



BMLL Data Feed

Trades - Futures

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Version: 1.5

1.1. Introduction

The BMLL Trades product is a dataset that provides details of all events related to executions and trades across all Exchanges (primary and secondary markets) and Trade Reporting Facilities in a simple, normalised format.

It provides a trade-by-trade view of all important attributes of executions occurring on multiple systems. This dataset can compute volume aggregates, analyse the market share of different mechanisms, and provide a detailed trade-by-trade view of the market.

1.2. Dataset schema

Basic Types

Type	Content	Text representation
BOOLEAN	A True or False boolean value.	1,0
INT32	A 32 bit signed integer.	12345
INT64	A 64 bit signed integer.	12345
DOUBLE	IEEE 64-bit floating point value.	123.4567
BYTE_ARRAY	An arbitrarily long byte array.	"VODAFONE GROUP"
NUMBER	A number with defined precision (total digits allowed) and scale (number of digits allowed to the right of the decimal point). Unless otherwise specified, the default is precision 38 and scale 0.	12345
VARCHAR	Variable length string up to 500 characters. May contain quotes and special characters. All text will be utf8-encoded unless indicated differently. Ticker and ISO codes should be ASCII compatible.	"VODAFONE GROUP"
TIMESTAMP_NTZ	Nanoseconds since 1970 in UTC. Timestamp will be represented in ISO format in text format.	20220302-11:23:57.12345789
FLOAT	IEEE 64-bit floating point value.	123.4567
DATE	A calendar date consisting of a year, month, and day, without including any time or time zone components.	2025-01-01

1.3. Schema

One row in the dataset corresponds to a single execution or trade during the trading day. Events can be order book executions, new trade reports, trade amendments or trade cancellations.

Trade reports can include duplicate and alternative representations of the same trade from a different point of view. When computing volumes, to avoid double counting trade reports, you should filter out trade reports that are not marked "Printable" as duplicates.

Trade amendments are always preceded by a trade cancellation. Trade cancellations always have a negative "Size" field. Aggregation on all the printable trades on specific intervals gives an accurate vision of the volume traded during that interval.

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
MIC	MIC	VARCHAR	BYTE_ARRAY	The Market Identifier Code (MIC) uniquely identifies the exchange for which the trade is reported.
TICKER	Ticker	VARCHAR	BYTE_ARRAY	Ticker as provided by the reporting venue.
LISTING_ID	ListingId	NUMBER	INT64	The BMLL identifier represents the listing.
INSTRUMENT_ID	InstrumentId	NUMBER	INT64	If not 0, the BMLL identifier represents the instrument to which the listing belongs.
PRODUCT_CODE	ProductCode	VARCHAR	BYTE_ARRAY	Product Code as supplied by the exchange.
CONTRACT_TYPE	ContractType	VARCHAR	BYTE_ARRAY	Normalised Type of the Listing. Mappings are provided per dataset. Can take values: • Outright • Spread • Inter Exchange • Inter Product Spread • Pack and Bundle

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				• Strip • Butterfly • Condor • Other • Unknown
MATURITY_MONTH_YEAR	MaturityMonthYear	VARCHAR	BYTE_ARRAY	The month and year on which the Listing matures, in format YYYYMM.
CURRENCY_CODE	CurrencyCode	VARCHAR	BYTE_ARRAY	The currency of the order book information as provided by the exchange.
TRADE_DATE	TradeDate	DATE	INT32	The specific date on which a trade was executed - the date is derived from the LocalTimestamp (i.e. the date portion of local timestamp)
TRADE_TIMESTAMP	TradeTimestamp	TIMESTAMP_NTZ	INT64	Time at which the trade was executed. The Time Zone is UTC. Generally delivered at microsecond precision.
PUBLICATION_TIMESTAMP	PublicationTimestamp	TIMESTAMP_NTZ	INT64	Time at which the trade was reported. The Time Zone is UTC. Generally delivered at microsecond precision.
LOCAL_TRADE_TIMESTAMP	LocalTradeTimestamp	TIMESTAMP_NTZ	INT64	Time at which the trade was executed. The Time Zone is the local timezone of the reporting venue. Generally delivered at microsecond precision.
LOCAL_PUBLICATION_TIMESTAMP	LocalPublicationTimestamp	TIMESTAMP_NTZ	INT64	Time at which the trade was reported. The Time Zone is the local time zone. Generally delivered at microsecond precision.
TRADE_TIMESTAMP_NANOSECONDS	TradeTimestampNanoseconds	NUMBER	INT64	Time at which the trade was executed. The Time Zone is UTC. Nanosecond precision.

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
PUBLICATION_TIME STAMP_NANOSECONDS	PublicationTimestampNanoseconds	NUMBER	INT64	Time at which the trade was reported. The Time Zone is UTC. Nanosecond precision.
TZ_OFFSET	TZOffset	NUMBER	INT32	The offset between the local timestamp and UTC in seconds. Note: This is based on the original listing location of the primary instrument. Format was +/- HHMM . This will be adjusted during the DST if such a change occurs.
TRADE_SUMMARY_ID	TradeSummaryId	VARCHAR	BYTE_ARRAY	An ID representing the Trade summary. This is provided directly from the exchange feed. This will be repeated for each trade in the trade summary.
TRADE_SUMMARY_SIZE	TradeSummarySize	FLOAT	DOUBLE	The size indicated by the trade summary message. This is provided directly from the exchange feed. This will be repeated for each trade in the trade summary.
TRADE_SUMMARY_PRICE	TradeSummaryPrice	FLOAT	DOUBLE	The price indicated by the trade summary message. This is provided directly from the exchange feed. This will be repeated for each trade in the trade summary.
TRADE_SUMMARY_AGGRESSOR_SIDE	TradeSummaryAggressorSide	NUMBER	INT64	Side of the aggressive trade summary: 2: Quotes from the BID side are aggressed by an aggressive sell order. 1: Quotes from the ASK side are aggressed by an aggressive buy order. 0: Quotes where the aggressor's side is unavailable

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				due to trade mechanism without the aggressor or information not being reported.
END_OF_TRADE_SUMMARY	EndOfTradeSummary	BOOLEAN	BOOLEAN	Indicates if this trade is the last linked to one trade summary
TRADE_ID	TradeId	VARCHAR	BYTE_ARRAY	An ID representing the trades. This is provided directly from the exchange feed.
LINKED_TRADE_ID	LinkedTradeId	VARCHAR	BYTE_ARRAY	Any trade ID that is provided to link different trades. Example would be combinationTradeId is ASX24
BUY_PARTICIPANT_ID	BuyParticipantId	VARCHAR	BYTE_ARRAY	An ID to indicate the participant on the buy side of the trade
SELL_PARTICIPANT_ID	SellParticipantId	VARCHAR	BYTE_ARRAY	An ID to indicate the participant on the sell side of the trade
AGGRESSOR_SIDE	AggressorSide	NUMBER	INT64	Side of the individual execution summary: 2: Quotes from the BID side are aggressed by an aggressive sell order. 1: Quotes from the ASK side are aggressed by an aggressive buy order. 0: Quotes where the aggressor's side is unavailable due to trade mechanism without the aggressor or information not being reported.
PRICE	Price	FLOAT	DOUBLE	The price of the executed trade expressed in CurrencyCode.
SIZE	Size	FLOAT	DOUBLE	The size of the execution. If the execution is a cancellation, then the size will be negative.

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
FROM_IMPLIED	FromImplied	BOOLEAN	BOOLEAN	Indicates if the trade execution originated from an implied price.
PRINTABLE	Printable	BOOLEAN	BOOLEAN	Printable value computed by BMLL, allowing to filter out duplicate (non-printable) trade reports. These can be synthetic trade reports or trade reports describing the same execution from the view of the counterparty.
EXECUTION_VENUE	ExecutionVenue	VARCHAR	BYTE_ARRAY	The MIC code of the venue on which the trade did occur. Note that this can be different to the MIC code provided. For example, a trade on Liquidnet reported via CBOE BXTR would have a MIC Code of BOTC but an ExecutionVenue of LIQU.
MARKET_STATE	MarketState	VARCHAR	BYTE_ARRAY	The market state, normalised by BMLL.
BMLL_TRADE_TYPE	BMLLTradeType	VARCHAR	BYTE_ARRAY	Standardised Trade type by BMLL
ORIGINAL_TRADE_TYPE	OriginalTradeType	VARCHAR	BYTE_ARRAY	A concatenation of flags relating to trade type as reported by the exchange in their string representation. This field is exchange dependent. On European venues, there is only one column used as input this is generally original_trade_type and trade_type (on Euronext, AQSE), cross_type (on Nasdaq venues) and match_type (on EOBV venues such as XETRA, Vienna, Prague and Budapest). The exact set of flags for each venue can be accessed in the appendix below.

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
MARKET_MECHANISM	MarketMechanism	VARCHAR	BYTE_ARRAY	MMT 1 Flag - Market Mechanism 1: Central Limit Order Book (CLOB) 2: Quote Driven Market 3: Dark Order Book 4: Off Book 5: Periodic Auction 6: Request For Quotes 7: Any other (including hybrid)
TRADING_MODE	TradingMode	VARCHAR	BYTE_ARRAY	MMT 2 Flag - Trading Mode 1 : Undefined Auction 0 : Opening Auction K : Closing Auction I : Intraday Auction U : Unscheduled Auction 2 : Continuous Trading 3 : At Market Close Trading 4 : Out of Main Session Trading 5 : Trade Reporting - On Exchange 6 : Trade Reporting - Off exchange 7 : Trade Reporting (SI)
TRANSACTION_CATEGORY	TransactionCategory	VARCHAR	BYTE_ARRAY	MMT 3.1 Flag - Transaction Category D : Dark Trade R : Trade that received Price Improvement Z : Package Trade (Excluding physical Trades) Y : Exchange for Physical Trade
NEGOTIATED_TRADE	NegotiatedTrade	VARCHAR	BYTE_ARRAY	MMT 3.2 Flag - Negotiation Indicator or Pre-Trade Transparency Waiver 1 : NLIQ - Negotiated Trade in Liquid Financial Instruments

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				2 : OLIQ - Negotiated Trade in Illiquid Financial Instruments 3 : PRIC - Negotiated Trade subject to Conditions Other Than The Current Market Price 4 : ILQD - Pre-Trade Transparency Waiver for Illiquid Instruments on an SI 5 : SIZE - Pre-Trade Transparency Waiver for Above Standard Market Size on an SI 6 : ILQD,SIZE - Pre-Trade Transparency Waiver for Illiquide and Above Standard Market Size 7 : NTLS - Negotiated trade larger than LIS brought onto a venue 8 : NETW - Negotiated trade with pretrade transparency waiver 9 : NLIQ,NTLS - Negotiated trades in Liquid Financial Instrument A : OLIQ,NTLS B : PRIC,NTLS C : NETW,NTLS N : Negotiated Trade
CROSSING_TRADE	CrossingTrade	VARCHAR	BYTE_ARRAY	MMT 3.3 Flag Used to indicate if the trade was the result of a cross executed by the broker. X: Agency Cross Trade
MODIFICATION_INDICATOR	ModificationIndicator	VARCHAR	BYTE_ARRAY	MMT 3.4 Flag - Modification Indicator A: Trade Amendment C: Trade Cancelled
BENCHMARK_INDICATOR	BenchmarkIndicator	VARCHAR	BYTE_ARRAY	MMT 3.5 Flag B: Benchmark Trade

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Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				S: Reference Price Trade
SPECIAL_DIVIDEND _INDICATOR	SpecialDividen dIndicator	VARCHAR	BYTE_ARRAY	MMT 3.6 Flag E: Special Dividend Indicator
OFF_BOOK_AUTOM ATED_INDICATOR	OffBookAutom atedIndicator	VARCHAR	BYTE_ARRAY	MMT 3.7 Flag M: Off-book manual Q: Off-book automated
PRICE_FORMATION	PriceFormatio n	VARCHAR	BYTE_ARRAY	MMT 3.8 Flag P: Plain-Vanilla Trade T: Non-Price Forming Trade J: Trade not Contributing to Price Discovery Process N: Price is currently not available - PENDING
ALGORITHMIC_TRA DE	AlgorithmicTra de	VARCHAR	BYTE_ARRAY	MMT 3.9 Flag H: Algorithmic Trade
PUBLICATION_MOD E	PublicationMo de	VARCHAR	BYTE_ARRAY	MMT 4.1 Flag 1: Non-Immediate Publication 2: Non-Immediate Publication: Deferral due to "Large In Scale" 3: Non-Immediate Publication: Deferral due to "Illiquid Instrument" 4: Non-Immediate Publication: Deferral due to "Size Specific" 5 : Non-Immediate Publication : Deferral due to "Illiquid Instrument" and "Size Specific" 6 : Non-Immediate Publication : Deferral due to "Illiquid Instrument" and "Large In Size"
DEFERRAL_TYPE	DeferralType	VARCHAR	BYTE_ARRAY	MMT 4.2 Flag 1 : Limited Details Trade

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				2 : Daily Aggregated Trade 3 : Volume Omission Trade 4 : Four Weeks Aggregation Trade 5 : Indefinite Aggregation Trade 6 : Volume Omission Trade, Eligible to Subsequent Enrichment in Aggregated Form 7 : Full details of Earlier "Limited Details Trade" 8 : Full details of Earlier "Daily Aggregated Trade" 9 : Full details of Earlier "Volume Omission Trade" V : Full Details of Earlier "Four Weeks Aggregation Trade" W : Full Details of Earlier "Volume Omission Trade, Eligible to Subsequent Enrichment in Aggregated Form"
DUPLICATIVE_INDICATOR	DuplicativeIndicator	VARCHAR	BYTE_ARRAY	MMT 5 Flag 1 : If this is a duplicate of an existing trade report
EXCHANGE_SEQUENCE_NO	ExchangeSequenceNo	NUMBER	INT64	The sequence number of the update, if provided by the exchange.
BMLL_SEQUENCE_SOURCE	BMLLSequenceSource	NUMBER	INT64	The source of the sequence. Used if there is more than one feed, for example where there are off book and on book trade messages provided by different feeds.
BMLL_SEQUENCE_NO	BMLLSequenceNo	NUMBER	INT64	A synthetic sequence number as provided by BMLL. This ensures the correct ordering of all messages from a particular source and should be used as

Field Name (Snowflake / Databricks)	Field Name (Parquet)	Type (Snowflake / Databricks)	Type (Parquet)	Description
				the standard to sort and join all messages.

1.4. Format and file structure

Data is delivered as a single file per market per date, as a parquet file.

- **{YYYY}**: Year
- **{MM}**: Month
- **{DD}**: Date
- **{Product}**: The product you are subscribing
 - **Trades**: TRADES
- **{Region}**: The region of the venue, such as APAC, AMERICAS, EMEA and GLOBAL
- **{MIC}**: Market Identifier Code (MIC) is a unique four-character code that identifies stock markets and exchanges for trading and referencing computer systems

File Structure:

{YYYY}/{MM}/{DD}/TRADES/{Region}/future-trades-{MIC}-YYYYMMDD.parquet

1.5. Data arrival times

Full product coverage and arrival times are available at <https://data.bmlltech.com>.

1.6. Implied price levels

Where implied price information is provided by the exchange, this will be included in the dataset. Since implied information is only provided on a price level basis, rather than as individual orders, any implied prices are not included in the NumOrders fields.

1.7. Trading dates

For continuous trading markets, the trading date is determined in a standard way as provided by the exchange. For example, for CME, each file is divided into trading starting at 4.45pm Chicago on the previous date (i.e from after the CME maintenance window).

1.8. Notes

Aggressor side: The aggressor side is only provided for executions that can be deterministically mapped to a side of the order book. It is not inferred when there is no clear side (e.g. for an off-book trade).

Use of MMT flags: Multiple flags are taken from the FIX MMT Standard (see <https://www.fixtrading.org/mmt/>). This is provided as is when MMT flags are provided. For venues where MMT is not provided, fields are normalised to that field (for example, the ModificationIndicator)

1.9. Market State Normalisation

BMLL provides a consistent normalisation for market state messages, in order to make cross venue analysis quick and easy.

The following normalisation states are available

Market State

Value	Description
AUCTION_ON_DEMAND	Auctions which take place alongside CONTINUOUS_TRADING. Includes order entry and uncrossing periods.
CLOSED	The market is closed so no trading activity can take place.
CLOSING_AUCTION	Includes order entry and uncrossing periods.
CONDITIONAL	An uncrossing state for specific market mechanisms e.g. Turquoise Plato Uncross.
CONTINUOUS_TRADING	Main continuous trading session in which orders can be placed and matched. NOTE: Separate continuous trading occurring before the primary open or after close will be generally indicated with PRE_TRADE and POST_TRADE.
CONTINUOUS_TRADING_PRIMARY_CLOSED	A continuous trading session in which orders can be placed and matched on secondary markets, but the primary market is CLOSED. Used for secondary markets only (e.g. a multilateral trading facility in the EU, or alternative trading system in the USA).

Value	Description
HALTED	Unscheduled trading halts, for example, when a circuit breaker is triggered.
INTRADAY_AUCTION	Scheduled auctions which interrupt CONTINUOUS_TRADING. Includes order entry and uncrossing periods.
NOT_APPLICABLE	Used for venues such as trade reporting facilities where the concept of market phase does not apply, as there are no specific market hours.
OPENING_AUCTION	Includes order entry and uncrossing periods.
POST_TRADE	Market phase following CONTINUOUS_TRADING phase, and generally occurring after the primary CLOSING_AUCTION. This includes trade-at-last phases; such trades can be distinguished using the CLOSING_PRICE bml_trade_type.
PRE_OPEN	Market phase preceding CONTINUOUS_TRADING, and generally prior to OPENING_AUCTION when applicable.
UNKNOWN	Used when the market phase could not be resolved into one of the known states listed here.
UNSCHEDULED_AUCTION	Unscheduled auctions which interrupt CONTINUOUS_TRADING. Includes order entry and uncrossing periods.

BMLL Trade Type

Value	Description
BENCHMARK_PRICE	Trades executed at a publicly available reference price. This includes VWAP, TWAP, EBBO, PBBO, auction reference price trades and other trades marked BENC under MIFID II.
CLOSING_PRICE	A trade executed at the closing price resulting from a Market-on-Close (MOC) order.
DARK	Dark trades result from matches on a dark order book which has either limited pre-trade transparency or is exempt from pre-trade transparency disclosure. An example of this is trades executed on a mid-price book.
LIT	Lit trades result from a match on a lit order book with full pre-trade transparency. This group will also include executions of hidden

Value	Description
	orders that cannot be distinguished from standard lit executions, such as iceberg orders.
OTC	An over-the-counter (OTC) trade agreed bilaterally between two parties and reported to a trade reporting facility.
REQUEST_FOR_QUOTE	A trade resulting from a request for quote (RFQ).
SPECIAL_PRICE	Trades which execute at a special price. This includes: negotiated trades, Non Price Contribution to Discovery Indicators trades (marked TNCP under MIFID II), dividends and other technical trades.
UNCROSSING	Uncrossing trades occur when paired quantities are matched at the end of an auction market phase.
UNKNOWN	Used for trades which could not be resolved into one of the known trade types listed here.
EXCHANGE_FOR_RELATED_POSITION	Arrangement between two parties whereby a futures position is exchanged for related positions or vice versa.

1.10. Venue-specific Original Trade Type

Venues	Name of source columns	Description of possible values in the original trade type
CME	828 TradeType	0 - Regular Trade 1 - Block Trade 2 - EFP (Exchange for physical) 3 - Transfer 11 - Exchange for Risk (EFR) 22 - Over the Counter Privately Negotiated Trades (OPNT) 23 - Substitution of Futures for Forwards 45 - Option exercise 54 - OTC / Large Notional Off Facility Swap 55 - Exchange Basis Facility (EBF) 57 - Netted trade 58 - Block swap trade 59 - Credit event trade 60 - Succession event trade
ICE	TRADE TYPE	Detailed information about the type of the trade record: 1: On-book execution but where there was no order. This can happen when system generated orders are created and filled immediately within a transaction. The client will not see these orders because they never rest in the market. Another

Venues	Name of source columns	Description of possible values in the original trade type
		scenario is orders with reserved quantity being traded. In such case, you would see trade messages referring to orders that are not in the book. • 1000 : Block trade • 1001 : Exchange for swaps • 1002 : Exchange for physical • 1003 : Exchange for physical and swaps • 1004 : Exchange of options for options • 1005 : Exchange of futures for related market, e.g. full size contract for mini contracts • 1006 : Guaranteed cross • 1007 : Basis • 1008 : Asset allocation
Eurex	828 - TrdType	Exchange defined trade types • 1 - BlockTrade • 2-EFP • 12-EFS • 50 - Portfolio Compression trade . 54-OTC • 55 - Exchange Basis Facility • 1000 - Vola trade • 1001 - EFP Fin trade • 1002 - EFP Index Futures trade • 1004 - Block Trade At Market • 1006 - Xetra/Eurex Enlight Triggered trade • 1007 - Block OTPIP trade
ASX 24	Trade Type	The trade type code from exchange message. Possible Values • T, t: Normal Trade • L, l: Auction Trade • S, s: Combination-Underlying Trade • R, r: Combination-Combination Trade • D, d: Dark or hidden order Trade • v, v: Trade report from an off-market system • A, a: Strip to Strip trade • B, b: Strip to Outright Trade
JSE	Trade Sub Type	Trade type as indicated by the exchange Possible Values • '1014' : AT - Automated Trade • '1015' : UT - Uncrossing Trade • '4001' : NT - A generic reported trade that provides the ability to be linked to other reported trades for the purposes of

Venues	Name of source columns	Description of possible values in the original trade type
		billing and valuations downstream. A new field will be required to link these. • '4004' : ST - A trade by a member where it is back to back with an OTC transaction • '4006' : BV - Trade by a member where the member is the buyer and seller on behalf of 2 different clients • '4007' : RO - Trade by a member for a repurchase agreement or sell/buy back. • '4008' : RR - Trade by a member for a reverse repurchase agreement. • '4009' : GI - A transaction where a member trades in a single equity security as a principal with another member, who trades either as an agent on behalf of a client or as a principal for that member's own account. • '4010' : EP - A transaction negotiated privately in which a Futures contract for a physical item is exchanged for an actual physical good. • '4011' : ER - This involves the exchange of OTC positions for future positions • '4012' : PO - PCT Trades in currency derivatives concluded by a market maker with a professional client • '4013' : DT - A trade type that hedges derivative exposures in the same market where the derivative exposure sits. A trade type that hedges • '4014' : LD - A Late trades concluded by a trading member after trading hours. • '4015' : RT - Roll trade which give effect to the closing out of positions in the expiring contract to a contract with a new expiry date. • '4016' : SO - Structured option trades include two or more strikes and are agreed on a wholesale basis and will be linked via a field allowing • '4017' : NO - Net offs result when a client builds up opposite positions through various accounts with in the same member or multiple • '4018' : NS - Non Standard Structured trades that include two or more legs and are agreed on a wholesale basis and will be linked via a field allowing these trades to be identified for regulatory or valuation. ◦ Inverse Calendar Spreads.

Venues	Name of source columns	Description of possible values in the original trade type
		○ Forward Forwards. ○ Splits. ○ Delta Options. ○ Butterflies. ○ Condors. ○ Straddles. ○ Strangles. ○ Call/Put Calendar Spreads. ● '4019' : CD - Contracts for difference report only trades ● '4020' : SR - Structured trades that include two or more legs and are agreed on a wholesale basis and will be linked via a field allowing these trades to be identified for regulatory or valuation purposes. ○ standard JSE strategies include ○ Inverse Calendar ○ SpreadsForward ○ ForwardsSplitsDelta ○ Options ○ Butterflies ○ CondorsStraddlesStranglesCall / Put Calendar Spreads ● '4022' : TB - In instances where an on book trade has been cancelled, the JSE may ask traders to recapture 2 new off book trades. ● '4023' : PA - When a trade is captured at the incorrect price and both traders wish to recapture the original trade at the correct price then the original trade should be cancelled and a new off book trade type of PA (Price Adjust) is captured at the correct price. ● '4024' : RP - Reported Trade