at 300 messages per second.

If a cancel/replace request causes the user to exceed the configured throttle limit, then the cancel portion of the request will be processed and the replace portion of the request will be rejected. In this case, the user will receive two FIX messages: a cancel reject message for the cancel/replace and an unsolicited cancel message for the order(s) resting in the book at that time.
4.5.1. **MESSAGING POLICY**

The Exchange Messaging Policy is designed to discourage inefficient and excessive messaging without compromising market liquidity and sets out certain messaging thresholds which it expects market participants not to exceed. Most market participants’ trading activity operates well within established thresholds. The Exchange will levy charges on those Firms with Direct Access whose system usage per Firm as configured on the ICE Platform exceeds certain thresholds. The thresholds for each Exchange are found here: [ICE Futures US](#), [ICE Futures Europe](#), and [ICE Endex](#).

4.5.2. **ORDER QUANTITY LIMITS**

Participants should note that each exchange sets overall order quantity limits. These are single order quantity limits which are applicable per clearable period. The limits for each product can be found in the Order Quantity Limits for [ICE Futures U.S.](#), [ICE Futures Europe](#), and [ICE Futures Singapore](#).

4.6. **TRADING SESSION**

Trading session times can be configured at a product level. Each product is restricted to having one trading session per trading day and a single trading session cannot span more than 24 hours.

Market states that are available on the ICE trading platform include:
**System Unavailable**

- No connections available.
- Trading engines down.

**System Available**

- Markets are still closed.
- Users may connect and retrieve product definitions.
- Users can receive exchange text notifications.

**Pre-Open (Futures Only)**

- GTCs are activated.
- Order entry, modification and cancel permitted.
- Option and Option UDS order entry prohibited.
- Indicative open price broadcast at regular interval based on individual product settings in futures markets.
- New market creation permitted (applicable to strategies and flex options).
- Orders validated against the Daily Price Limits and Reasonability Limits.
- No matching.
- Orders not visible on market data feed.
- No Interval Price Limits (Circuit Breaker).
- No implied prices generated.
- Off-Order Book Trade submission not permitted.
- Request For Quote (RFQ) not permitted.

**Open (Uncrossing)**

- Bids and offers are floated into the market.
- If there are no trades the open price will be set to the price of the first trade in the market.
- No implied prices during the first phase.
Please note the publication of closing and settlement prices vary for each market. Some markets will only publish one of these two prices.

At the end of the trading day all users are logged off and the system becomes unavailable.

Market Supervision can close and re-open products, individual markets or strategies intraday. Supervision can cancel trades or adjust trade prices in any market state. If a User ID or Account is disabled during a normal trading session, orders are automatically pulled by the system.

Please refer to Trading Support and Hours for more information on trading session times as well as scheduled maintenance hours for all markets.

4.7. TRADING ALGORITHMS

An order entering the central order book will trade with matching orders resting on the opposite side of the market, subject to any limit price or other conditions on the incoming order. The incoming order will always trade with the best priced resting orders first. If the resting orders at best price are exhausted, it will carry on to trade at the next best price level. When the volume of resting orders at any single price level exceeds the volume of the incoming order, it is necessary to decide which resting orders will trade. Each product has a trading algorithm which determines the allocation of incoming order volume between resting bids and offers.
The majority of ICE products operate on a First In First Out (FIFO) algorithm. Some products operate on a Gradual Time Based Pro Rata algorithm. Some strategy markets operate on a different algorithm from that configured for other markets in the same contract.

4.7.1. FIRST IN FIRST OUT (FIFO)

Where the FIFO algorithm applies, resting explicit orders are matched in a strict price-time priority. An incoming Bid will trade against the lowest-priced Offers first; an incoming Offer will trade against the highest-priced Bids first. Where multiple resting explicit orders are at the same price, they will be matched according to timestamp, starting with the earliest time.

An order’s timestamp is updated on any of the following actions:

- Order is submitted to the exchange
- Price is changed
- Quantity is increased
- Visible quantity on an Iceberg order is filled and reloaded
- Stop order is elected

An order’s timestamp is not changed when its quantity is reduced.

Implied orders will trade after all explicit orders at the same price have been exhausted. Allocations to implied orders will allocate to the longest implied chain first; and will use FIFO to allocate between parent orders within each chain.

4.7.2. GRADUAL TIME BASED PRO RATA

The Gradual Time Based Pro Rata (GTBPR) applies to some products within the ICE Futures Europe interest rate and bond product groups. A list of products that operate on the GTBPR algorithm can be found below. Note that Pack and Bundle strategies are configured to use FIFO, even in contracts which are otherwise GTBPR.

- GCF Repo Mortgage Backed Securities Index Futures
- GCF Repo US Treasury Index Futures
- Long Gilt Options
- Three Month Euroswhiss Futures and Options
- Three Month Sterling Mid-Curve Options
- Three Month Sterling Futures and Options
- One Month EONIA Futures
- Three Month Euro (Euribor) Mid-Curve Options
- Three Month Euro (Euribor) Futures and Options
- One Month SONIA Futures
- Three Month SONIA Futures

Users should note some products operating on GTBPR may have their time weighting set to zero, in effect resulting in a pure pro rata algorithm rather than a gradual time based pro rata algorithm.

GTBPR is a time and volume weighted allocation, with an optional Priority component. In markets where Priority allocation is supported, an order that improves the best price in the market, which is not smaller than a minimum threshold, can gain a priority flag. Only one order on each side of the market can have priority at any one time, so an order gaining priority will cause any previous priority order to lose the flag. When allocating incoming volume at a price level, any priority order
at that price will trade up to a maximum threshold, before any other order is filled. If the incoming order still has volume remaining after satisfying the maximum threshold on the priority order, the remaining volume will be allocated by the GTBPR algorithm.

After any priority trading has occurred, the remaining incoming volume is divided pro rata between the aggregate explicit and implied resting volumes at best price. The next step is to allocate volume to individual explicit and implied orders, as follows:

- GTBPR is used to allocate volume between explicit resting orders. This takes into account the timing of resting orders as well as their size. Orders with greater volume, or which were placed in the market earlier, will receive greater allocations than orders which are newer or smaller. The relative weightings of time and volume factors vary between products.
- Allocations to implied orders will allocate to the longest implied chain first; and will use FIFO to allocate between parent orders within each chain.

### 4.8. IMPLIED TRADING

Implied trading is available on the trading engine. The facility allows users to trade implied strategies in one instance to avoid legging risk. There are two different ways of processing strategy orders at the client application level:

- **Implying IN orders** – a spread price generated from two outright prices, implied or otherwise, in different contract months
- **Implying OUT orders** – an outright price in one contract month generated from an outright price, implied or otherwise, in a different contract month and a spread price, implied or otherwise, between the two contract months

**Example:**

#### 1st Generation Implied IN

<table>
<thead>
<tr>
<th></th>
<th>SEP</th>
<th></th>
<th>OCT</th>
<th></th>
<th>SEP/OCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid</td>
<td>75.90</td>
<td>Ask</td>
<td>76.83</td>
<td>Bid</td>
<td>Ask</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>x</td>
</tr>
</tbody>
</table>

- Outright Bid in Sept of 75.90
- Outright Ask in Oct of 76.83
- Results in **Implied In Bid** in Sep/Oct
- Bid in Sep/Oct – Buy Front Month (Sep), Sell Back Month (Oct)
- 75.90 – 76.83 = x
- x = -0.93

#### 1st Generation Implied OUT

<table>
<thead>
<tr>
<th></th>
<th>OCT</th>
<th></th>
<th>NOV</th>
<th></th>
<th>OCT/NOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid</td>
<td>76.83</td>
<td>Ask</td>
<td>x</td>
<td>Bid</td>
<td>Ask</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>-0.52</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
• Outright Ask in Oct of 76.83
• Outright Bid in Oct/Nov of -0.52
• Bid in Oct/Nov – Buy Front Month (Oct), Sell Back Month (Nov)
  \[76.83 - x = -0.52\]
  \[x = 77.35\]

2nd Generation Implied In

<table>
<thead>
<tr>
<th>SEP</th>
<th>NOV</th>
<th>SEP/NOV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bid</td>
<td>Ask</td>
<td>Bid</td>
</tr>
<tr>
<td>75.90</td>
<td>77.35</td>
<td>x</td>
</tr>
</tbody>
</table>

• Outright Bid in Sep of 75.90
• 1st Generation Implied Ask in Nov of 77.35
• Bid in Sep/Nov – Buy Front Month (Sep), Sell Back Month (Nov)
  \[75.90 - 77.35 = x\]
  \[x = -1.45\]

Implied pricing is supported for calendar spreads and user defined strategies (UDS). Subject to configuration an inter-commodity spread may or may not imply. Calendar spreads have the additional benefit of supporting multiple generations of implied orders. UDS will only support single level implications.

WebICE supports a local implied engine which shows prices in the whole implied range. Members and ISVs with direct access to the API have the option of subscribing to market data feeds with either a subset of implied pricing or the feeds with implied pricing for all months. The connectivity details for implied feeds can be found in the Multicast Connectivity Guide. Note, for the contracts in which it is setup to be notified, implied price will be disseminated only when it is the best price in the market. Also on WebICE, implied price is visible only when it is the best price in the market.

For UDS only implied in prices are visible on the market data feed and WebICE. Implied out prices will not be visible, these will only be calculated within the matching engine.

Implied pricing will not be supported for Packs and Bundles or Options strategies with a hedge leg. Implied pricing will be supported for Butterfly and Condor strategies, as well as for all Option strategies that do not include a hedge leg.

### 4.8.1. MULTI GENERATION IMPLIED PRICES

Prices that are generated by multiple explicit orders are referred to as single generation implied prices. The trading engine can create additional implied prices by combining implied prices with other implied prices or with other explicit prices. This type of price generation is referred to as multi generation implied pricing.

The matching engine will determine the best bid and offer price in each month regardless of the number of generations required. Consequently, an executed implied price could trigger trades in numerous markets. The trading engine will always generate the best implied price for a given market and include it in the book, so the implied price can be at a depth below the best outright price in the market.
The trading engine will allocate assigned volume to the longest derived chain that results in the largest number of regular and outright deals. Allocations of all implied volume will be subject to the FIFO matching algorithm, to both the implied price level and to all the explicit orders that make up that implied price. When the implied price can be matched, it will have lower priority than the outright orders at the same price.

Please refer to *Implied Prices* for the implied range and broadcast range for individual contracts.

### 4.8.2. VERTICALLY IMPLIED PRICES

Vertically Implied prices are available on select products in the trading engine. These vertically implied prices are tradable prices. There are two different ways to process the prices:

**Vertical Implied IN** means implying up to composite markets on a vertical axis:

- Months will imply into Quarters, Seasons, Cals, etc…
- Quarters will imply into Semesters and Cals
- Combinations of Months and Qtrs will imply into Cals

**Vertical Implied OUT** means implying down to smaller composites and/or months of a composite market:

- Quarters and Months implying out to a Month leg.
- Combinations of Quarters, Season and/or Cals implying out to Season, Quarter, and Month legs.

**Examples:**

**Months Imply into Quarter Strategy.** Please note that the ICE Trading system does consider the granularity of a market when calculating implied prices. In example below the contracts have a daily granularity.

<table>
<thead>
<tr>
<th>Market</th>
<th>Bid</th>
<th>Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>51.80</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>51.77</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td>51.77</td>
<td></td>
</tr>
<tr>
<td>Q1</td>
<td>51.78</td>
<td></td>
</tr>
</tbody>
</table>
• Outright Bid in Jan of 51.80
• Outright Bid in Feb of 51.77
• Outright Bid in Mar of 51.77
• Results in Implied In Bid in Q1
  (51.80 * 31) + (51.77 * 28) + (51.77 * 31)) / (31+28+31) = X
  X = 51.78

Quarter Strategy Imply out to Month

<table>
<thead>
<tr>
<th>Market</th>
<th>Bid</th>
<th>Ask</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan</td>
<td>51.80</td>
<td></td>
</tr>
<tr>
<td>Feb</td>
<td>51.77</td>
<td></td>
</tr>
<tr>
<td>Mar</td>
<td></td>
<td>51.77</td>
</tr>
<tr>
<td>Q1</td>
<td></td>
<td>51.78</td>
</tr>
</tbody>
</table>

• Outright Bid in Jan of 51.80
• Outright Bid in Feb of 51.77
• Outright Offer in Q1 of 51.78
• Results in Implied Out to Offer Mar of 51.77
  ((51.80 * 31) + (51.77 * 28) + X * 31) / (31+28+31)) = 51.78
  X = 51.77

Vertical Implied pricing is supported for all Strategies subject to configuration of the strategy in the ICE system.

As with 2nd Generation Implied prices, WebICE supports a local implied engine which shows prices in the whole implied range.

Vertical Implications will be supported for futures markets on WebICE and for DAUs (Direct Access Users). This will allow for prices to be generated ‘up’ (IN) and ‘down’ (OUT) a product’s vertical axis.

4.9. SUPPORTED ORDER TYPES

The trading engine supports a number of order types. ICE Supported Market Types lists which order types are available for each market type.

• Limit – Executed at the stated price or better. Any residual volume from an incomplete order is retained in the COB until it is withdrawn, traded or pulled by the host at the close.
• Market – Submitted without a specified limit price and executed at the best price available in the order book when the order is received until all available volume at that
price has been traded. The order then executes at the next best price, and so on until all the order volume has been filled. A market order will not trade outside the price limits. Any residual volume from an incomplete market order is cancelled.

- **Market Order with Protection (MOWP)** - Market orders with protection are executed at the best price or prices available in the order book at the time the order is received by ETS up to and including the protection price but will not trade beyond the protection price. Any residual volume from an incomplete Market Order with Protection is canceled. The protection levels are defined by the Exchange and may vary by product.

- **Stops** – A buy Stop becomes executable when a trade occurs at or higher than the stop price. When entered, the stop price must be above the current best offer or, if no working offer, above the current anchor price. Conversely, a sell Stop-Limit becomes executable when a trade occurs at or lower than the stop price. When entered, the stop price must be below the current best bid or, if no working bid, then below the current anchor price.
  - **Stop Limit** – This order has two components: (1) the stop price and (2) the limit price. When a trade has occurred at or through the stop price, the order becomes executable and enters the market as a Limit order at the limit price. The order will be executed at all price levels from the stop price up to and including the limit price. If the order is not fully executed, the remaining quantity of the order will remain active at the limit price.
  - **Stop Order with Protection** – This order has two components: (1) the stop price and (2) an Exchange set protection limit price. The exchange set limit price is the NCR for the specified commodity contract from the stated stop price. When a trade has occurred at or through the stop price, the order becomes executable and enters the market as a Limit order at the exchange set limit price. The order will be executed at all price levels from the stop price up to and including the limit price. If the order is not fully executed, the remaining quantity of the order will remain active on the Exchange at the limit price.

- **Fill and Kill (FAK)** – Filled based on availability in the COB. In the case of partial execution, any unfilled volume will be cancelled.

- **Fill or Kill (FOK)** – Are Market or Limit Orders that are to be executed in their entirety immediately, and if not so executed are to be cancelled.

- **Reserve Quantity (Iceberg)** – The quantity of a large volume order can be held in reserve (hidden) by using exchange level automation which will divide the order into a number of smaller lot (shown) orders. A smaller lot order will be released each time the previous one has been filled entirely. Each time a new lot is submitted it will go to the back of the queue at that price level and side. Note that there is a 300:1 limit on the ratio between reserve/hidden quantity and shown quantity.

- **Good 'Til Cancelled (GTC)** – Remain in the COB until they trade, are withdrawn or the contract month expires. They retain their original timestamp when they are returned by the trading host for the next trading day, this is used to ensure that the trading host returns the orders in the correct time sequence.

- **Good 'Til Day (GTD) / Good After Logout (GAL)** – These orders remain in the COB until they are filled or until the end of the trading day, whichever occurs first. Will remain active even if a user is logged out during the trading day unlike other order types (excluding GTCs) which would be pulled from the order book if a user logged out or lost connectivity during the trading day. If the order is not filled by the end of the trading day it will expire and will not be resubmitted the subsequent trading day.

- **Good 'Til Specific Date (GTDate)** – Remains in the COB until a user specified date which must be prior to expiration date. They retain their original timestamp when they are returned by the trading host for the next trading day. This is used to ensure that the trading host returns the orders in the correct time sequence.
• **Good 'Til Specific Date (GTDate/Time)** – Remains in the COB until a user specified date and time which must be prior to expiration date. They retain their original timestamp when they are returned by the trading host for the next trading day. This is used to ensure that the trading host returns the orders in the correct time sequence.

• **Trade at Settlement (TAS)** – Allows a trader to enter an order to buy or sell an eligible futures contract during the course of the trading day at a price equal to the settlement price for that contract, or at a price up to five ticks (minimum price fluctuations) above or below the settlement price.

• **Minute Markets (MM)** – A minute marker references an official market price as set out by the exchange. Participants can manage their price risk more effectively by aligning product prices at the same point in the day. This can often help in reducing basis risk.

• **Trade at Index Close (TIC)** – Orders to buy or sell a stated quantity of an index-based futures contract at the end of the day Spot Index Value for the index upon which the futures contract is based, or up to a maximum number of minimum price fluctuations above or below the Spot Index Value. TIC orders may be submitted only for those Commodity Contracts and delivery months, during such time periods and for such maximum number of minimum price fluctuations above or below the Spot Index Value, as specified by the Exchange from time to time.

• **One Cancels the Other (OCO)** – Allows traders to link two orders where by one order being Hit/Lift by a counterparty will result in the other order being killed. Similarly, OCO allows traders to link two orders such that one order being held will result in the other order being held. There are three possible scenarios in which OCO will function: 1) a bid and an offer are posted for the same strip 2) two bids are floated in different strips or 3) two offers are floated in two different strips.

### 4.10. OFF-ORDER BOOK TRADE SUBMISSION

#### 4.10.1. ICE FUTURES U.S.

All off-order book transactions permitted on ICE Futures U.S. may be reported via ICE Block. The Exchange supports the following types of off-order book trades:

• **Block Trade** – A Block Trade is a high volume bilaterally negotiated transaction either at or exceeding an Exchange determined minimum quantity, which is specified for the futures or options contract being traded.

• **Exchange for Physical (EFP)** – An EFP is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related cash or physical position. In such a transaction the buyer (seller) of the futures transaction is the seller (buyer) of a corresponding amount of the cash commodity, as appropriate, at a price mutually agreed upon.

• **Exchange for Swaps (EFS)** – An EFS is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related OTC swap or other OTC derivative in the same or related product.

• **Exchange of Options for Options (EOO)** – An EOO is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange option position for a corresponding related OTC option position or other OTC instrument with similar characteristics in the same or a related instrument.
Additional information on ICE Futures U.S. Block Trade requirements can be found in the Block Trade FAQs and additional information of EFP, EFS and EOO transactions can be found in the EFRP FAQs.

In addition, to privately negotiated off-order book transactions, ICE Futures U.S. also permits the pre-negotiation of transactions. All pre-negotiated transactions must be executed by the submission of a Crossing Order (“CO”) into the ETS. The CO must contain the quantity and price at which the cross trade execution is sought. Entry of the CO will trigger a Request For Quote (“RFQ”) message for the respective future, option or combination, which will automatically be exposed to the market for the 5 seconds before the ETS will seek to execute the CO. Additional information on pre-negotiation of transactions can be found in the Pre-Execution Communication FAQs.

The volume thresholds within which block trades must be reported to the Exchange are detailed in ICE Futures U.S. Block Trade FAQs and ICE Futures U.S. Block Trade Requirements.

4.10.2. ICE FUTURES EUROPE

With the exception of Fixed Income and Equity Derivatives listed on ICE Futures Europe, all off-order book trade submissions can only be made via ICE Block. With the necessary approvals in place, off-order book trade submissions in Fixed Income and Equity Derivatives listed on ICE Futures Europe can be submitted via the FIX API in addition to ICE Block.

Supported off-order book trade types include:

- **Exchange for Related Position (EFRP)** – EFRPs include Exchange for Physical (EFP), Exchange for Swaps (EFS), Exchange for Risk (EFR) and Exchange of Options for Options (EOO). Additional information on EFRPs can be found in the ICE Futures Europe EFP, EFS, Soft Commodity EFRP and Basis Trade Policy.
  - **Exchange for Physical (EFP)** – Sometimes referred to as Against Actuals (AAs) or “Futures for Cash”. An off-order book bilaterally negotiated transaction involving the simultaneous exchange of an exchange futures position for a corresponding related cash or physical position. In such a transaction the buyer (seller) of the futures transaction is the seller (buyer) of a corresponding amount of the cash commodity, as appropriate, at a price mutually agreed upon.
  - **Exchange for Swaps (EFS) and Exchange for Risk (EFR)** – An EFS and an EFR are the same type of transaction. An off-order book bilaterally negotiated transaction involving the simultaneous exchange of an exchange futures position for a corresponding related OTC swap or other OTC derivative in the same or related product.
  - **Exchange of Options for Options (EOO)** – An off-order book bilaterally negotiated transaction involving the simultaneous exchange of an exchange option position for a corresponding related OTC option position or other OTC instrument with similar characteristics in the same or a related instrument.

- **Asset Allocation** – Allows users to take positions in, or transfer exposure between two different Fixed Income contracts simultaneously. The volume thresholds, reporting time requirements and additional information on Asset Allocations can be found in the ICE Futures Europe Block Trades and Asset Allocations Policy.
- **Block** – Pre-negotiated high volume trades. All details of a Block Trade are entered by one of the counterparties and include both buy and sell side prices and volumes. Every contract has a pre-defined minimum size threshold and reporting time for Block Trades.
- **Basis** – Permits market users to enter into a conditional transaction involving both a futures contract and a corresponding cash instrument. This gives the market user the ability to switch the exposure between the cash market instruments and futures. Additional information can be found in the *ICE Futures Europe EFP, EFS, Soft Commodity EFRP and Basis Trade Policy*.
- **Stock Contingent Trade** – Simultaneous execution of an individual equity option contract and the underlying equity.
- **Block at Index Close (BIC)** – An off-order book block trade where the price is determined as a basis to a prospective closing level of the index underlying the futures contract on a specified date. A BIC trade is not a separate futures contract.
- **Delayed Publication** – Users choose to delay the publication of large volume trades. Price and volume will be broadcast 75 minutes after acceptance by the exchange or at the daily close of trading in the contract on the central order book, whichever is sooner.
- **Private and Confidential (PnC)/Non-publication** – Users choose not to publish large volume trades in certain Equity derivative products.
- **Trade at Platts Settlement (TAP)** – Allows a trader to enter an order to buy or sell an eligible Platts contract during the course of the trading day at a price equal to the settlement price for that contract, or at a price up to five ticks (minimum price fluctuations) above or below the settlement price.

*ICE Supported Market Types* lists the products for which each of these order types is supported.

In addition to the off-order book trade types described above, a user can also use the exchanges crossing facility. The New Order – Cross message supports two different types of functionality:

1) A Basic Crossing Order
2) An Off Order Book Trade

<table>
<thead>
<tr>
<th>Cross Type</th>
<th>Markets</th>
<th>Functionality</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Basic Crossing Order</td>
<td>Futures, Options, and UDS markets that support Crossing Orders</td>
<td>Once the Crossing Order (&quot;CO&quot;) is submitted and accepted, an RFQ may be generated and sent to the market where applicable. After the configured RFQ time period for the market, the order in the CO will be entered into the market as an Immediate Or Cancel Order (&quot;IOC&quot;). The order will retain time priority of the CO entry time and cross with any resting orders at a better price. Any remaining quantity will be cancelled. Once a CO is entered it cannot be pulled from the market.</td>
</tr>
<tr>
<td>Off Order Book Trade</td>
<td>Futures, Options, and UDS markets that support Crossing Orders</td>
<td>Once the Off Order Book Trade is submitted, the request will be validated for exchange volume threshold requirements where applicable. If the request passes validation, then the trade is processed and published to the market (or not) based on requested execution instructions and trade type.</td>
</tr>
</tbody>
</table>

Additional information on pre-execution communication and the crossing of transactions can be found in the *Pre-Execution Communication and Crossing Guidance.*
In order to facilitate the submission of off-order book trades a user should request that their WebICE ID or FIX Trader ID is enabled for self-blocking and/or self-crossing through ICE User Administration. This flag combined with a product level flag (for self-block permission) will allow the user to submit all off-order book trade types as self.

A block can be submitted to the exchange by a broker on behalf of their customers. A successful off-order book trade submission will be displayed on the market data feed (unless the user submits an unpublished trade) and confirmations will be sent to the broker, buyer and seller. Depending on the trade type:

- Price is included or excluded from market notifications
- Price is excluded from market statistics (Last Price, High, Low, WAP)
- Volume is separated in market statistics

Where a pre-negotiated trade is of a volume below the block threshold it can be submitted as a cross. The submission of a cross will trigger an automatic Request For Quote (“RFQ”). Upon submission the cross is subject to a wait time during which the cross may match with the book if:

- A better bid or offer than the cross price is submitted during the wait period, or
- A bid or offer equal to the cross price rested in the market prior to the RFQ

The volume thresholds for delayed publication and non-publication are detailed in the ICE Futures Europe Block Trade and Asset Allocation Policy.

4.10.3. ICE SINGAPORE

All off-order book transactions permitted on ICE Futures Singapore may be reported via ICE Block. The Exchange supports the following types of off-order book trades:

- **Block Trade** – A Block Trade is a high volume bilaterally negotiated transaction either at or exceeding an Exchange determined minimum quantity, which is specified for the futures or options contract being traded.

- **Exchange for Physical (“EFP”)** – An EFP is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related cash or physical position. In such a transaction the buyer (seller) of the futures transaction is the seller (buyer) of a corresponding amount of the cash commodity, as appropriate, at a price mutually agreed upon.

- **Exchange for Swaps (“EFS”)** – An EFS is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related OTC swap or other OTC derivative in the same or related product.

Additional information on ICE Futures Singapore off-order book transactions can be found in the ICE Futures Singapore Block Trade and Exchange for Related Positions (“EFRP”) guidance documents.
4.10.4. ICE ENDEX

Off-order book trades supported on ICE Endex can only be reported during the respective trading hours of the off-order book products concerned, and on such trading days as specified by ICE Endex in Appendix B.2 of the exchange rulebook:

- **Block Trade** – A Block Trade is a bilaterally negotiated transaction either at or exceeding an Exchange determined minimum quantity, which is specified for the futures or options contract being traded.

- **Exchange for Physical ("EFP")** – An EFP is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related cash or physical position. In such a transaction the buyer (seller) of the futures transaction is the seller (buyer) of a corresponding amount of the cash commodity, as appropriate, at a price mutually agreed upon.

- **Exchange for Swaps ("EFS")** – An EFS is a bilaterally negotiated transaction involving the simultaneous exchange of an Exchange futures position for a corresponding related OTC swap or other OTC derivative in the same or related product.

4.11. STRATEGIES

ICE offers a selection of pre-defined futures strategies, as well as a facility that allows users to define their own futures and options strategies ("UDS"). Users should note that all options strategies need to be created as user defined strategies. Pre-defined strategies include:

- **Calendar Spreads** – Calendar spread orders are orders to purchase one or more futures contracts and sell an equal number of futures contracts in a different expiry / delivery month of the same contract at a stated price difference. The calendar spread quote convention on the ICE Platform shall be as follows: a buy order is defined as purchasing the near month and selling the far month, and a sell order is defined as a selling the near month and purchasing the far month.

- **Strips** – N consecutive contracts. A buy order is defined as purchasing each contract in the strip. A sell order is defined as selling each contract in the strip. Examples of Strips include Quarter, Calendar Year, and Seasonal contracts. Strips utilize weighted average pricing. The weight for each contract is the count of volume units defined in the minimum price fluctuation for each contract. For example, a Q4 Strip for a natural gas contract traded in MMBtu’s per day would have a weight of: 31 for the October, 30 for the November contract, and 31 for the December contract. However, a Q4 Strip for a coal contract traded in lots per month would have a weight of 1 for each month in the Strip.

- **Baskets** – N non-consecutive contracts. A buy order is defined as purchasing each contract in the basket. A sell order is defined as selling each contract in the basket. Baskets utilize weighted average pricing equivalent to Strips.

- **Packs** – Buy N contracts at four consecutive quarterly delivery dates in the same delivery year. Front month packs are created automatically every day. Packs that do not begin with the front month will need to be constructed as custom strategies.

- **Bundles** – Buy a series of N contracts at quarterly consecutive delivery dates (first quarterly must be the nearest one). There are five different maturities available: 2 years (8 legs), 3 years (12 legs), 4 years (16 legs), 5 years (20 legs) and 6 years (24 legs). Front month bundles are created automatically every day. Bundles that do not begin with the front month will need to be constructed as custom strategies. Further details can be found at [ICE Packs and Bundles](#).
UDS functionality allows participants to create specific options and options/futures strategies that consist of multiple legs. Upon creation of a new UDS, UDS messages are broadcast to the market to indicate an interest in a specific strategy. UDS will support any trading strategy, including ratio spreads, as well as hedged options (delta hedged) with the underlying futures contract. UDS will support up to 9 legs and 2 hedged legs. UDS strategies must be recreated in the platform each day as they do not persist from one trading day to the next.

- **User Defined Strategies (“UDS”)** – Buy or Sell up to nine options legs and up to two futures legs in the same product. Users cannot create standard exchange strategies using the UDS facility.
- **User Private Strategies (“UPS”)** – Similar to a UDS but the strategy is not visible to other market participants, only to the user who created the strategy. However, although the UPS strategy in not visible to other market participants, the orders in the individual legs of the strategy are visible to other market participants.

All strategies supported and their corresponding strategy codes can be found in the ICE Strategy Code Reference Manual.

### 4.12. PRICE PROTECTION

#### 4.12.1. ANCHOR PRICE

Each ICE market has an anchor price or market value that is managed throughout the trading session. Where futures are driven by the market price, trades in the prompt month drive the anchor prices, and each trailing month is managed with a spread differential from the prompt month. Where there are no prices available to base the anchor price on, the exchange will use a theoretical fair value. The calculation for theoretical fair value shall be determined by the exchange and consider factors such as the price of the underlying and time to expiry. The fair value of an option contract will be calculated using the appropriate fair value model.

#### 4.12.2. NON CANCELLATION RANGE (NCR)

The Non Cancellation Range (“NCR”) is a flexible range which market supervision uses to monitor trading. The range is displayed as a number of ticks above or below the anchor price. It is configured at the individual market level. The purpose of NCRs are to identify the range of prices outside of which errors may be considered for cancellation or adjustment. The Error Trade Policy of each exchange provides more information on NCRs and the handling of errors.

#### 4.12.3. DAILY PRICE LIMITS

Daily Price Limits are applicable to some ICE contracts. The maximum daily limit is calculated as a percentage above or below the previous day’s settlement price. Participants can find out whether Daily Price Limits are applicable to a given product by referring to the Product Specifications at ICE Products.

#### 4.12.4. REASONABILITY LIMITS

Reasonability limits are hard limits above or below the anchor price. Orders are not accepted, and in most cases trading is prevented outside of these limits. Reasonability limits will typically be
wider than the NCR, but can be configured to be the same value. ICE does not support reasonability limits per expiry.

For calendar spread orders, the anchor price is used for the primary leg, and the value of the secondary leg is based on the spread price. The exchange will validate the secondary leg price and side against the secondary market reasonability limit. This inherits a 50% reasonability limit since the exchange only validates the secondary leg markets reasonability limit.

**Example:**

**Reasonability Limit for Spread**

- Both markets have an RL band of 1.00
- Leg1 anchor is 50.00, upper band 51.00, lower band 49.00
- Leg2 anchor is 48.00, upper band 49.00, lower band 47.00

- The implied value of spread is 2.00
- The RL band on spread is 3.00/1.00
- And **not** the upper and lower band of the opposite sides of each leg market i.e. **not** upper 51 - 47 = 4 and **not** lower 49 - 49 = 0

Reasonability limits are supported in pre-open and the exchange has the ability to narrow or widen these limits. Reasonability limits for options are based on theoretical price range based on the option premium. The theoretical price is calculated using a product specific options pricing model.

---

reasonability_limit

trades_conducted_in_error_may_be_considered_for_cancellation_or_adjustment

orders_allowed_within_ncr

anchor_price

non_cancellation_range

reasonability_limit

orders_outside_rl_rejected

1

The NCRs and Reasonability Limits for ICE products can be found in the following documents

*ICE Futures Europe*, *ICE Futures U.S.*, *ICE Futures Canada*, *ICE Futures Singapore* and *ICE Endex*.

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1 Reasonability Limit ≥ Non-Cancellation Range
4.12.5. INTERVAL PRICE LIMITS (CIRCUIT BREAKER)

Interval Price Limits ("IPL") will prevent large price movements in one direction within a given period of time. This protects the market from price spikes caused by cascading stops, multiple limit or market orders.

IPLs have upper and lower limits which are reset periodically, not after each trade. If a bid or offer crosses the IPL, it will trigger a market hold. During the hold, the market is prevented from further movement in that direction for a specific period of time. During this time trading is still permitted in the opposite direction. Once the hold comes to an end, a new IPL is calculated and the market can continue in either direction.

Where IPL are triggered the unfilled offending order will be withdrawn from the market. Orders outside the IPL (offending side and price) are rejected during the hold period. Any unfilled elected stops with a limit price outside the IPL will have their limit prices adjusted to the IPL price during the hold period. After the hold period ends, the adjusted elected stop orders will have their original limit prices reinstated. Notifications will be sent to users whose elected stops are adjusted. Notifications are also sent to all market participants when a hold is initiated, the IPL values, and the end of the hold period.

Further information on can be found in ICE Circuit Breakers. A summary of the interval price limits, recalculations times and hold times for each product can be found in documents ICE Futures Europe, ICE Futures U.S., ICE Endex and ICE Singapore.

4.13. SELF-TRADE PREVENTION FUNCTIONALITY (STPF)

Self-Trade Prevention Functionality ("STPF") resides within the ICE trading engine and provides various automated configurations to prevent self-trading of explicit orders entered by the same firm or related firms; under the same Authorized Trader ID or the same account ID; or within the same Authorized Group ID.

Proprietary Traders with direct market access who utilize algorithmic trading applications will be required to utilize STPF to prohibit self-trading under the same Authorized Trader ID, Authorized Group ID or Firm. Proprietary Traders are defined as any entities or individuals who trade for their own account, or their company's account.

Those who are required to utilize STPF cannot opt out or otherwise override the use of the STPF at this level. Furthermore, entities within the scope of the term "Proprietary Trader" are encouraged to utilize the other elements of STPF at a level that is appropriate to the nature of their trading operations and organizational structure if they have not otherwise established their own systems and procedures to preclude self-trading.

The STPF, once set up will apply globally to all ICE markets and ICE Exchanges on which a market participant is active and cannot be varied by Exchange or Market and cannot be turned on and off by Market or Exchange.

Note, while firms and individuals that trade for client accounts, or for managed client money are not required to use the STPF, the functionality is available and may be utilized by all Market Participants.
The functionality can be applied at any of the following levels:

- Authorized Trader ID
- Company ID
- Authorized Group ID
- Account ID

The STPF permits selection of any one of the following actions to occur when the matching engine detects a potential self-trade:

- **Reject Taking Order (RTO)** – If a new incoming bid/offer would result in a self-trade match with a resting offer/bid, the incoming bid/offer (or “Taking Order”) will be automatically rejected.

- **Reject Resting Order (RRO)** – If a new incoming bid/offer would result in a self-trade match with a resting offer/bid, the resting bid/offer (or “Resting Order”) will be automatically cancelled.

- **Reject Both Orders (RBO)** – If a new incoming bid/offer would result in a self-trade match with a resting offer/bid, both the Taking Order and Resting Order will be automatically cancelled.

Please note that STPF will **always reject the taking order** in option markets.

STPF will not prevent the entry of opposing matchable orders, during the Pre-Open period (i.e. when the matching engine is not running). However, at the Open of the market, during the opening uncrossing algorithm, STPF will remove opposing orders using the following approach, if they would result in a self-trade:

- **RRO**: The bid will be withdrawn
- **RTO**: The offer will be withdrawn
- **RBO**: Both orders will be withdrawn

Please refer to the following documents for details specific to each market: [ICE Futures U.S. STPF; ICE Futures Europe STPF Policy and Attachment; ICE Futures Singapore](#).

### 4.14. ICE POST TRADE

WebICE supports Post Trade Allocations on the Exchange for top-day trades in all products that clear at ICE Clear Europe (i.e. IFEU, IFED, IFLL, IFLO, IFLX and NDEX with the exception of short term contracts like dailies and balmo’s).

When a company executes screen trades on the Exchange (via WebICE or API) at the request of another client company, it can now give them up to the specific client company and its clearer via ICE Post Trade. Such companies (once permissioned to give up by their Clearing Firms) are able to use WebICE to allocate their side of the trade to a selected client company and its clearer. In case of trades off of spread markets or strategies, allocations can be done at the leg level without adjusting the price. The client company to which the allocation has been made and its clearer are notified immediately. The client company can view all incoming allocations in WebICE in real time.
The client company (if permissioned by its Clearing Firm to take-up) also has the ability to accept/reject allocations in WebICE. The client’s Clearing Firm has the ability to enable “auto-acceptance” of allocations coming in from specific give-up companies.

As a pre-requisite, companies need to be permissioned by their Clearing Firms using the ‘Post Trade Permissions’ tab in Clearing Admin. Users under those companies can thereafter be permissioned by the company risk managers or super users in Credit Management. Once the permissions are set up, eligible trades can be given up using ‘New Cleared Fills Tab’ (right-click Deals tab). Allocations generated using ICE Post Trade are available for client companies under the ‘New Allocated To Me Tab’ (right-click Deals tab). Once an ICE Post Trade generated allocation is successfully claimed by the client company (Exchange) or its clearer (ICE Clear), it is added as a record to the accepting client company’s WebICE Deal Book labeled as an ‘allocation’.

Actions taken by the Clearing Firm in ICE Clear on any ICE Post Trade generated allocations are alerted to the Exchange. All standard/existing functionality remains available to ICE Clear users including the ability to cancel, reverse or correct any action initiated in ICE Post Trade.

4.14.1. ICE POST TRADE VIA EXCHANGE APIS

If an ICE Post Trade (WebICE) generated allocation is accepted in any way (in Exchange or ICE Clear), the acceptance of the allocation and any subsequent events like trade bust, allocation reversal, etc. will be reported via the “allocation message” over FIX Trade Capture and FIX Private Order Feed to the:

- Give-up/ executing company
- Give-up company’s Clearing Firm
- Take-up client company
- Take-up client company’s Clearing Firm

Any of these companies have the ability to opt into or out of such messages via the custom tag 9008 (PublishClearingAllocations). Ability to opt in, i.e. PublishClearingAllocations = 1 will only be supported with StrategyPreference (Tag 9006) = 1.

Allocation messages will not be supported on history/snapshot download at this time. Allocations that are pending claim or rejected allocations will not be published over FIX TC or POF API.

5. RISK MANAGEMENT

5.1. PRODUCT LIMITS

ICE offers two types of clearing account, Locally Managed Accounts ("LMA") and System Managed Accounts ("SMA"). Exchange level pre-trade risk management checks are only available when an SMA is used.
• **Locally Managed Account (LMA)** – This type of clearing account is available where a participant is locally managing their pre-trade risk and does not wish to make use of the exchange level pre-trade risk management. There are no exchange enforced pre-trade risk checks for participants using LMAs. LMAs are administered by ICE User Administration. The assignment of an LMA will allow trades to route to the default clearer of the trading company.

• **System Managed Account (SMA)** – SMAs allow for pre-trade risk limits to be applied to a clearing account on an individual product basis. The limits are lot based and will be reset at the end of the trading session. SMAs are administered by a clearing firm. Accounts are assigned to a single company. Accounts can be shared by multiple traders within a company. A single trader could also map his Trader ID to multiple SMAs from multiple clearing firms.

Clearing accounts need to be linked to a membership RIM. Users will not be able to trade until this link is established.

A trading participant will have access to ICE Credit Management. This tool can be used to request SMAs from their clearing firm. Following the request from the trading client, the clearing firm will receive the account request in ICE Clearing Administration. The ICE Clearing Administration application is used by Clearing Members to create and manage clearing accounts to enforce pre-trade risk limit checks on FIX Trader IDs. Once an SMA has been set up by the clearing firm the trading client can assign the account to their FIX Trader IDs and/or WebICE IDs in ICE Credit Management. When a client routes an order they must send their account ID along with the clearing firm ID. Further information on these platforms can be found in Section 5.4.

A clearing member can assign a combination of eight values to each product in order to regulate trading. All values are enforced for a single trading day for the product:

• **Bid/Offer** – The maximum number of lots a user can bid/offer on order entry. For spreads this is the maximum individual order size for spread orders allowed per product.

• **Spread Bid/Spread Offer** – The maximum number of lots a user can bid or offer on a spread or UDS for an outright Future, OTC or Option contract. For example, if the Bid/Offer limit is 50, but the spread Bid/Offer limit is 100 in Brent Futures, a bid is rejected above 50 lots, but a Spread is permitted up to 100 lots. Inter Commodity Spread limits will utilize the Spread Bid and Offer per order.

• **Long/Short** – The maximum number of lots the net position can go long or short. Outright buys and sells, as well as intra-commodity spreads, are netted across all contracts when determining a product’s net position.

• **Absolute Long/Short** – Only applicable to futures products. This is the sum of open positions for all markets in a given product. These limits are optional.

Users should note that updating account limits intraday, to an existing account that has orders in the market, will remove ALL active orders associated to the account.

### 5.2. MARGIN LIMITS (OPTIONAL FOR CLEARERS)

Clearers may set a Limit Margin amount on SMAs for Futures positions only which performs a risk calculation on the position to produce an Initial Margin figure. Clearer may set a default
currency of USD, GBP or EUR for the SMA for margins. After each transaction an entire position for the SMA will be sent to the ICE® Risk Model. The resulting Initial Margin is subtracted from the Limit Margin to produce an Available remaining margin amount. Profit and Loss (“PnL”) also figures into the available margin amount. There are configurable alerts for clearers as Available Margin levels are reduced.

The Position Keeper also gives the Clearer and Risk teams the ability to view real-time margin levels for each SMA and provides additional alerting within this application. All values below are visible in Position Keeper.

The margin formula is:

$$\text{Available Margin} = \text{Limit Margin} - \text{Initial Margin} + \text{PnL}$$

<table>
<thead>
<tr>
<th><strong>Limit Margin</strong></th>
<th>This is the configured amount on Account as set by the Clearer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CCY</strong></td>
<td>Default currency configured on Account for Margins. Choices are: USD, EUR or GBP</td>
</tr>
<tr>
<td><strong>Initial Margin</strong></td>
<td>This is the result of submitted position to the ICE® Risk Model. Position offsets and spread credits are used for positions. Positions on Accounts are submitted to the ICE® Risk Model after each transaction on the platform.</td>
</tr>
<tr>
<td><strong>PnL</strong></td>
<td>This is the Profit/Loss amount for the specific Account. PnL factors into Available margin</td>
</tr>
<tr>
<td><strong>Available Margin</strong></td>
<td>This is how much money is available after positions and PnL on the position has been calculated.</td>
</tr>
<tr>
<td><strong>% Used</strong></td>
<td>This shows how much % of Limit margin has been used. % Used displays red the more the margin is used.</td>
</tr>
</tbody>
</table>

When an SMA breaches the 100% used of Limit Margin the account will be automatically suspended, resulting in withdrawing of any existing working DAY or GTC orders and prevent new order entry, until clearer works out Limit Margin settings and un-suspends the account.

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2 Position includes Futures monthly, quarterly, yearly, season strips, spreads (both inter and intra product), User defined Futures fly and condors and TAS/marketer transactions. Dailies and Option (and Option Strategies) are not supported at this time. Also, margins does not do pre-trade (order) validations against available margin in the SMA.
5.3. CREDIT MANAGEMENT

Credit Management is a facility which was initially provided as a means for ICE participants to set up and manage the type and degree of credit it extends to its counterparties on a commodity-by-commodity basis. The facility can be used to manage credit settings for both bilateral and cleared credit.

A user is presented with the following tabs once they have logged in to Credit Management:

- **ATMS** – The Authorized Trade Management System allows the ICE Administrator to register and manage the details of authorized traders placing orders via a FIX trade session for those authorized traders for whom registration in ATMS is required pursuant to exchange rules.
- **OTC Credit** – All Bilateral counterparty and “Clearing Preference” settings are set in this tab by the risk manager.
- **Clearing** – Clearing account associations to user IDs are done in this tab by the Risk Manager. They can also view clearing limits and broker permissions for the company that have been set by the Clearing Firm. The brokers permissioned for the company can enter off-order book trades on behalf of the company through ICE Block.
- **Settlements** – Outright and options settlement prices to markets that your company has access to.

A market participant would use the options found within the Clearing tab to setup clearing relationships with clearing firms before they can trade listed futures and options. Within this tab a user can do the following:

- Establish a clearing relationship with a clearing member
- Make an Account Request to an established clearing member
- View all active users from trading firm
- View all clearing accounts that are available to be linked to User IDs
- Establish links between clearing accounts and User IDs

Further information on the Credit Management interface can be found in the [ICE Credit Management Guide](#).

5.4. CLEARING ADMINISTRATION

Clearing Admin is used by clearing firms to create and manage accounts for trading listed derivative products on ICE. Participants can initiate contact with the clearing firm by requesting an account using Credit Management. Please note, an account request is not required to create an account for a participant. A clearing member can create an account at any time.

The exchange requires that the clearing firm provides an account ID and various other account attributes, add products to the account, and establish limits for order entry and maximum net positions for products. Once this is complete, the participant can assign the account to traders who can begin using the account to enter clearable orders on the exchange.
Clearing Admin also allows clearing firms to monitor and track a participant’s cleared trading activity. The Trading Activity Report offered in the Clearing Admin is a real-time account management tool that allows clearing firms to pull real-time queries regarding a participant’s cleared trades. This feature allows clearing firms the ability to monitor participant’s accounts throughout the day. In addition, the Settlement Report is available to users to query settlement prices and specific market information for cleared products traded on the exchange. Both historical and current day information is available by selecting the trade date from the menu. These reports can be exported.

Further information on Clearing Admin can be found in ICE Clearing Administration Guide.

5.5. RISK MANAGER TOOLS

A Risk Manager can suspend a clearing account. Please note, suspending a clearing account will pull all active orders associated with that clearing account, this includes day orders and GTCs. This would include orders placed by all Trader IDs mapped to the clearing account. Alternatively ACE can be used to pull orders placed by a specific Trader ID without impacting orders from other Trader IDs mapped to the clearing account.

Risk Managers can setup email notifications which are sent out whenever a limit is broken. Additionally they can setup notifications for any changes that are made to SMAs. The Risk Manager’s Log provides a record and audit trail of all activity undertaken by the Risk Manager.

5.6. ACE

ACE is a web application for risk managers or company administrators to view active orders and deals within their company(s). The order and deal searches provide ability to search by specific criteria, as well as functionality to withdraw orders and log off users on the trading platform within their company.

There are two varieties of ACE available, one for trading members, and one for clearing members. Clearers gain the additional benefit of viewing active orders and deals within the companies they administer clearing accounts for.

The following functionality is available to users in ACE:

- Search for active orders or deals by company, user ID, clearing account, order/deal ID or OnBehalfOfSubID
- Search for deals for all companies by product, strip, trade type, qty/price up to 5 days prior
- Withdraw order(s)
- View logged in users
- Log off users
- Export order and deal information to csv

Further information on ACE can be found in the ACE User Guide and the ACE Clearing Admin User Guide.
5.7. POSITION KEEPER

Clearing Firm Administrators, Trading Firm Risk Managers and Traders can utilize the Position Keeper standalone application (or the imbedded version within WebICE) to view positions and PnL in real-time for positions resulting from the trading platform.

The following functionality is available in Position Keeper:

- Sort, group Positions and PnL by a large number of criteria settings
  - Company
  - Account
  - Product
  - Users
  - Memo and more…
- Real time positions and PnL
- Convert PnL to USD, EUR or GBP
- Toggle view to see Spread Positions (positions from Spread transactions)
- Manual position entry - Optional feature
  - User - scratch pad
  - Clearer - submit manual positions for real time position and PnL tracking
  - Supports a bulk upload of positions
- Start of Day (SMA) - Optional feature
  - Feature to carry positions forward from previous day(s) automatically
  - Clearer choice to have S.O.D. position update trading lot limits
- View positions in any combination (top day, manual, start of day)
- View margin amounts and real-time alerts for SMA - Optional feature
- Ability to export position data

Further information about Position Keeper can be found in the Position Keeper User Guide.

5.8. FIX RISK MANAGEMENT API

The FIX Risk Management API provides the ability for clients to integrate their own solutions to the platform to support pre-trade risk management features. Using this API, clients can retrieve and manage existing accounts and limits, as well as set up new accounts.

The key benefits of the Risk Management API include:

- Clearing account creation, modification and downloading per participant using an API to give firms more flexibility and control on implementation options
- Static data download – participant companies, users/traders, mnemonics and market information
- Real-time updates via the API for any changes done via Clearing Admin GUI/website
- Assigning and un-assigning clearing accounts to a user
6. MARKET MAKING

A market maker facilitates trading within certain contracts. They undertake the risk associated with holding a given volume of certain contracts on their books, which in turn allows them to compete for member order flow by displaying buy and sell quotations for guaranteed volumes. Upon receiving an order, the market maker can immediately fill this order and carry out an offsetting order which leaves them flat.

Market makers can use Mass Quote messages in Options markets. A Mass Quote allows a user to submit multiple quotes for different option instruments within the same product of the same market type.

6.1. MASS QUOTE MESSAGES

The following list describes how a mass quote message should be constructed.

- The Mass Quote message should contain only one quote per instrument. If multiple quotes per instrument are sent, then the first one will be used and the subsequent ones will be rejected.
- Mass Quotes must be submitted by a Trader ID that has an associated system managed account (SMA).
- Only one system managed account should be assigned for the Trader ID that will be sending Mass Quotes.
- Only Mass Quotes should be sent on a Trader ID that was specifically set up for sending Mass Quotes. Regular orders should be sent using a different Trader ID.
- If sending a Mass Quote for a UDS, please note that the Underlying Symbol should be the Market ID of the first leg in the UDS.
- Mass Quotes are only supported for Options at this time.
- Each quote will be processed individually in the order that it is listed within the Mass Quote message.
- For each quote, bids will be processed first then offers. Quotes with a zero quantity will be treated as a cancel for an existing quote.
- If risk protection is triggered by a quote within the Mass Quote message, then the remaining quotes in the message will be rejected.

ICE supports mass quote cancellations per product as well as by market type. For example, to cancel by market type would allow a user to cancel orders in all products within the Liffe Equity Derivatives – US Based market type. Using the cancellation by product feature however, would allow them to instead make a cancellation on a more granular level by cancelling all Vodafone Equity Options.
6.2. MARKET MAKER PROTECTION

The purpose of the risk protection feature is to reduce the risk of a user being hit on multiple series as the underlying market moves. When options risk protection is triggered, all of the user’s options orders and mass quotes in that product will be pulled from the market. Users will not be allowed to submit any more options orders or mass quotes in the product until the cool off time has elapsed. Users have the option of resetting the cool off time early via a flag on the mass quote message.

Please note this functionality is available in addition to the existing pre-trade risk functionality.

Each risk protection setting is based on user login and the product being traded. There are four risk protection parameters:

- **Enabled/Disabled** – Turn the feature on and off (default will be off).
- **Contract Size** – This is a numeric field defined as number of aggregate contracts traded in the market in the specified time frame. Default will be 100.
- **Timeframe** – Number of milliseconds in a rolling window where if the number of contracts is exceeded, the market maker orders will be cancelled. Default is 10 seconds.
- **Rejection Duration** – Number of milliseconds after risk management has been activated that inbound orders will be rejected by the system. This feature is to ensure that in-flight orders are not processed until the firm has a chance to react after the risk management has been triggered. Default is 5 seconds.

The market maker risk protection should be configured by the risk manager at the trading firm, not the clearing firm.

6.3. MARKET MAKER CUMULATIVE % PROTECTION

The purpose of this risk protection feature is to reduce the risk of a Market Maker being hit on multiple series as the underlying market moves. The protection applies across all option series for a given product. This risk feature will function much like the volume protection offered by ICE with the addition of the calculation of the trigger condition (cumulative percentage rather than cumulative volume).

Each risk protection setting is based upon the user login and the product being traded (clients can set these parameters via the Credit Management GUI). There will be four risk protection parameters available:

- **Enabled/Disabled** – Turn the feature on and off.
- **Cumulative % Size** – This is the numeric field defined as a percentage of aggregate contracts traded in the market in the specified timeframe.
- **Timeframe** – Number of milliseconds in a rolling window where if the cumulative percentage volume is exceeded, the market maker orders will be cancelled.
- **Rejection Duration** – Number of milliseconds after risk management has been activated that inbound orders will be rejected by the system. This feature is to ensure that in-flight orders are not processed until the firm has a chance to react after the risk management has been triggered.
The cumulative percentage protection check is performed as follows, immediately after a quote has traded:

- Determine the base quote volume for the percentage calculation – this is the volume of the market makers quote in this instrument, on the side which has traded (bid or ask), when it was last submitted or revised.
- Calculate percentage for this trade = (trade volume) / (base quote volume).
- Calculate the start of the rolling window as (n) milliseconds before the current time.
- Calculate cumulative percentage for the product, across all instruments within the rolling window:
  - Cumulative percentage = the sum of the calculated percentages for all trades in the product, since the start of the window.
  - This is the gross volume (buy percentage plus sell percentage).
- Compare cumulative percentage to the configured cumulative percentage limit and invoke risk protection if the percentage is greater than or equal to the limit.

Further information on market making options within the LIFFE silo of ICE Futures Europe can be found in Market Making LIFFE Options Products.

### 6.4. MARKET MAKER NET DELTA ADJUSTED FUTURES VOLUME PROTECTION (DELTA THRESHOLD)

The purpose of this risk protection feature is to calculate the net delta adjusted futures volume during a specific time threshold of trading. The protection applies across all option series for a given product. This risk feature will function differently than Volume and Cum % in that it calculates the net delta adjusted futures volume within a time frame and validates that against the configured delta volume value. System uses the delta on each option transaction combined with the side, size and option type to determine a net.

Each risk protection setting is based upon the user login and the product being traded (clients can set these parameters via the Credit Management GUI). There will be four risk protection parameters available:

- **Enabled/Disabled** – Turn the feature on and off.
- **Delta Threshold** – This is the numeric field defined as the total net delta adjusted futures volume tolerance for a given period.
- **Timeframe** – Number of milliseconds in a rolling window where if the delta threshold is exceeded, the market maker orders will be cancelled.
- **Rejection Duration** – Number of milliseconds after risk management has been activated that inbound orders will be rejected by the system. This feature is to ensure that in-flight orders are not processed until the firm has a chance to react after the risk management has been triggered.

### 7. CLEARING
ICE’s clearing houses stand in the middle of each trade and act as the central counterparty. ICE’s end-to-end solutions, from pre-trade credit checks to post-trade reporting solutions are designed to integrate with a user’s trading and risk management workflow.

7.1. CLEARING HOUSES

- **ICE Clear U.S.** – Established in 1915 as the New York Cotton Exchange Clearing Association, ICE Clear U.S. continues to build on a century of providing secure, capital-efficient counterparty risk management and post-trade services for ICE Futures U.S. agricultural, metals, currency, credit and equity index futures and options contracts.
- **ICE Clear Europe** – ICE Clear Europe was established in 2008 to provide central counterparty clearing services for ICE’s global energy markets. Today ICE Clear Europe provides secure, capital efficient clearing, risk management and physical delivery services for four ICE markets across interest rate, equity index, agricultural and energy derivatives, as well as European credit default swaps (CDS).
- **ICE Clear Singapore** – ICE Clear Singapore provides safe and efficient clearing services for Asian financial and commodity markets. ICE Clear Singapore operates as an approved clearing house under the supervision of the Monetary Authority of Singapore.
- **ICE Clear Netherlands** – ICE Clear Netherlands offers secure and capital-efficient clearing services for European equity derivatives products. It operates under the Dutch regulatory system. The Dutch Central Bank (DNB) and the Netherlands Authority for the Financial Markets (AFM) regulate ICE Clear Netherlands.

7.2. MEMBERSHIP

In order to become an ICE clearing member, firms must meet a series of tailored requirements to ensure that they are suitable to act as clearing members in those products. This includes amongst other things holding sufficient capital; being party to a Clearing Membership Agreement; holding all necessary regulatory authorisations, licenses, permissions and approvals; it and its directors and officers being fit and proper; having appropriate technical and operational systems and controls; having appropriate business continuity procedures; being able to meet margin requirements; having contributed to the Guaranty Fund as appropriate; and not being subject to insolvency or other event of default.

7.3. TECHNOLOGY

ICE Clear has a suite of clearing systems that support all trades executed on the Exchanges. The clearing systems consist of the following integrated systems:

- **Post Trade Management System (PTMS)** – Allows trade review, assignment, updating of trade details, next-day corrections, position transfers and average-price trade processing. Trades that are of the same type, date, commodity, contract period and side (buy or sell) can be grouped together via the Average Price functionality within PTMS or via the FIXML API. Once grouped, an average price is calculated to 7 decimal places plus a residual price per lot. PTMS/FIXML API allows the average price to be overwritten within a reasonability level.
- **Allocation and Claim Transaction System (ACT)** – ACT is a web-based application used to support give-up and claim processing. The Member submits an executed transaction for give-up into the system, either by marking the trade for give-up through
PTMS or via FIXML give-up API messages through use of a Member’s middle office system (Allocating Member). Once a trade has been marked for give-up it appears in ACT where the Allocating Member can manage the give-up process for each transaction. Once a give-up has been allocated, the opposite member can, after reviewing the transaction in detail, claim or reject the transaction (Claiming Member). If a give-up has not been claimed, the Allocating Member has the ability to delete the give-up request and process the trade again.

- **Extensible Clearing System (ECS)** – The Extensible Clearing System (ECS) is the treasury management and position keeping element of the clearing systems. It facilitates the following:
  - The generation and settlement of intraday and overnight margin calls. Margin may be gross or net depending on the position account utilized. Gross margin calculations are facilitated through the use of the Gross Customer Margin files (GCM)
  - The management of member and Clearinghouse collateral balances
  - Position Change Submission (PCS; also known as ‘close-outs’)
  - Position account summaries
  - Option exercise and expiration processing
  - Intraday contract expires
  - Creation of banking and clearing reports

- **Managed File Transfer System (MFT)** - The MFT (Managed File Transfer) service is a member interface that provides access to the reports and data published by the clearing houses. It is also the service that members use to send important data including regulatory reports, GCM and PCS submissions.

- **SWIFT** – ICE communicates with its payment banks by using the SWIFT communications network and standard form payment messages, which facilitates a high degree of straight-through-processing to the payment bank providers.

- **Delivery and Billing systems.** These systems form part of the suite of the Clearing systems. From a member perspective the interface is dominantly through the reports which are made available via MFT.

### 7.4. MARGIN

Throughout the trading day our clearing houses monitor the positions and market exposure of each clearing member to ensure that there are enough funds on deposit to cover their risk. This is done through real-time profit and loss calculations using up-to-date pricing and position monitoring. Our margin requirements are risk based and regularly reviewed.

- **Original Margin** – We collect original margin, also known as initial margin, for all open positions based on a risk model that takes into account a broad range of stress and / or historically observed scenarios. The amount of original margin required is driven by the historical price fluctuations for the given contract. Original margin is calculated to cover the largest theoretical loss a clearing member could incur in a specified, market-specific risk horizon based on historical market prices and their volatility. In general, more volatility in the price requires the need for additional margin. The margin requirement for each contract is regularly adjusted in line with changes in market volatility. Products that correlate from a price perspective and result in offsetting risk are eligible for margin reductions. These margin requirements are re-calculated following the close of each business day, separately for house and each segregated account, which can be omnibus.
net or gross client accounts or individually segregated accounts. The margin calculation currently utilises ICE® Risk Model.

- **Variation Margin** – All positions are marked-to-market on a daily basis in order to ensure adequate margin. End-of-day variation payments are typically due the following business day.
- **Intraday Margin** – Member positions are monitored intra-day, with additional collateral called intra-day where variation margin losses and / or original margin requirements increase breaching predefined thresholds.
- **Guaranty Fund** – In order to ensure that ICE Clearing houses have sufficient capital as one of the world's leading cross-asset clearing houses, ICE Clear has established a mutualized guaranty fund which is based on stress testing results. The Guaranty fund is calibrated to be sufficient to cover the potential cost of the simultaneous default of one or two Member groups to which the Clearing House has the largest exposure to, under extreme but plausible scenarios. In addition, Powers of Assessment can be used by ICE Clear in addition to the Guaranty Fund.
- **Back-Testing** – We conduct daily back-testing in order to ensure the adequacy of our margin requirements. This includes verifying that losses on a per product basis are consistent with our projections and that our calculations meet a confidence level of 99%. Additionally, we conduct sensitivity analysis on a regular basis that tests our margin methodologies under a wide range of volatility circumstances.

Further details on margin requirements for each clearing house can be found at [ICE Clear Margins](#).

### 7.5. POSITION RISK LIMITS

Limits can be established to restrict the size of the total positions that can be carried by each clearing member. If a clearing member exceeds their limit, a margin surcharge is levied. Clearing houses can increase or reduce a clearing member’s position limits as warranted by circumstances.

Further details on clearing can be found in [How Clearing Works](#).
8. TESTING AND CONFORMANCE

In order to safeguard the integrity of the market place, ICE Futures requires all software that interfaces with the various ICE APIs to have been certified as conformant before allowing that product access to the trading system. Before any ISV can offer a trading application to their clients, or any participant can use an in-house equivalent they must adhere to the conformance test strategy and execute the necessary conformance steps.

Conformance testing is vital for determining whether an ISV or participants proprietary software application will interact correctly with ICE markets prior to accessing the live production environment. Non-conformed software will not be provided access to the trading system.

Testing is carried out in test environments for all new applications and for major upgrades of the trading interfaces. ISVs and participants are also required to conform when software has functionally changed following a prior certification. The primary aim of the exchange is to protect the integrity of ICE markets for trading members and to provide a basic level of testing that minimizes the possibility of product failure. While the exchange offers a basic conformance test, all firms integrating to the platform are expected to thoroughly test their applications independent of the conformance process.

8.1. TEST ENVIRONMENTS

- **Demo**
  - Used for demonstrations of ICE systems.

- **Performance Test**
  - Managed by Conformance Support team.
  - Environment will be used primarily for volume testing with limited front end testing.
  - Replay tool will play back production loadings plus 50% against which a member or ISV would operate.

- **API Test**
  - All Trading Platform API Integration testing for customers happens in this environment.
  - Managed by Conformance Support team.
  - Front end testing only.

- **UT1**
  - Managed by Clearing Support team.
  - End to end testing supported.
8.2. TEST AND CONFORMANCE SERVICES

ICE provides a range of services to assist in gaining software certification access to its live production environment.

- **ICE Community** – ICE Community is the online repository of all things ICE. ISVs and member firms should use the ICE Community space to find various documentation, updates and other necessary information during the development and maintenance process.
- **ICE Client Integration Support** – Email integrate@theice.com to log support tickets. This system is used for test support. Real time production technical support issues should be escalated to our 24 hour help desk (support@theice.com or (770)738-2101).

For any conformance related queries and to book conformance slots for developed applications please contact ICE Conformance Support. Queries specific to the UT1 environment should be sent to ICE Clear Test Support.
9. SUPPORT AND RESOURCES

The ICE Help Desk should be a user’s first point of contact for general issues. The desk consists of trading and technical support teams who operate 24 hours a day each trading day. The desk serves as a key resource for market participants providing timely and accurate responses to administrative, trading and technical inquires. The help desk’s contact details can be found at ICE Help Desk.

The ICE Subscription Centre allows users to self-subscribe to various types of alerts and notice sent out by ICE. These range from trading and clearing systems alerts to trading and clearing house circulars. For the full list of subscriptions available please visit the ICE Subscription Centre.

Users can use the Trader Dashboard where they will find a number of guidance documents and video demonstrations on ICE Technology.

Further information on how to contact ICE can be found at ICE Contact Us.
10. ICE DATA

Users can obtain access to ICE market data via ICE Data. ICE Data provides a range of free market data as well as giving users the option to purchase other forms of data. Users will need to register in order to access the data.

Once a user has registered their details with ICE, they will be sent a validation email. Once received, it is necessary to click on the link in order to activate the login. If a user does not activate their login they will be unable to access ICE Data. Once activated, their login will enable them to access various areas of the ICE Data website, including daily Futures and Options End of Day and download facilities for historical end of day or tick data.

The free content available on ICE Data includes:

- ICE Futures US, ICE Futures Europe, ICE Futures Singapore, and ICE Futures Endex End of Day reports with date picker
- ICE Futures US, ICE Futures Europe, and ICE Futures Endex Options End of Day reports for electronic markets with date picker
- Historical futures data via downloadable CSV files
- Delayed data for all current electronic Futures and Options markets, excluding Flex product data
- Futures and Options settlement price access on day of calculation

Please note the ICE Data site is exclusive of all S2F data.

10.1. END OF DAY DATA

Once logged in users can reach end of day data by selecting “My Account” and then “My Files” in the menu on the right hand side of the page. End of day data is selectable for each product.

- EOD Futures (1 Packages purchased)
- EOD Options (1 Packages purchased)
- Level1 Futures (1 Packages purchased)
- Index and Markers (1 Packages purchased)
- Metadata
- Products

Selecting “EOD Futures” or “EOD Options” will expand to give the user a list of ICE products available alphabetically.
Selecting “Download Product” will download all available history for a particular product. Depending on the product, the data set may be too large to download the full product history. If a user is interested in a specific year they should click on the name of the product which will expand to provide a list of years the history is available for. The historic data is delivered in a CSV format.

Furthermore, each product is split by trading instrument i.e. TIC, TAS, MM etc.

Users should note that historic data for LIFFE products is not available prior to the migration of the product groups to ICE Futures Europe.
11. NETWORK CONNECTIVITY

ICE offers a number of fast, reliable and cost-efficient alternatives for accessing their futures markets. Providing multiple options allows ICE customers the ability to tailor network connectivity choices to their trading and business requirements. The following connectivity options are available to all ICE participants:

1. Internet Connectivity
2. ICE Hub Chicago (Standard & LCN)
3. Secure Financial Transaction Infrastructure (SFTI / SFTI Plus)
4. Basildon European Colocation (LCN)
5. ICE US Colocation (Standard & LCN)

Managed Service Provider Connectivity

ICE operates a global network of data centres and hubs. Regardless of the point at which a client connects to the ICE Global Network, all connections are routed to the appropriate active ICE Data Centre.

All ICE markets, excluding ICE Futures Europe’s Interest Rate and Equity Derivatives, are hosted in the Chicago Data Centre. Interest Rate and Equity Derivatives are hosted in the Basildon Data Centre. Atlanta is the secondary data centre for all markets.
11.1. INTERNET CONNECTIVITY

Incorporates existing Internet connectivity to access ICE:

- Allows clients to manage existing connectivity and equipment
- Encrypted data messaging using 128-bit SSL
- Available from any Internet access point in the world
- Available for ISV vendors
- No additional cost or access charges
- Client is responsible for any fees charged by their chosen Internet service provider

11.2. ICE HUB

Set up direct and telco-managed ethernet connections to ICE systems via ICE’s regional network connection hubs in Atlanta, Chicago and Singapore.

- Each hub location is connected to the ICE Data centres via a carrier diverse network
- Provides customers the opportunity to set up direct connections to ICE via an ethernet handoff
- Cost-effective option for primary and/or redundant connections to ICE
- Customer is responsible for acquiring/extend connectivity to the "meet me room" (MMR) at the ICE Hub location
- Customers with facilities in the same building may be connected via an ethernet cross connect
- Carrier diversity available to the ICE Hub is available
- Customer contracts directly with their preferred data circuit provider
- Customer is responsible for all telecom installation and monthly recurring fees with the provider of their choice
- ICE monthly connection and installation fees apply

11.3. SECURE FINANCIAL TRANSACTION INFRASTRUCTURE (SFTI)

SFTI is a highly resilient private network that provides a dedicated connection to securely route orders to ICE Futures markets and a host of other leading liquidity venues across the globe. A single SFTI connection can additionally offer streamlined access to market data, clearing and other trading services from a range of third party exchanges and service providers.

- A single connection for multi-market access
- Access to over 140 leading Equities, Options, Futures, Fixed Income and FX venues and trading services
- Low risk, turn-key direct market access to test a new trading strategy
- Rapid time to market for expansion to new asset classes and global venues
- Dedicated network for capital markets that evolves with the regulatory environment

SFTI offers secure managed or unmanaged connectivity at any of the 24 SFTI Access Centres across the US and Europe including our highly resilient Data Centres in Mahwah and Basildon.
Firms can provision ports ranging from 100Mb to 10 GB depending on their individual requirements.

The redundant SFTI Network infrastructure provides resiliency through physically diverse links that run on industry leading hardware and management platforms. SFTI achieves true redundancy by operating two geographically diverse networks, managing the network backbones on behalf of clients.

SFTI Plus extends the highly resilient core of SFTI to locations in Asia, Canada and Europe.

11.4. BASILDON EUROPEAN COLOCATION

Host equipment within the Basildon European Liquidity Centre and connect to the market platforms hosted in the same facility, cross-connecting through the low latency Liquidity Centre Network (LCN).

- Ability to co-locate servers and other infrastructure on-site with the ICE trading system
- Facility is owned and managed by ICE, built exclusively for capital markets to Tier IV data centre specification
- Eliminate latency from WAN/customer LAN connectivity for efficient algo-driven trading and market making, and optimised low-latency strategies
- Range of colocation and connectivity options allows customers to tailor their footprint based on their requirements and budget

The Basildon facility is owned and operated by ICE with dedicated staff available 24/7 to support ICE customers’ installations and remote hands requests. A range of colocation options is available from entry-level bundled “micro-colo” packages of rack space and connectivity, to 4kW and 9kW rack options. Connectivity to the markets through LCN is available at 1Gbps or 10Gbps speeds, and external connectivity for access to customer’s equipment is available through the SFTI network or through carrier circuits.

11.5. ICE US COLOCATION

Host equipment and order ethernet cross-connections to directly connect to the ICE trading system:

- Provides customers the opportunity to host equipment (collocate servers and other infrastructure) and have ethernet connectivity directly to the ICE trading system
  - Connections can be standard or use the low latency Liquidity Center Network (LCN)
- Provides auto-execution and algorithmic engines to operate without latency introduced by long-distance connections
- ICE provides and maintains all facilities relationships (power, cooling, etc.)
- Ability to co-locate servers and other infrastructure on-site with the ICE trading system
- Range of colocation and connectivity options allows customers to tailor their footprint based on their requirements and budget
Chicago Colocation is owned and operated by ICE and provides greater flexibility for high density powered cabinets, custom installations, as well as a larger pool of data line connection vendors. All connections from colocation space will traverse ICE equipment and fibre to the ICE Exchange.

11.6. MANAGED SERVICE PROVIDER CONNECTIVITY

Choose from ICE preferred providers to connect to the ICE trading system:

- Gives customers the opportunity to choose from services providers that maintain connections to the ICE trading system
- Cost-effective option for primary or redundant connections to the ICE Exchange
- Leverage existing connections to Managed Service Providers
- Providers connect at various ICE data centre, ICE Hub and SFTI Access Centre locations
- Carrier diversity

For more information on connectivity models offered please visit [ICE Connectivity Models](#).
12. DISASTER RECOVERY

When Disaster Recovery (DR) is invoked users should continue connecting to the primary cluster unless directed otherwise by the exchange. In a DR situation the exchange will failover to the secondary data centre in Atlanta.

13. TRADING RULES AND PROCEDURES

ICE works with regulators and policy makers around the world to ensure supervision, compliance and reliable operation of markets. As a catalyst in the development of transparent, global markets, ICE works proactively to maintain the confidence of participants and the integrity of markets.

The rules and regulations which apply to each futures exchange can be found by visiting the following: ICE Futures U.S. Regulation, ICE Futures Europe Regulation, ICE Futures Singapore Regulation, and ICE Endex Regulation.

Any changes to the rules and regulations will be announced via exchange circulars. Users can check whether they're subscribed to receive the relevant circulars by visiting the ICE Subscription Center.
## 14. GLOSSARY

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
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</thead>
<tbody>
<tr>
<td>ACE</td>
<td>ACE is a web application for risk managers or company administrators to view active orders and deals within their company(s).</td>
</tr>
<tr>
<td>Anchor Price</td>
<td>Each ICE market has an anchor price or market value that is managed throughout the trading session. Where futures are driven by the market price, trades in the prompt month (see Prompt Month) drive the anchor prices, and each trailing month(s) is managed with a spread differential from the prompt month. Where there are no prices available to base the anchor price on, the exchange will use a theoretical fair value.</td>
</tr>
<tr>
<td>Application Program Interface (API)</td>
<td>Software that allows a front end trading application to communicate with the ICE Trading Platform.</td>
</tr>
<tr>
<td>Authorized Trader Management System (ATMS)</td>
<td>The Authorized Trade Management System allows the company’s User Administrator to register and manage the details of authorized traders placing orders via a FIX trade session.</td>
</tr>
<tr>
<td>Back Months</td>
<td>The contract months with more distant delivery or expirations than the front or prompt month.</td>
</tr>
<tr>
<td>Basis</td>
<td>The difference between the price of a futures contract and the 'futures-equivalent' price of the underlying instrument (the 'cash' price). This is normally quoted as the 'cash' price minus the futures price. Thus, a positive basis indicates that the futures contract is trading at a 'discount' and a negative basis indicates that the futures contract is trading at a 'premium.'</td>
</tr>
<tr>
<td>Basis Trades</td>
<td>Trade types that incorporate a futures leg and an underlying bond (or cash) leg. Orders must contain the trade volume and the price of both the futures leg and the cash leg, and must include the necessary reference fields to id.</td>
</tr>
<tr>
<td>Best Bid and Offer (BBO)</td>
<td>The Best Bid and Offer in a market for an individual instrument.</td>
</tr>
<tr>
<td>Bid Price</td>
<td>The price at which a trader or market maker is willing to buy an instrument. See also...</td>
</tr>
<tr>
<td><strong>Block Trades</strong></td>
<td>Offer/Ask price. High volume trades in any outright or strategy market conducted outside the central order book. Each block trade submission must contain both the buy and sell side details and include the trade price and volume. Additionally, the total strategy price must be reported for strategy block trades.</td>
</tr>
<tr>
<td><strong>Broker</strong></td>
<td>A firm or individual that acts on behalf of another.</td>
</tr>
<tr>
<td><strong>Bundle</strong></td>
<td>A series of N contracts at quarterly consecutive delivery dates (first quarterly must be the nearest one). There are five different maturities available: 2 years (8 legs), 3 years (12 legs), 4 years (16 legs), 5 years (20 legs) and 6 years (24 legs).</td>
</tr>
<tr>
<td><strong>Butterfly</strong></td>
<td>A strategy formed of four contracts in a ratio of 1:2:1 i.e. Buy (A), Sell 2x (B), Buy (C)</td>
</tr>
<tr>
<td><strong>Calendar Spread</strong></td>
<td>Orders to purchase one or more contracts and sell an equal number of contracts in a different expiry / delivery month of the same contract at a stated price difference.</td>
</tr>
<tr>
<td><strong>Call Option</strong></td>
<td>An option that gives the buyer the right (but not the obligation) to buy a specified quantity of the underlying instrument at a fixed price, on or before a specified date. The writer (seller) of the option has the obligation to sell the underlying instrument if the buyer exercises the option. See also Option, Put option.</td>
</tr>
<tr>
<td><strong>Cash Market</strong></td>
<td>The market in the underlying physical commodity or financial instrument on which a futures or options contract is based.</td>
</tr>
<tr>
<td><strong>Central Order Book (COB) or Central Limit Order Book (CLOB)</strong></td>
<td>The electronic representation of the market place visible to the market. Lists all orders, including modifications to those orders that have been accepted by the trading platform and have not subsequently been executed or cancelled (i.e. current orders).</td>
</tr>
<tr>
<td><strong>Clearing</strong></td>
<td>The process of registration, position maintenance and settlement of an exchange-traded transaction, and the provision of the 'guarantee' that relates to that contract.</td>
</tr>
<tr>
<td><strong>Clearing Administration</strong></td>
<td>Used by clearing firms to create and manage accounts for trading listed derivative products on ICE.</td>
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<tr>
<td><strong>Clearing House</strong></td>
<td>The Clearing House is the counterparty to every trade conducted on the exchange - the buyer to every seller and the seller to every buyer. The Clearing House provides capital efficient clearing, risk management and physical delivery services for the exchange.</td>
</tr>
<tr>
<td><strong>Clearing Member</strong></td>
<td>A member of an ICE Clearing House authorised to clear house business, or clear house and client business under their clearing agreement.</td>
</tr>
<tr>
<td><strong>Closing Price</strong></td>
<td>The price of an instrument at the close of business. These prices provide a reference for market opening on the following trading day.</td>
</tr>
<tr>
<td><strong>Colocation</strong></td>
<td>Colocation allows members to locate trading servers within a data centre in order to be closer to the ICE trading engines thereby reducing latency.</td>
</tr>
<tr>
<td><strong>Condor</strong></td>
<td>A strategy formed of four contracts: Buy (A), Sell (B), Sell (C), Buy (D)</td>
</tr>
<tr>
<td><strong>Conformance Test</strong></td>
<td>In order to safeguard the integrity of the market place, ICE Futures requires all software that interfaces with the various ICE APIs to have been certified as conformant before allowing that product access to the trading system.</td>
</tr>
<tr>
<td><strong>Contract Month</strong></td>
<td>The month in which a given futures or option contract reaches delivery/expiry. Each financial, equity and commodity futures or options contract has its own set of valid contract months, which may be in a quarterly or monthly sequence, or in a combination of these, and which extends for a variable duration, depending on the contract. Also see Delivery Month.</td>
</tr>
<tr>
<td><strong>Counterparty</strong></td>
<td>The opposing side(s) of a transaction undertaken.</td>
</tr>
<tr>
<td><strong>Counterparty Risk</strong></td>
<td>Exposure to a loss resulting from a default on a payment due. Also known as Credit Risk.</td>
</tr>
<tr>
<td><strong>Credit Management</strong></td>
<td>A facility which was initially provided as a means for ICE participants to set up and manage the type and degree of credit it extends to its counterparties on a commodity-by-commodity basis. The facility can be used to manage credit settings for both bilateral and cleared credit.</td>
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<tr>
<td><strong>Cscreen</strong></td>
<td>An electronic global pre-trade multi asset price discovery platform.</td>
</tr>
<tr>
<td><strong>Daily Price Limits</strong></td>
<td>The maximum daily limit calculated as a percentage above or below the previous day’s settlement price.</td>
</tr>
<tr>
<td><strong>Delivery Month</strong></td>
<td>The month to which a particular futures or options contract relates. Standard deliveries include quarterly i.e. Mar, Jun, Sep, Dec, as well as serial months (outside the quarterly cycle), Jan, Feb, Apr, May etc.</td>
</tr>
<tr>
<td><strong>Delta</strong></td>
<td>A measurement of the sensitivity of an option price to movements in the price of the underlying instrument. Deltas range from -1 to +1. The higher the absolute value of the delta (i.e. the closer to 1 or -1), the closer the correlation between the option's price and the underlying price. A delta of 1 or -1 indicates a one-for-one correlation between the option's price and the underlying price. A delta of zero indicates no correlation at all. A deep in-the-money option has a delta close to 1 or -1, whereas a deep out-of-the-money option has a delta approaching zero. Also known as Hedge ratio.</td>
</tr>
<tr>
<td><strong>Delta Neutral</strong></td>
<td>A portfolio consisting of positions with offsetting positive and negative deltas. The deltas balance out to bring the net change of the position to zero. See Volatility trades.</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>A limited set of full market depth measured from the BBO.</td>
</tr>
<tr>
<td><strong>Derivative</strong></td>
<td>A security whose value is dependent on, or derived from, the value of some underlying asset.</td>
</tr>
<tr>
<td><strong>eBadge</strong></td>
<td>A four digit number assigned by the exchange to a clearing member or a user with direct access to ICE Futures U.S.</td>
</tr>
<tr>
<td><strong>EDSP</strong></td>
<td>Exchange Delivery Settlement Price. The</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
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<td>-------------------------------</td>
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</tr>
<tr>
<td>settlement price set by the exchange for a specific contract at which delivery is made.</td>
<td></td>
</tr>
<tr>
<td><strong>Exercise</strong></td>
<td>The taking up, by an option buyer, of their right to buy (for call options) or sell (for put options) the underlying instrument of the option they have bought, or to have the option cash-settled at the EDSP. See also American style option, European style option.</td>
</tr>
<tr>
<td><strong>Exercise Price</strong></td>
<td>Also known as strike price. The price at which an option holder has the right to buy (in the case of call options) or sell (in the case of put options) the underlying instrument, or to cash-settle the option if appropriate, if they choose to exercise the option.</td>
</tr>
<tr>
<td><strong>Expiry</strong></td>
<td>The last date an option can be traded or exercised.</td>
</tr>
<tr>
<td><strong>Expiry Month</strong></td>
<td>See Delivery Month.</td>
</tr>
<tr>
<td><strong>Explicit Order</strong></td>
<td>An order entered directly into the market by a participant.</td>
</tr>
<tr>
<td><strong>Fair Value</strong></td>
<td>Also known as theoretical value. The price at which a futures contract should be traded, in order to be at effectively the same price as a 'cash' market trade in its underlying instrument, taking into account all costs related to the financing of that contract. For options, a fair premium can be calculated using a mathematical option pricing model, such as Black-Scholes, or Cox Ross Rubinstein.</td>
</tr>
<tr>
<td><strong>Fair Value Model</strong></td>
<td>A mathematical model such as Black-Scholes, or Cox Ross Rubinstein used to determine the theoretical fair value of a contract in the absence of prices in the market.</td>
</tr>
<tr>
<td><strong>Far Month</strong></td>
<td>See Back Month</td>
</tr>
<tr>
<td><strong>Financial Information Exchange (FIX)</strong></td>
<td>Financial Information Exchange (FIX) protocol is an electronic communications protocol used for order routing on ICE.</td>
</tr>
<tr>
<td><strong>First Generation Implied</strong></td>
<td>A first generation implied price (in or out) will be derived from two explicit prices.</td>
</tr>
<tr>
<td><strong>First In First Out (FIFO)</strong></td>
<td>Resting explicit orders are matched in a strict price-time priority. An incoming Bid will trade against the lowest-priced Offers first;</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th><strong>Term</strong></th>
<th><strong>Definition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>an incoming Offer will trade against the highest-priced Bids first. Where multiple resting explicit orders are at the same price, they will be matched according to timestamp, starting with the earliest time.</td>
<td></td>
</tr>
<tr>
<td><strong>FIX Order Server</strong></td>
<td>Identifies the gateway used by FIX Trader IDs to route orders to the ICE Trading Platform.</td>
</tr>
<tr>
<td><strong>Front Month</strong></td>
<td>See Near Month.</td>
</tr>
<tr>
<td><strong>Functionality Matrix</strong></td>
<td>A matrix which details the setup and configuration for each product listed on an ICE market. This includes trading algorithms, order types, off order book offerings, price protections etc.</td>
</tr>
<tr>
<td><strong>Future</strong></td>
<td>A legally binding agreement on a recognised exchange, such as ICE, to deliver, or to take delivery of, a specified instrument at a fixed date in the future and at a price agreed when the futures contract is traded.</td>
</tr>
<tr>
<td><strong>Futures Commission Merchant (FCM)</strong></td>
<td>A firm that is able to solicit/accept orders in futures and options, as well as extend credit to their customers.</td>
</tr>
<tr>
<td><strong>Gradual Time Based Pro Rata (GTBPR)</strong></td>
<td>GTBPR is used to allocate volume between explicit resting orders. This takes into account the timing of resting orders as well as their size. Orders with greater volume, or which were placed in the market earlier, will receive greater allocations than orders which are newer or smaller. The relative weightings of time and volume factors vary between products.</td>
</tr>
<tr>
<td><strong>Graphical User Interface (GUI)</strong></td>
<td>An interface that allows the user to interact with an exchange provided facility e.g. WebICE, ICE Block etc.</td>
</tr>
<tr>
<td><strong>Hedge Leg</strong></td>
<td>The cash leg of a strategy.</td>
</tr>
<tr>
<td><strong>Hedging</strong></td>
<td>Reducing the risk of a cash position in the futures instrument to offset the price movement of the cash asset. A broader definition of hedging includes using futures as a temporary substitute for the cash position.</td>
</tr>
<tr>
<td><strong>Hit (the Bid)</strong></td>
<td>Where a participant sells at the Bid Price.</td>
</tr>
<tr>
<td><strong>ICE Block</strong></td>
<td>An independent, neutral platform that can be used for the submission of off-order transactions.</td>
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<tr>
<td>Service</td>
<td>Description</td>
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<tr>
<td>ICE Chat</td>
<td>An instant messaging (IM) platform for traders and brokers.</td>
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<tr>
<td>ICE Connect</td>
<td>ICE Connect is a platform that offers the tools to keep users connected to the people and information that move markets. Featuring an easy-to-use, customizable user interface, users can launch ICE Connect from WebICE or as a standalone client using a WebICE or ICE Chat ID.</td>
</tr>
<tr>
<td>ICE Data</td>
<td>An ICE web facility which allows users to access daily futures and options end of day and download facilities for historical end of day or tick data.</td>
</tr>
<tr>
<td>ICE Endex</td>
<td>ICE Endex provides transparent and widely accessible markets for trading natural gas and power derivatives, gas balancing markets and gas storage services in Europe and is based in Amsterdam.</td>
</tr>
<tr>
<td>ICE Help Desk</td>
<td>24 hour help desk to assist market participants with administrative, trading and technical inquiries.</td>
</tr>
<tr>
<td>ICE Mobile</td>
<td>Mobile application designed specifically for futures traders and risk managers, ICE mobile offers WebICE users quick and simple access to real-time market information, trading and risk management functionality, along with instant messaging capability.</td>
</tr>
<tr>
<td>ICE Options Analytics</td>
<td>Designed by options traders for options traders, ICE Options Analytics is an advanced option pricing and risk management platform for options analysis and pricing tools that allow users to quickly price nearly all options/futures spreads via an intuitive point-and-click interface.</td>
</tr>
<tr>
<td>ICE Subscription Centre</td>
<td>The ICE Subscription Centre allows users to self-subscribe to various types of alerts and notice sent out by ICE.</td>
</tr>
<tr>
<td>ICE Trading Platform</td>
<td>Electronic market place through which order from buyers and sellers of ICE products are matched.</td>
</tr>
<tr>
<td>iM pact</td>
<td>The ICE iM pact data feed is the primary API for market data dissemination. ICE</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
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<tr>
<td>Implied Pricing</td>
<td>The trading algorithm used to generate prices based upon orders in other strategy or explicit months. Implied in means, strategy prices generated from outright leg prices. Implied out means outright prices generated from the strategy market prices.</td>
</tr>
<tr>
<td>Implied Range</td>
<td>The months in which implied pricing is available.</td>
</tr>
<tr>
<td>Independent Software Vendor (ISV)</td>
<td>Refers to those companies who have built software applications for trading.</td>
</tr>
<tr>
<td>Inter-Commodity Spread</td>
<td>A spread between different commodities e.g. simultaneously going long a Brent Crude Futures and going short a Gas Oil Future.</td>
</tr>
<tr>
<td>Intercontinental Exchange, Inc. (ICE)</td>
<td>Global operator of exchanges and clearing houses. Intercontinental Exchange's diverse markets span futures and options on interest rates, commodities, indexes and FX, as well as equities and equity options.</td>
</tr>
<tr>
<td>Interval Price Limits (Circuit Breaker)</td>
<td>Interval Price Limits (IPL) will prevent large price movements in one direction within a given period of time. This protects the market from price spikes caused by cascading stops, multiple limit or market orders.</td>
</tr>
<tr>
<td>Intra-Commodity Spread</td>
<td>Spread in same futures/options product</td>
</tr>
<tr>
<td>Intraday Margin</td>
<td>Our clearing houses maintain the ability to make intraday margin calls, both scheduled and unscheduled, as determined by market circumstances. For example, in times of significant price volatility or changes in position, an intra-day payment may be required.</td>
</tr>
<tr>
<td>Last Trading Day</td>
<td>The last trading day on which activity is permitted in the Central Limit Order Book for a particular futures or options contract.</td>
</tr>
<tr>
<td>Legging Risk</td>
<td>The risk associated with not being able to fulfil a leg within a multi-leg spread/strategy, at the price required.</td>
</tr>
<tr>
<td>Lift (the Offer)</td>
<td>Where a participant buys at the Ask/Offer Price.</td>
</tr>
<tr>
<td>Liquidity Provider</td>
<td>See Market Maker.</td>
</tr>
<tr>
<td><strong>Locally Managed Account (LMA)</strong></td>
<td>This type of clearing account is available where a participant is locally managing their pre-trade risk and does not wish to make use of the exchange level pre-trade risk management. There are no exchange enforced pre-trade risk checks for participants using LMAs.</td>
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<tr>
<td><strong>Long Position</strong></td>
<td>An open position on the long/ buy side of the market. The opposite of a Short position.</td>
</tr>
<tr>
<td><strong>Maker Orders</strong></td>
<td>Orders typically submitted by Sell Side market participants. A price maker who may have the ability to impact the market price of a commodity through their actions in the market.</td>
</tr>
<tr>
<td><strong>Market Depth</strong></td>
<td>Aggregate Bid and Offer volume at each price level. The rules for constructing full market depth are different for derivative markets. In derivative markets this is known as the order book.</td>
</tr>
<tr>
<td><strong>Market Hold</strong></td>
<td>During a market hold, the market is prevented from movement in a particular direction for a specific period of time. During this time trading is still permitted in the opposite direction.</td>
</tr>
<tr>
<td><strong>Market Maker</strong></td>
<td>Company or individual making buy and sell quotations for speculative purposes, for their proprietary or personal account.</td>
</tr>
<tr>
<td><strong>Mark-to-Market</strong></td>
<td>The process by which contracts are revalued daily for the calculation of variation margin.</td>
</tr>
<tr>
<td><strong>Mass Quote</strong></td>
<td>A Mass Quote allows a user to submit multiple quotes for different option instruments within the same product of the same market type.</td>
</tr>
<tr>
<td><strong>Matching</strong></td>
<td>The process of putting together buy and sell orders in the Central Limit Order Book. The trading host performs the matching of orders submitted which are executed as trades.</td>
</tr>
<tr>
<td><strong>Maturity Day</strong></td>
<td>See Last trading day.</td>
</tr>
<tr>
<td><strong>Multicast Data</strong></td>
<td>Multicast is a form of communication over a network. A single sender will send a single copy of data to multiple recipients.</td>
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<tr>
<td>Term</td>
<td>Description</td>
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<tr>
<td>Near Month</td>
<td>Also known as ‘front’ month. The earliest delivery month currently being traded in any given contract. For example, some futures have delivery months every March, June, September and December. In August, the near month would be September.</td>
</tr>
<tr>
<td>New Order – Cross</td>
<td>A message type that can be transmitted via the FIX API. It supports the submission of two types of cross: a basic crossing order, and an off order book trade.</td>
</tr>
<tr>
<td>Nominal Value</td>
<td>The notional value of a futures or options contract for exchange traded derivatives.</td>
</tr>
<tr>
<td>Non Cancellation Range (NCR)</td>
<td>A flexible range which market supervision uses to monitor trading. The range is displayed as a number of ticks above or below the anchor price. It is configured at the individual market level. The purpose of NCRs is to identify the range of prices outside of which errors may be considered for cancellation or adjustment. Trades occurring at prices within the NCR range will not be adjusted or busted.</td>
</tr>
<tr>
<td>Off-Order Book Trade Submission</td>
<td>An off-order book trade is a pre-negotiated trade, such as an EFP or block. Off-order book trades typically have criteria and thresholds associated with them.</td>
</tr>
<tr>
<td>Offer/Ask Price</td>
<td>The price at which a trader or market maker is willing to sell a futures or options contract. See also Bid price.</td>
</tr>
<tr>
<td>OnBehalfOfSubID</td>
<td>The field name for FIX Tag 116. This field is used to submit the Routing Trader ID / Authorized Trader ID when sending an order to the exchange via the FIX API.</td>
</tr>
<tr>
<td>Open Interest</td>
<td>The open interest in a contract, at any time, is the total number of lots in long or short open positions in that contract. See also Lot, Open positions.</td>
</tr>
<tr>
<td>Open Position</td>
<td>A long or short position that has not been closed out against an equal and opposite position. Initial margin is calculated for positions that remain open at the end of each trading day. See also Closeout.</td>
</tr>
<tr>
<td>Option</td>
<td>The right, but not the obligation, to buy or sell a given quantity of a given underlying instrument at an agreed price, known as the</td>
</tr>
<tr>
<td>Strike or exercise price, either on, or at any time before, a given date. The option buyer pays a non-refundable premium to the option seller, and then has the right to choose whether or not to exercise the option. Exercise can take one of three forms:</td>
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<tr>
<td>- Physical exercise, in which the underlying instrument is a tradable commodity, as in the case of currency options.</td>
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<td>- Cash settlement. See also Cash settlement.</td>
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<tr>
<td>- Futures exercise, in which the underlying instrument is a futures contract. See also Call option, Put option.</td>
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<thead>
<tr>
<th>Orders</th>
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<tbody>
<tr>
<td>Orders are single sided, a quote can represent up to two (one buy side and one sell side) orders. An order is an instruction to buy or sell a particular instrument, submitted to the trading system for execution.</td>
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<table>
<thead>
<tr>
<th>Original Margin</th>
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<tbody>
<tr>
<td>The clearing houses collect original margin, also known as initial margin, for all open positions based on a risk model that takes into account a broad range of stress and/or historically observed scenarios. The amount of original margin required is driven by the historical price fluctuations for the given contract. Original margin is calculated to cover the largest theoretical loss a clearing member could incur in a specified, market-specific risk horizon based on historical market prices and their volatility. In general, more volatility in the price requires the need for additional margin. The margin requirement for each contract is regularly adjusted in line with changes in market volatility. Products and/or contract months that correlate from a price perspective and result in offsetting risk are eligible for margin reductions.</td>
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<tr>
<th>Outright</th>
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<tbody>
<tr>
<td>A single legged strategy i.e. a future, a call option or a put option.</td>
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<tr>
<td>Term</td>
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<tr>
<td>Over The Counter (OTC)</td>
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<tr>
<td>Pack</td>
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<tr>
<td>Physical Delivery</td>
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<tr>
<td>Position</td>
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<tr>
<td>Position Limit</td>
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<tr>
<td>Pre-Defined Futures Strategy</td>
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<tr>
<td>Private Order Feed (POF)</td>
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<tr>
<td>Prompt Month</td>
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<tr>
<td>Proprietary Trader</td>
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<tr>
<td>Put Option</td>
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<tr>
<td>Quarterly</td>
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<tr>
<td>Quote Vendor (QV)</td>
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<tr>
<td><strong>Reasonability Limits</strong></td>
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<tr>
<td><strong>Request for Quote (RFQ)</strong></td>
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<tr>
<td><strong>Responsible Individual Mnemonic (RIM)</strong></td>
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<tr>
<td><strong>Resting Order</strong></td>
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<td><strong>S2F</strong></td>
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<tr>
<td><strong>Second Generation Implied</strong></td>
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<tr>
<td><strong>Self-Trade Prevention Functionality (STPF)</strong></td>
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<tr>
<td><strong>Serial</strong></td>
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<tr>
<td><strong>Settlement Price</strong></td>
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<td><strong>Short Position</strong></td>
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<td>Term</td>
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<tr>
<td>Spread</td>
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<td>Spread Margin</td>
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<tr>
<td>STIR</td>
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<tr>
<td>Strategy</td>
</tr>
<tr>
<td>Strike Price</td>
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<tr>
<td>System Managed Account (SMA)</td>
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<tr>
<td>Taker Orders</td>
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<tr>
<td>TCP/IP</td>
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<tr>
<td>Theoretical Fair Value</td>
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<tr>
<td>Tick</td>
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<tr>
<td>Timestamp</td>
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<tr>
<td>Trade Capture (TC)</td>
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<tr>
<td>Trader Dashboard</td>
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<tr>
<td>Term</td>
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<tr>
<td>Trading Session</td>
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<tr>
<td>Uncrossing</td>
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<tr>
<td>Underlying Cash Market</td>
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<tr>
<td>Underlying Price</td>
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<tr>
<td>Unicast Data</td>
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<tr>
<td>User Defined Strategies (UDS)</td>
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<tr>
<td>User Private Strategy (UPS)</td>
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<tr>
<td>Variation Margin</td>
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<tr>
<td>Volume</td>
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<tr>
<td>WebICE</td>
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<tr>
<td><strong>Wireless Application Protocol (WAP)</strong></td>
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<td>----------------------------------------</td>
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</tbody>
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