



JS

ITaC

**INTEGRATE
ACCELERATE
GROW**

Technical Working Group

26 October 2016

Agenda



High level ITaC project overview

ITaC Project 1b – Equity Derivatives Market & ITaC Project 1c – Currency Derivatives Markets

- **Off Book Trade Reporting**
 - Post Trade Gateway
 - Off Book Trade Types
 - Off Book Trade Reporting
 - Additional Matching Criteria
 - Off Book Strategy Trading
 - Off Book Trade Reporting – Clearing
 - Clearing Implication
- **Trade Cancellations**
 - On Book Trade, Same Day
 - On Book, Same Day with Price Adjust
 - Off Book, Same Day
 - On Book & Off Book, Next Day
 - General Information
 - Clearing Implications

Agenda



- **Drop Copy and Trade Copy functionality**
 - Clearing Member Real-Time Services
 - Drop Copy – Execution Reports
 - Trade Copy – Trade Capture Reports
- **Reference and pricing data management**
 - Static Reference Data
 - TraderGroup File
 - Reference and Market Data in support of Clearing
 - Clearing Reference Data
 - Principles
 - Sample reference data
 - Market Data in support of Clearing
 - Real-time data
 - Non-live market data
- **Market structure and setup**
 - High-level overview
- **Questions**



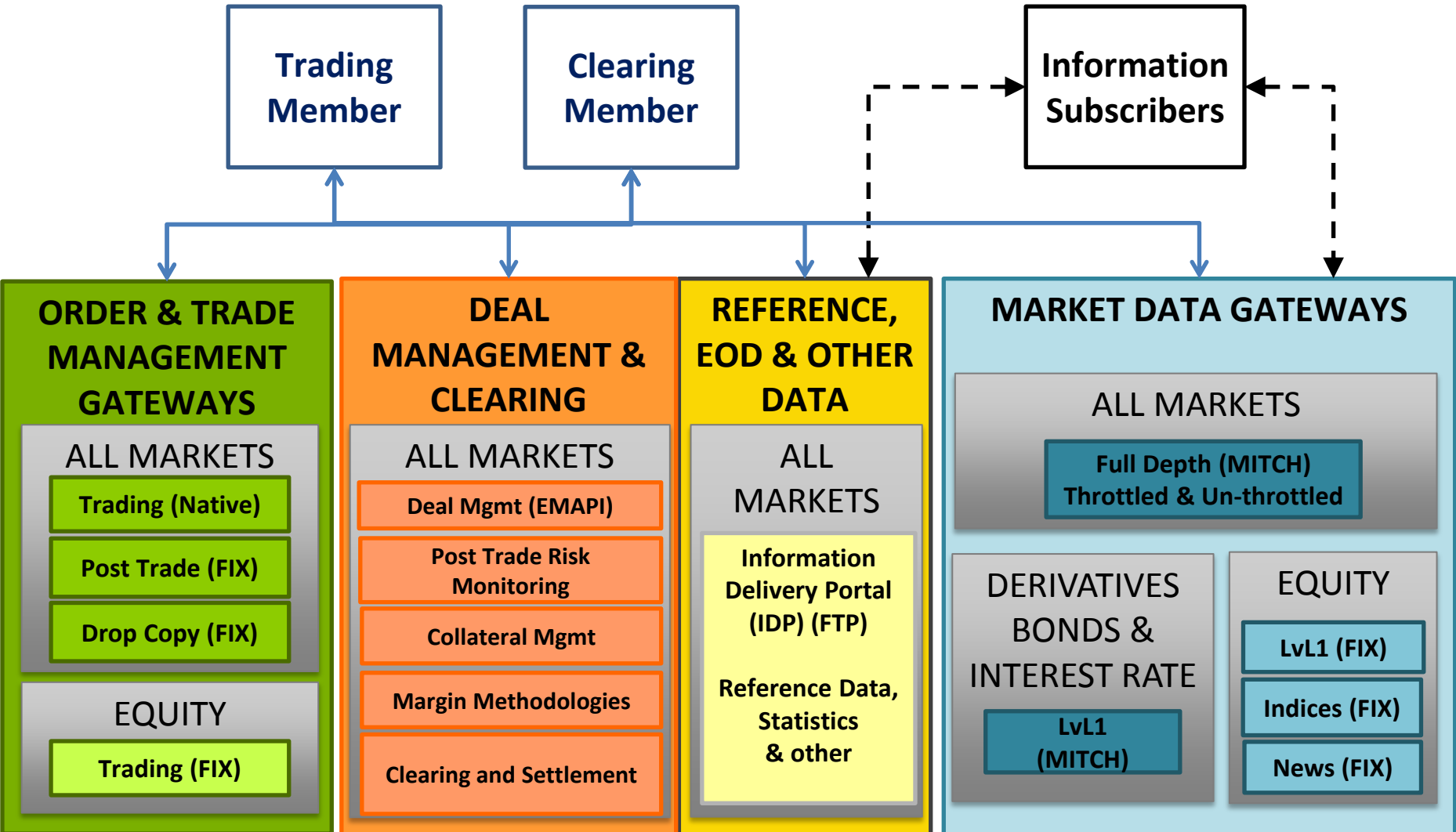
High level ITaC Project Overview

Martin Koch

Trading, Clearing and Information Systems

All Markets – High-level

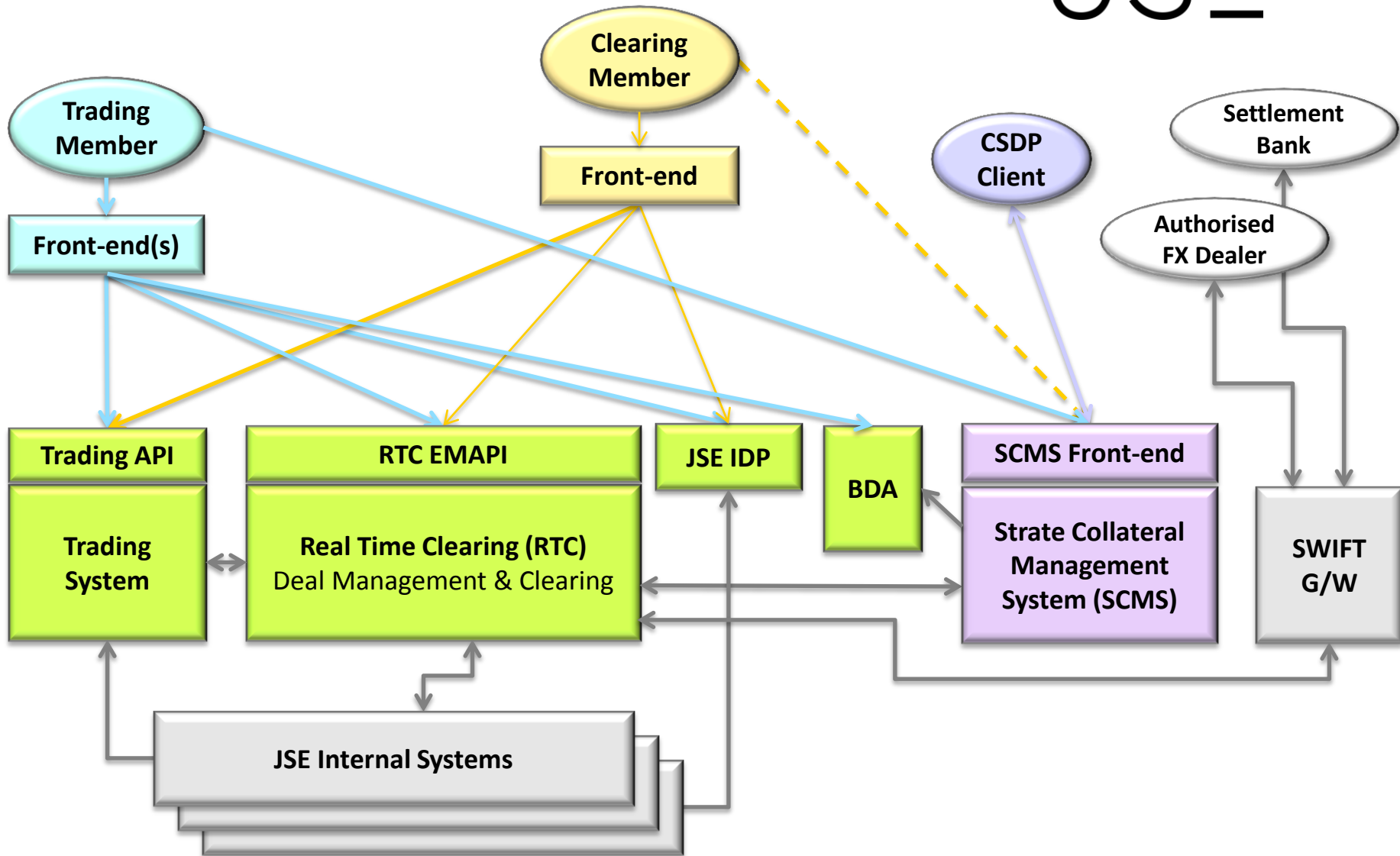
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ITaC Systems

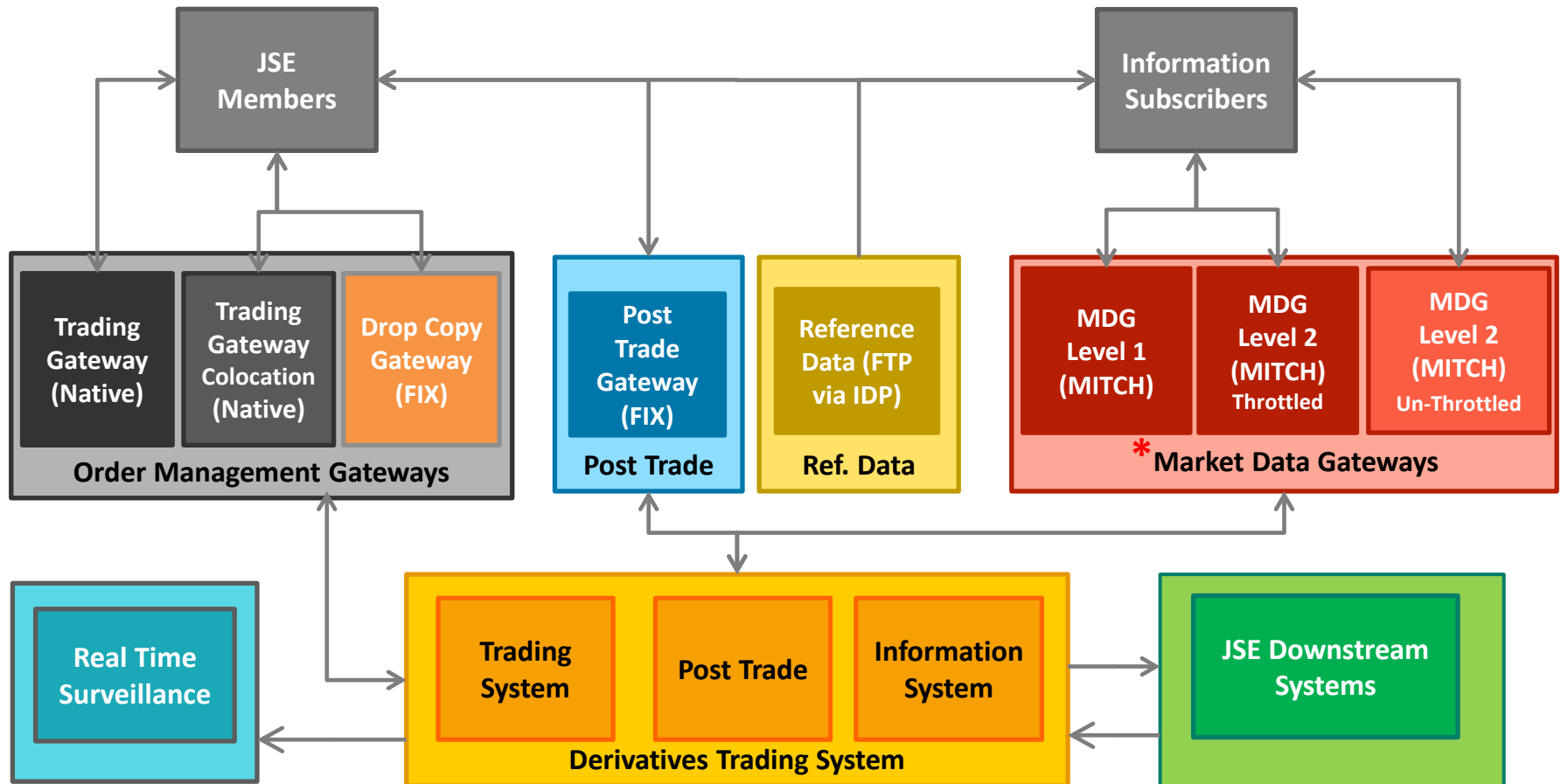
High-level Overview

JSE



Trading and Information Systems

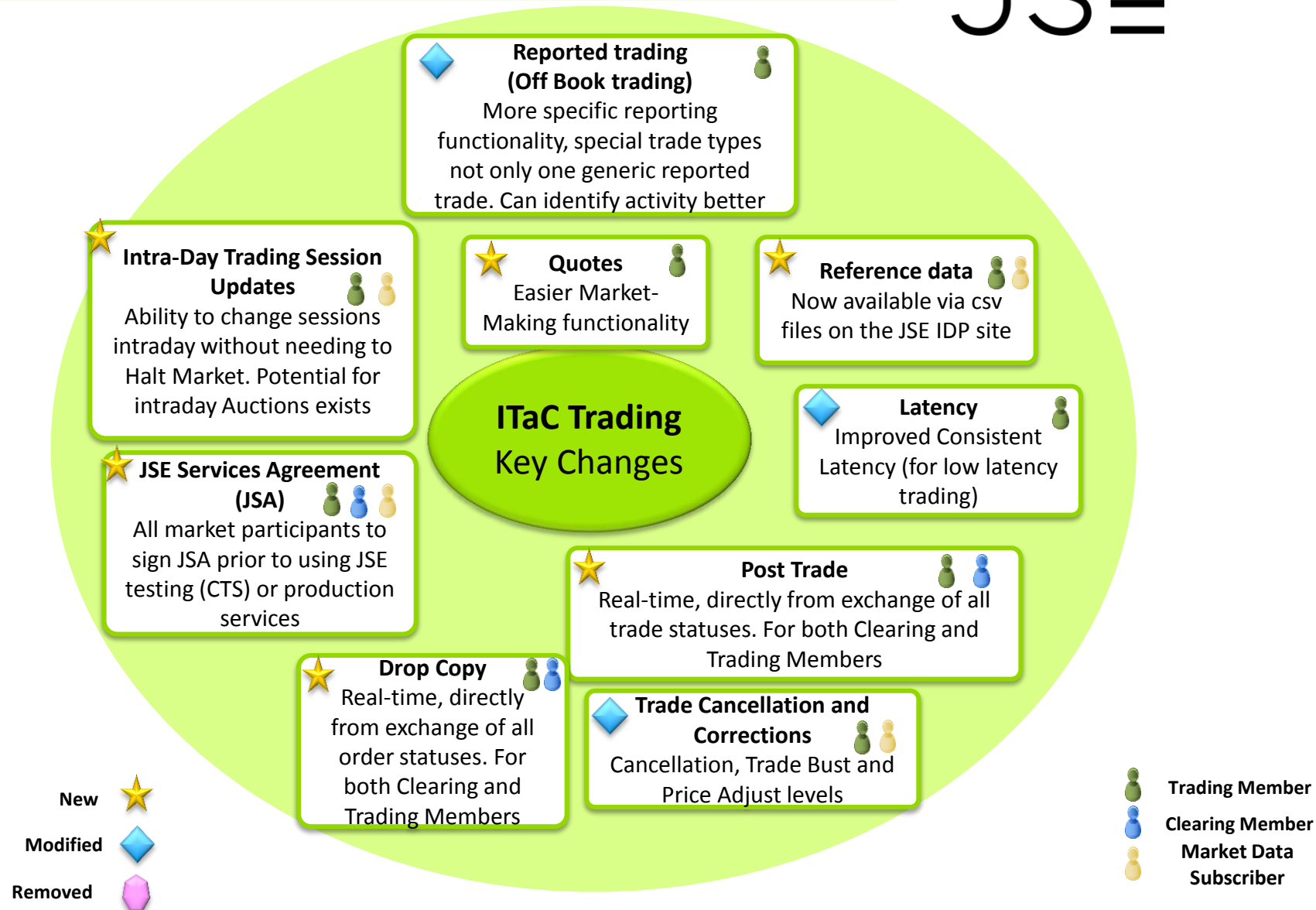
High Level Proposed Derivatives Solution



- There will be a set of Market Data Gateways for Equity Derivatives and a set of Gateways for Currency Derivatives
- * • Additional market data gateways will be introduced at a later stage for Commodity Derivatives.
- Interest Rate market data will be disseminated via the same gateways as Currency Derivatives

ITaC Trading Changes

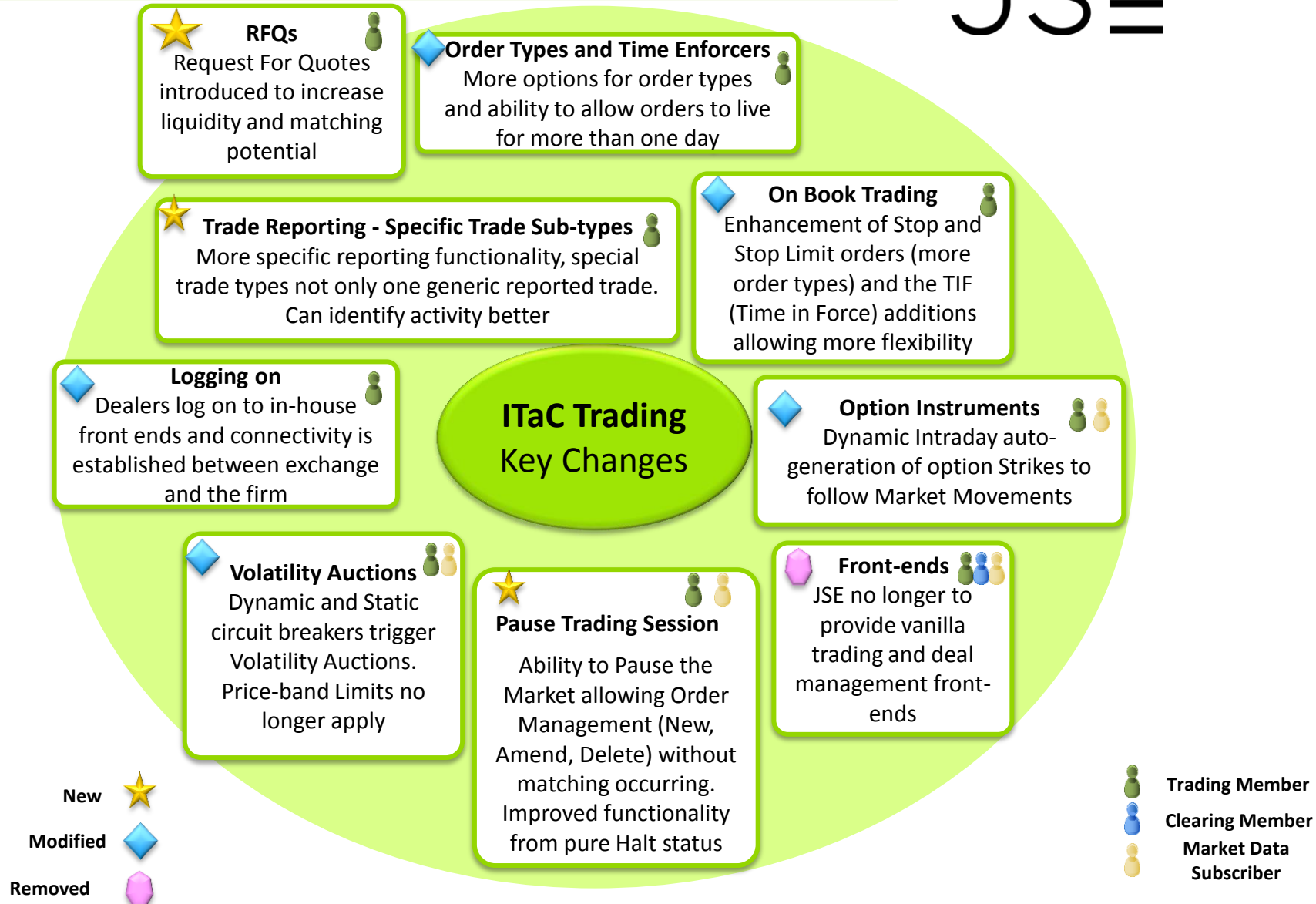
Highlighting key changes and new services



ITaC Trading Changes

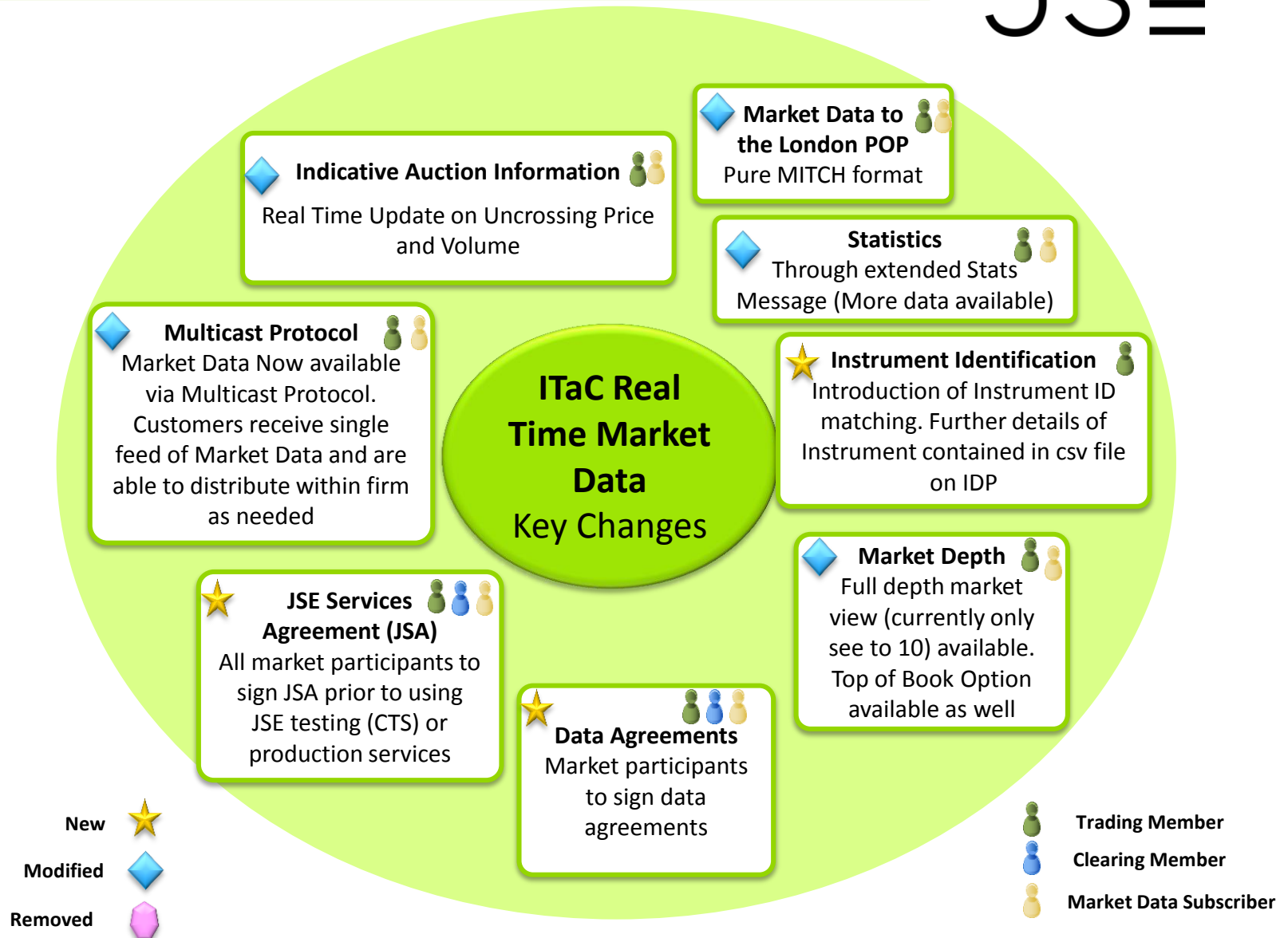
Highlighting key changes and new services

JSE



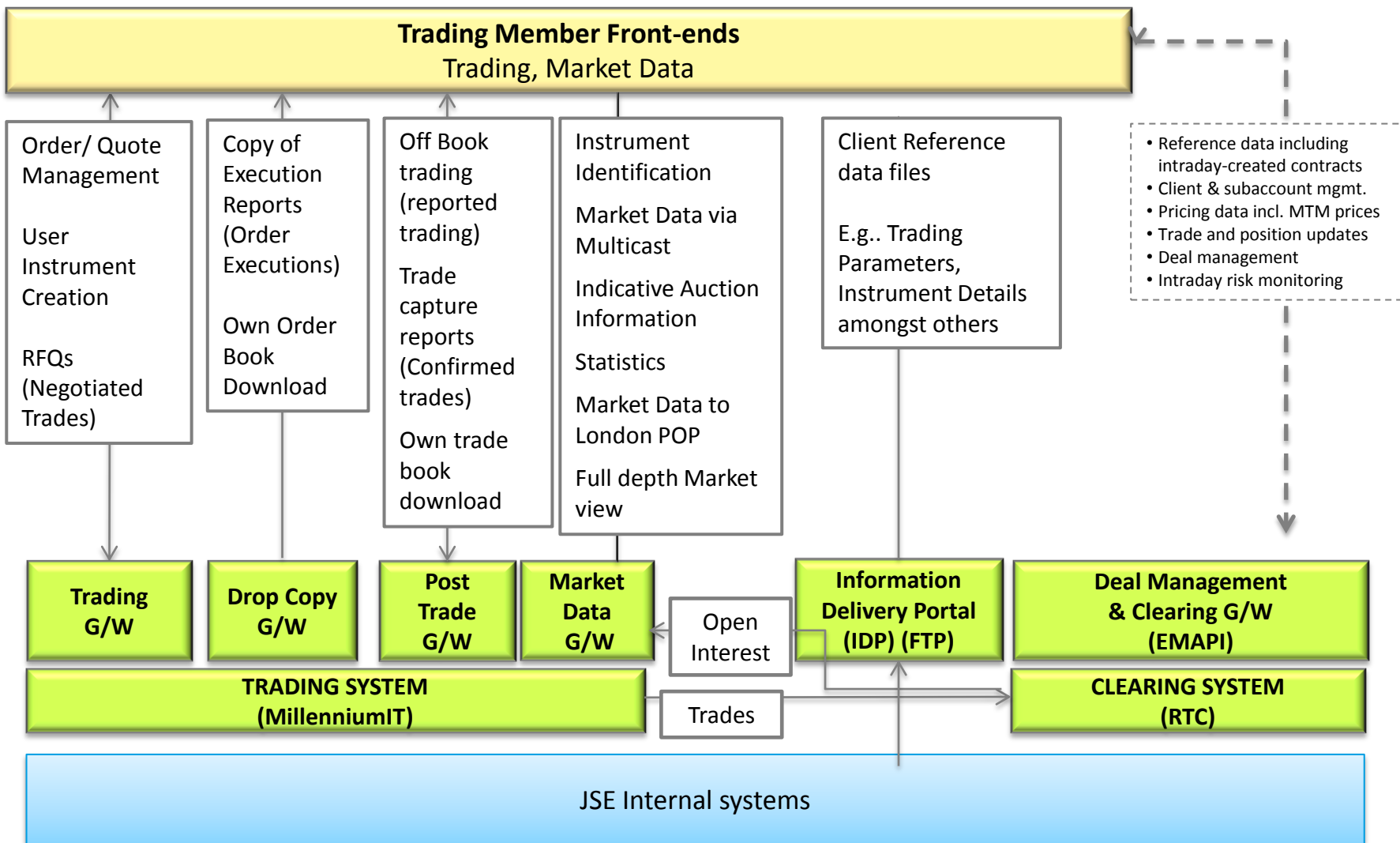
ITaC Market Data Changes

Highlighting key changes and new services



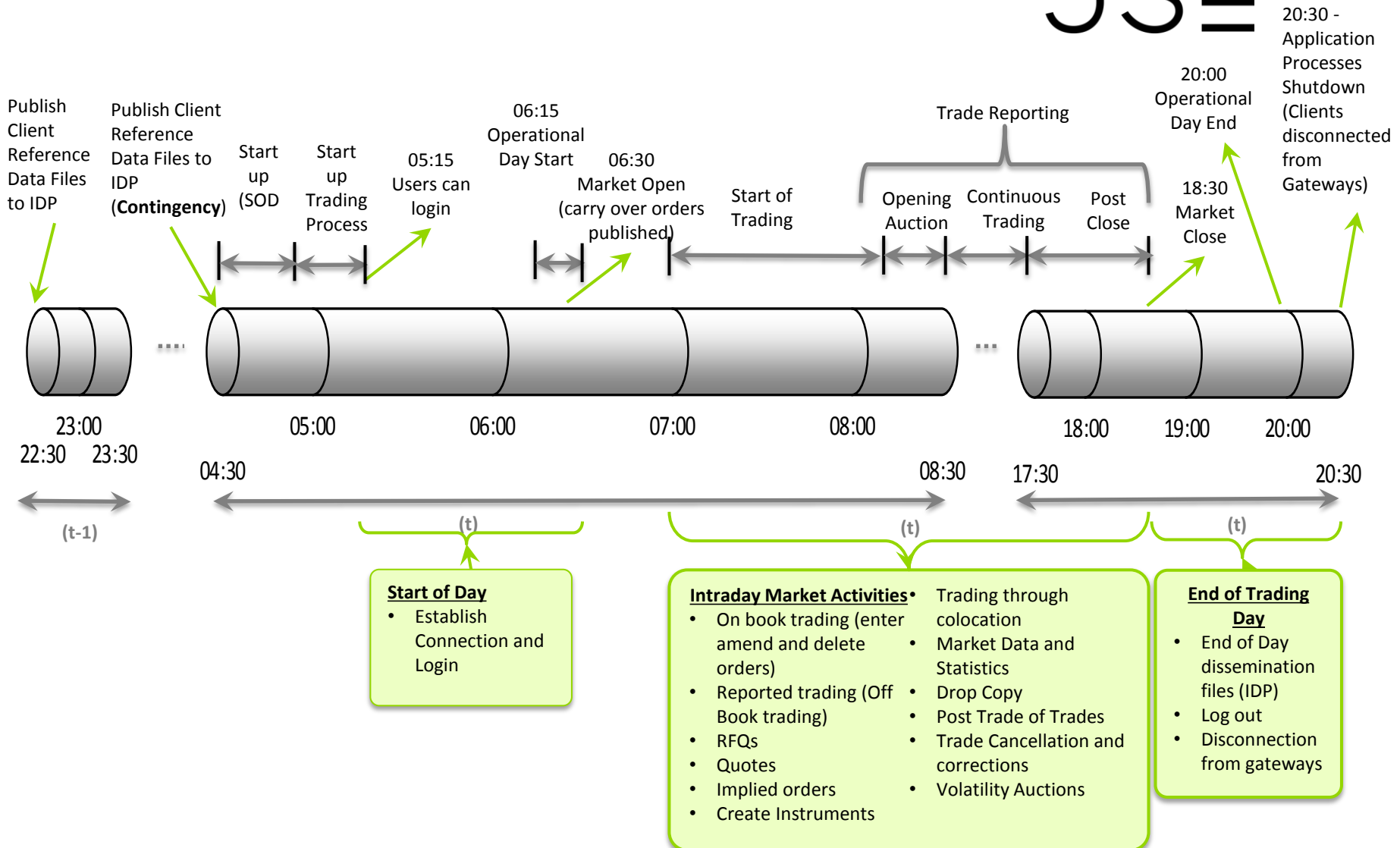
ITaC Systems Interfaces

Trading perspective



Daily Trading Lifecycle

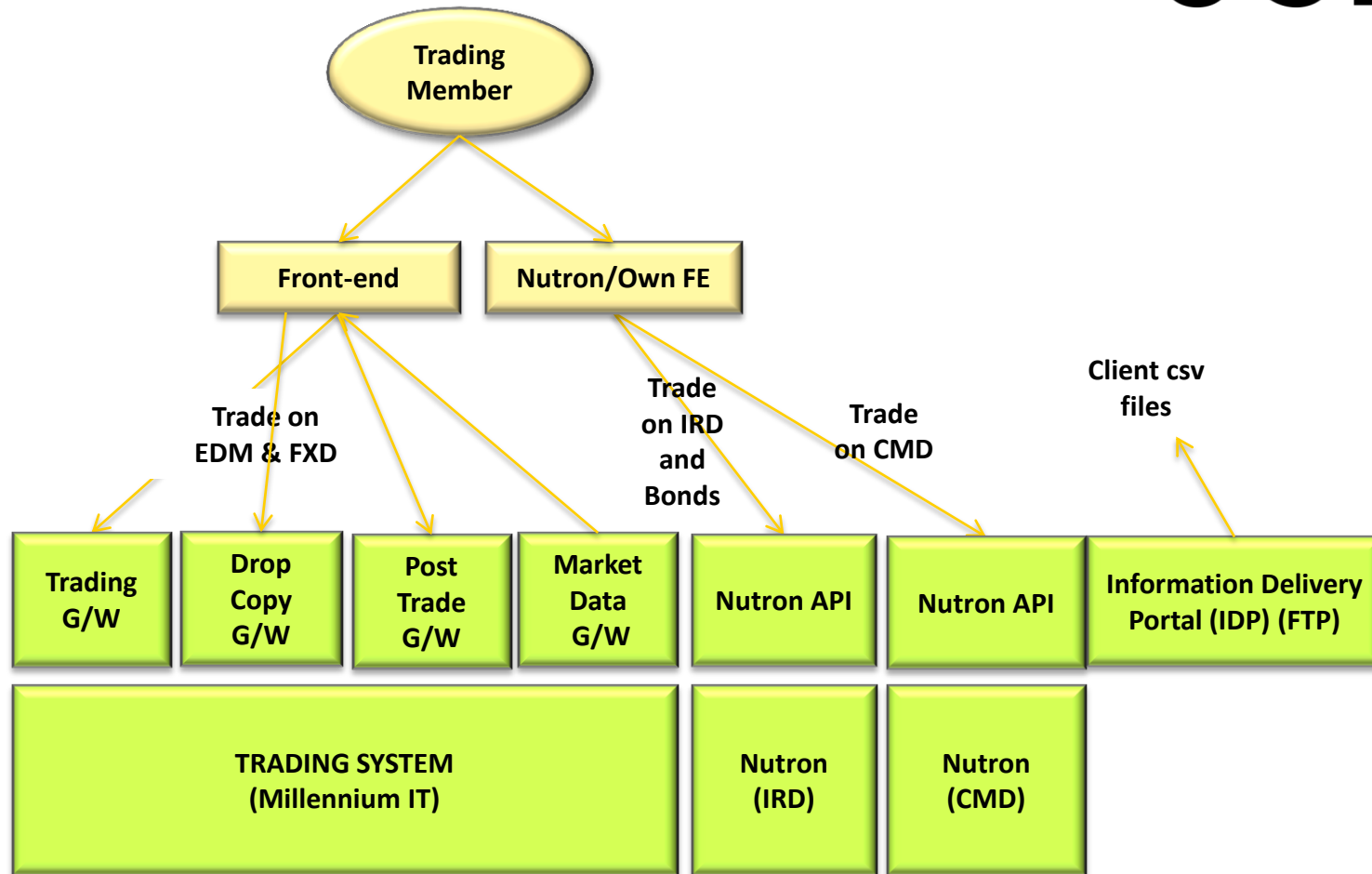
Timeline of a typical day



Trading

Transition phase

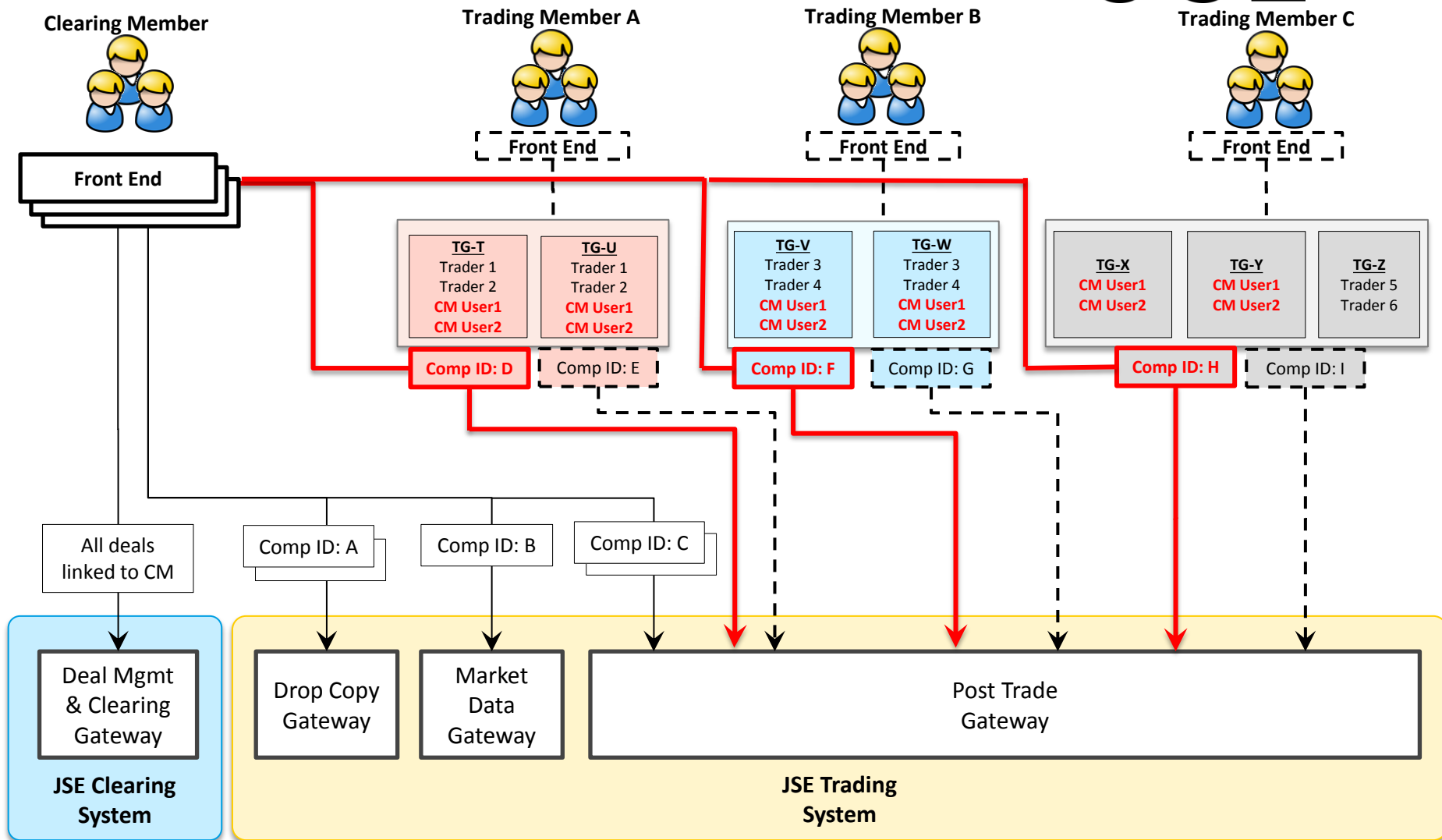
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System Interfacing for Clearing and Trading Members

Trading and Clearing Systems – Overall

JSE



— Trading system interfacing for performing on-behalf-of reported trades

Clearing Member and Trading Member Roles

Trading Systems Setup



Trader ID for traders (dealers)

- Allocated to all traders (dealers)
- One unique number across Markets
- Each Trader ID will uniquely exist in every Trader Group of the Trading Member Firm

Clearing Member Users

- Allocated a unique identifier
- Identifier will exist across Trading Member Firms for whom the Clearing Member clears
- Each Clearing member user will uniquely exist in every Trader Group of the Trading Member Firms he clears for
- Do not exist as a user underneath the Clearing Member Firm

Clearing Member and Trading Member Roles

Trading Systems Setup



Back Office User ID

- Allocated to all back officer users for booking trades
- One unique number across Markets
- Each User ID will uniquely exist in every Trader Group of the Trading Member Firm
- Only Off Book Trading will be allowed

Trader ID, CM User and Back Office user roles are interchangeable in the following examples as the process is identical to all users.



Off Book Trade Reporting

Martin Koch &
Johannekie Schnetler

Off Book Trade Reporting

Post Trade Gateway



Service Description

- Real-time information on the trades executed on the current trading day via TCRs (trade capture reports)
- Trade Cancellations
- Trade Reporting for Off Book Trades

(Details of trades executed on previous trading days is not available via this service)

Real-Time Connections

- A client will receive the details of each of its own Trades (On and Off Book) immediately after they are executed

Query-Based Service

- A query-based client will not receive any real-time notifications of trades
- Query based clients must send a request to the server requesting details of trades as and when they are required

Trading Members (TM) and Clearing Members (CM) can have access to **both** real-time **and** query based services

Off Book Trade Types



- Introduction of specific Off Book Trade Types for the derivative markets
- Assist in better determining the reason trades are reported and better statistical measures of activity and clients are empowered
- This is translated by a mandatory field within the Trade Capture Report (TCR) message on Off Book trade submission

829	TrdSubType	Y	Valid Off Book trade type. Refer Off Book trade types table.
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- Finalisation of the Trade Types is in progress with high-level Trade Sub Types already published in [Volume 03- Post Trade Gateway](#)
- Off Book Trade Types will form part of the Rule Book for each market. These will be communicated in future sessions and consultation with the market will take place

Off Book Trade Reporting



- Member Firms can submit Off Book trades to the respective markets in accordance with the rules for reporting trades in the respective market
- Each reported trade is subject to a series of validations and, if accepted, will be confirmed by the server
- A confirmed Off Book trade will be disseminated via the market data feed immediately
- Member Firms can also request the cancellation of confirmed On Book and Off Book trades
- There are two types of Off Book Trade reporting models available
 - **Single Party Trade Reporting Model**
 - **Dual Party Trade Reporting Model**

Off Book Trade Types

Single Party Trade Reporting



- Same member firm is on both sides of the trade (buyer/seller) and the member firm submits both sides of the trade in a single Trade Capture Report
- A Trade Capture Report Ack will be used by the server to acknowledge the receipt of or rejection of a trade report
- The server will transmit a Trade Capture Report if the trade is confirmed
- The cancellation of an Off Book trade process is identical to that used to report it
- The Trade Capture Report will, in addition to the instrument, include quantity and price
- Trade reports will include a valid Off Book trade type
- The dealing capacity and client account information will be mandatory for both sides of the trade i.e. buyer and seller
- Same day cancellations of an Off Book trade must be performed only within the current trading day
- Next day cancellations of an Off Book trade will be submitted as a new trade however the buyer and seller information needs to be swapped around i.e. Buyer in previous day Off Book trade will be the seller in a next day Off Book trade cancellation

Off Book Trade Types

Single Party Trade Reporting



In the TCR message a single party trade report is captured with TradeHandlingInstr (1123) = 1 (Two Party Report)

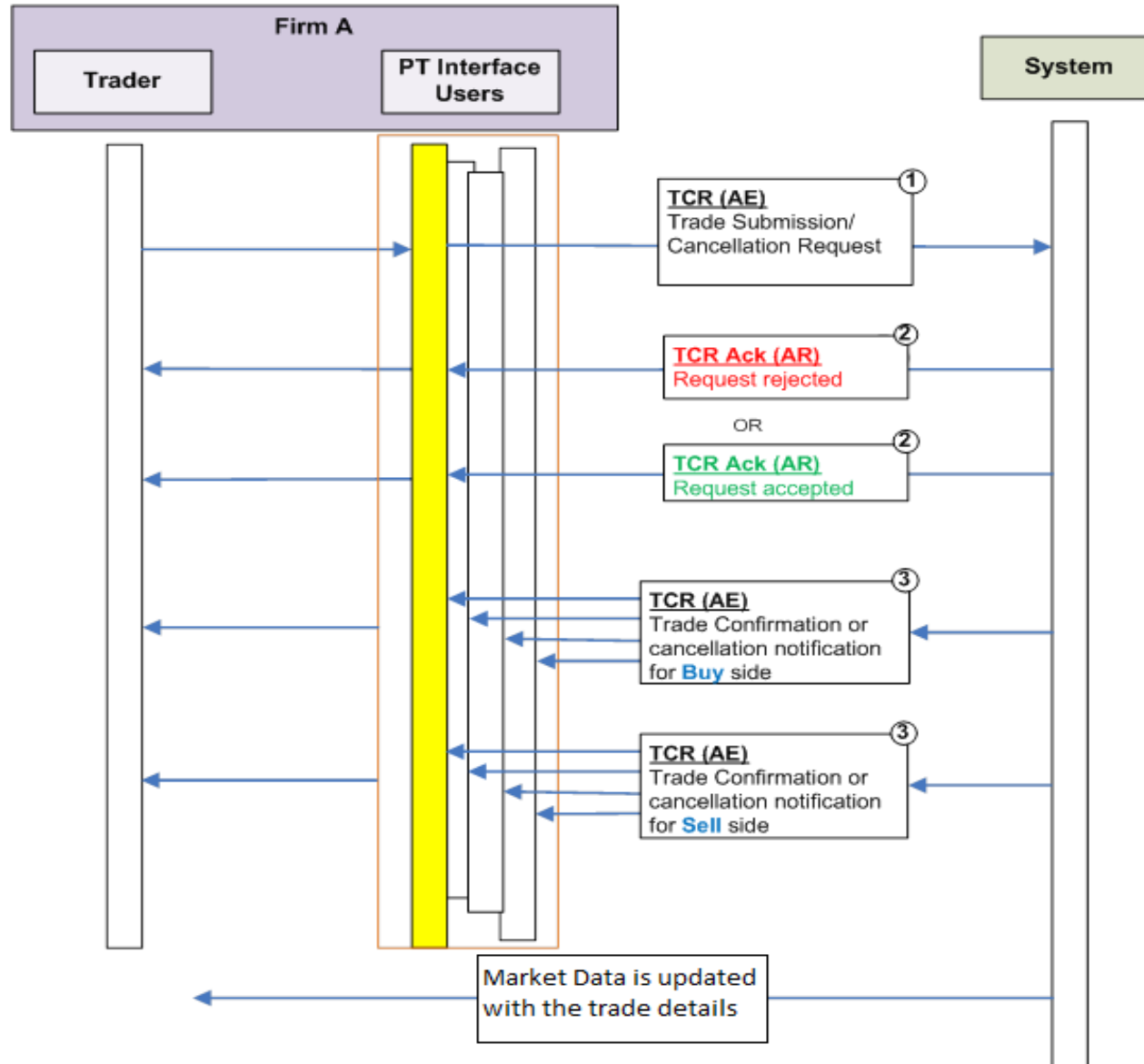
1123	TradeHandlingInstr	Y	<p>Specifies how the Trade Capture Report should be handled, whether it is Single Party Reporting model, Dual Party Reporting model or a trade confirmation</p> <p>Possible values will be;</p> <table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Trade Confirmation</td></tr><tr><td>1</td><td>Two Party Report</td></tr><tr><td>3</td><td>One-Party Report for Pass Through</td></tr></table>	Value	Meaning	0	Trade Confirmation	1	Two Party Report	3	One-Party Report for Pass Through
Value	Meaning										
0	Trade Confirmation										
1	Two Party Report										
3	One-Party Report for Pass Through										

- Indicates that there are two parties within a single message (TCR) that is submitted by the user to the system

Off Book Trade Types

Single Party Trade Reporting

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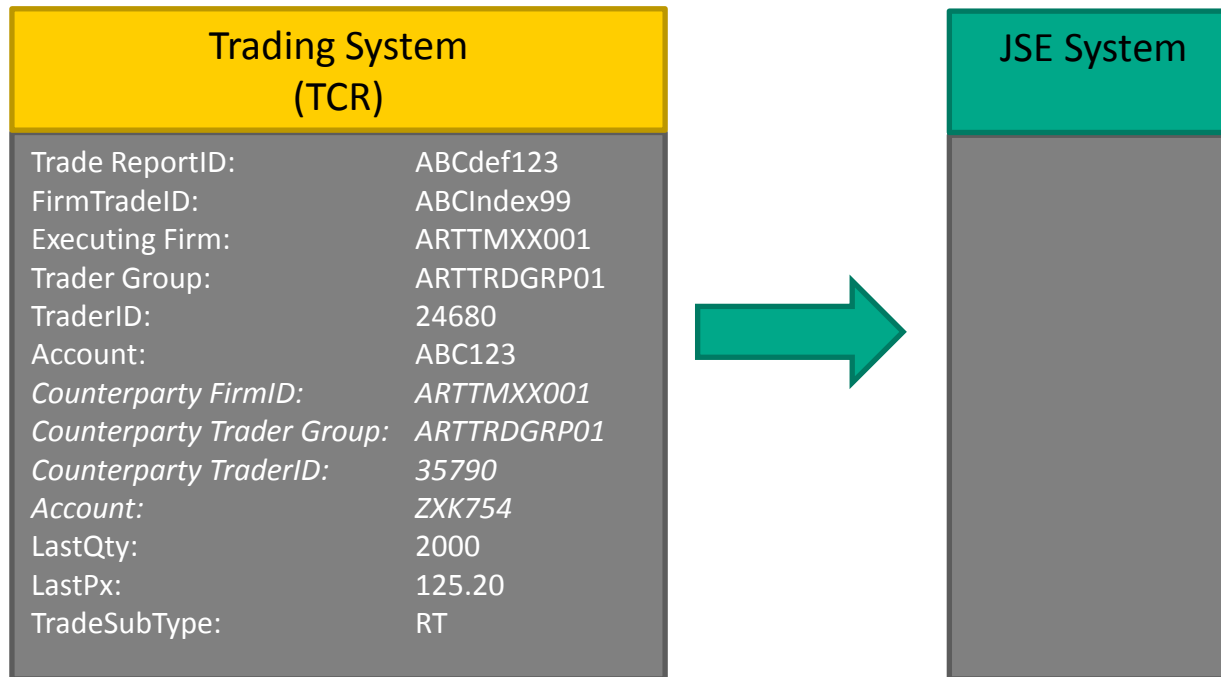


Off Book Trade Types

Single Party Trade Reporting Example



Step 1: Trade Capture Report entered by Firm
As per **8.6.1.1** in Volume 03 – Post Trade Gateway specifications



Off Book Trade Types

Single Party Trade Reporting Example



Step 3: Trade Capture Report sent for both buy and sell side of Firm

As per **8.6.2.4** in Volume 03 – Post Trade Gateway specifications

Trading System (TCR)

SecondaryTrade ReportID : ABCdef123
FirmTradeID: ABCIndex99
TradeID: M5DIF33YV0
Executing Firm: ARTTMXX001
TraderID: 24680
Account: ABC123
LastQty: 2000
LastPx: 125.20
TradeSubType: RT
Side: Buy

SecondaryTrade ReportID FirmTradeID:
ABCIndex99
TradeID: M5DIF33YV0
Executing Firm: ARTTMXX001
TraderID: 35790
Account: ZXK754
LastQty: 2000
LastPx: 125.20
TradeSubType: RT
Side: Sell

JSE System



Clearing System

TradeReportID: ABCdef123
firmTradeId: ABCIndex99
tradingSystemMatchId: M5DIF33YV0
RtcTradeSideInfo (buy)TradingMember: ARTTMXX001
TradingUser: 24680
RtcTradeSideInfo (buy)ExternalAccountID: ABC123
offbookQuantityQty: 2000
price: 125.20
trade Type: report
...

TradeReportID: ABCdef123
firmTradeId: ABCIndex99
tradingSystemMatchId: M5DIF33YV0
RtcTradeSideInfo (sell)TradingMember: ARTTMXX001
TradingUser: 35790
RtcTradeSideInfo (sell) ExternalAccountID: ZXK754
offbookQuantityQty: 2000
price: 125.20
trade Type: report
...
...

Off Book Trade Types

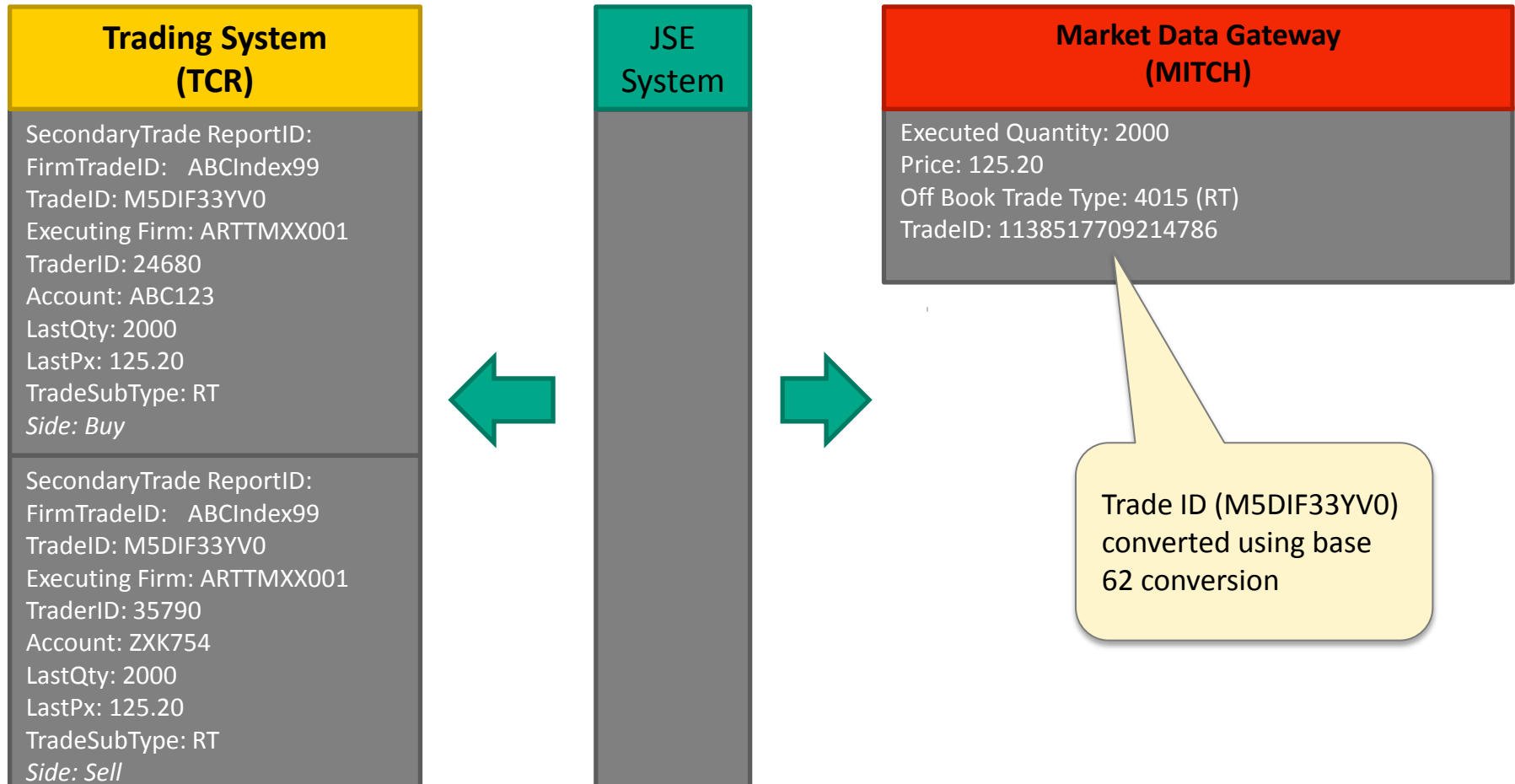
Single Party Trade Reporting Example



Market Data Example:

Off Book Trade message sent for executed trade

As per 9.14. in Volume 03 – Post Trade Gateway specifications



Off Book Trade Reporting

Dual Party Trade Reporting



- Different member firm is on each side of the trade
- Off Book trade is initially submitted by one of the parties via a Trade Capture Report
 - Off Book TCR must include identity of submitting Firm i.e. FirmID, TraderGroup, TraderID and Account
 - Off Book TCR must include identity of Counterparty Firm i.e. FirmID, and TraderGroup only
- The server will send a Trade Capture Report Ack to acknowledge the receipt of or rejection of the Off Book Trade Report Submission Request
- If the Trade Report Submission Request is accepted by the system, the server will automatically transmit a Trade Capture Report to the counterparty Firm to prompt them to either accept or decline the Off Book trade request
- The Trade Capture Report will include all of the trade information provided by the reporting party information (e.g. instrument, price, quantity, trade type, trade time, counterparty Firm and Counterparty TraderGroup etc.) specific to the side of the initiating Firm will not be provided

Off Book Trade Reporting

Dual Party Trade Reporting



- The counterparty must either accept or decline the Off Book trade request via a Trade Capture Report
 - A Trade Capture Report Ack will be sent by the server to acknowledge the response of the counterparty Firm
 - The server will report the trade confirmation to each of the counterparties via separate Trade Capture Reports if the trade is confirmed by the counterparty Firm
 - If the trade is declined, the server will notify the Firm that initially reported the trade via a Trade Capture Report
- An unconfirmed Off Book trade report (i.e. where the counterparty has not yet accepted/rejected) may be cancelled by the party that initially reported it
- All unconfirmed Off Book trade reports within the system are automatically cancelled by the system at the end of the trading day. A notification will not be sent upon the expiry of the unconfirmed Off Book trade report
- The process to cancel an Off Book trade is identical to the process used to report it

Off Book Trade Reporting

Dual Party Trade Reporting



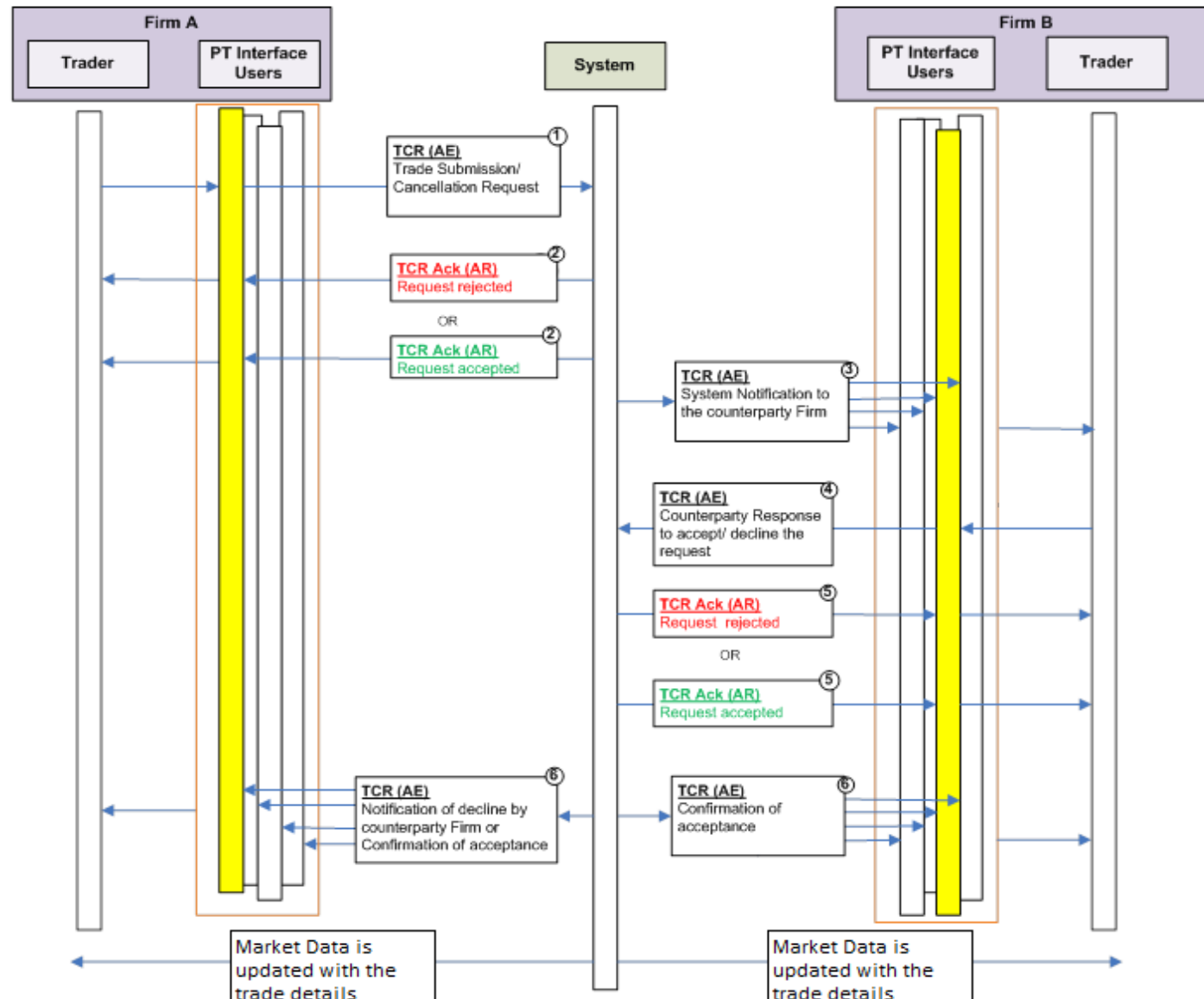
In the TCR message a single party trade report is captured with TradeHandlingInstr (1123) = 3 (One-Party Report for Pass Through)

112 3	TradeHandlingInstr	Y	<p>Specifies how the Trade Capture Report should be handled, whether it is Single Party Reporting model, Dual Party Reporting model or a trade confirmation</p> <p>Possible values will be;</p> <table><tr><th>Value</th><th>Meaning</th></tr><tr><td>0</td><td>Trade Confirmation</td></tr><tr><td>1</td><td>Two Party Report</td></tr><tr><td>3</td><td>One-Party Report for Pass Through</td></tr></table>	Value	Meaning	0	Trade Confirmation	1	Two Party Report	3	One-Party Report for Pass Through
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- Indicates that there are two parties within a single message submitted by the user

Off Book Trade Reporting

Dual Party Trade Reporting



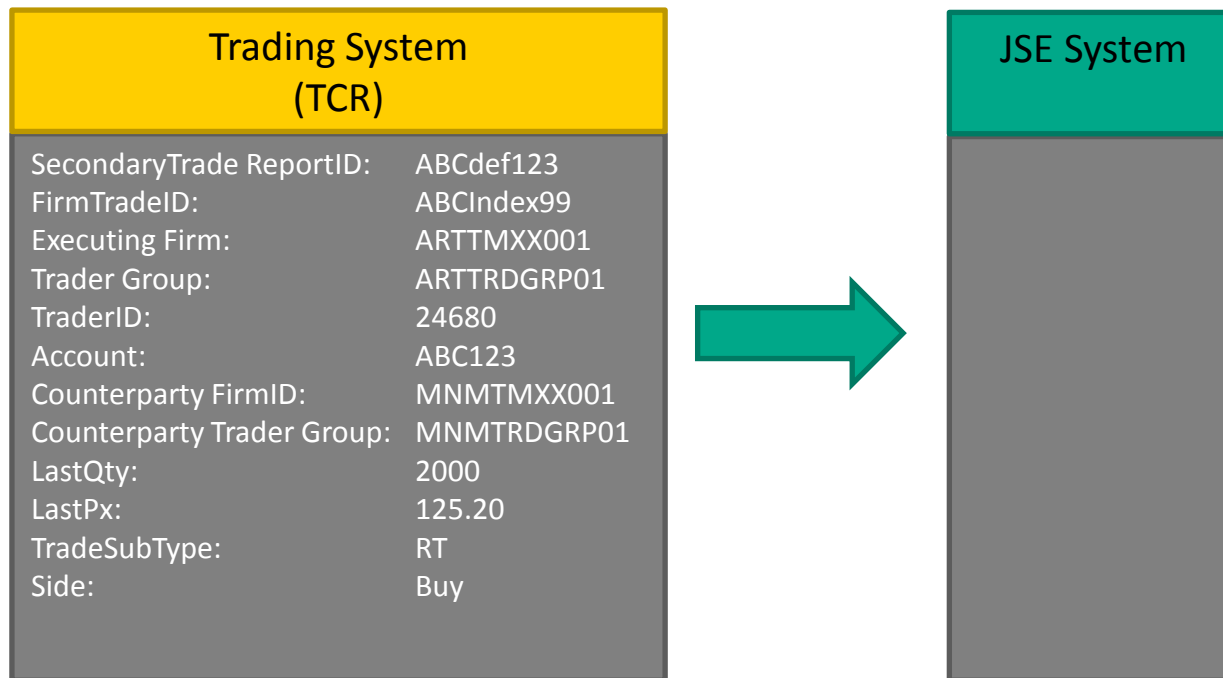
Off Book Trade Reporting

Dual Party Trade Reporting Example



Step 1: Trade Capture Report entered by Firm

As per **8.6.1.1** in Volume 03 – Post Trade Gateway specifications



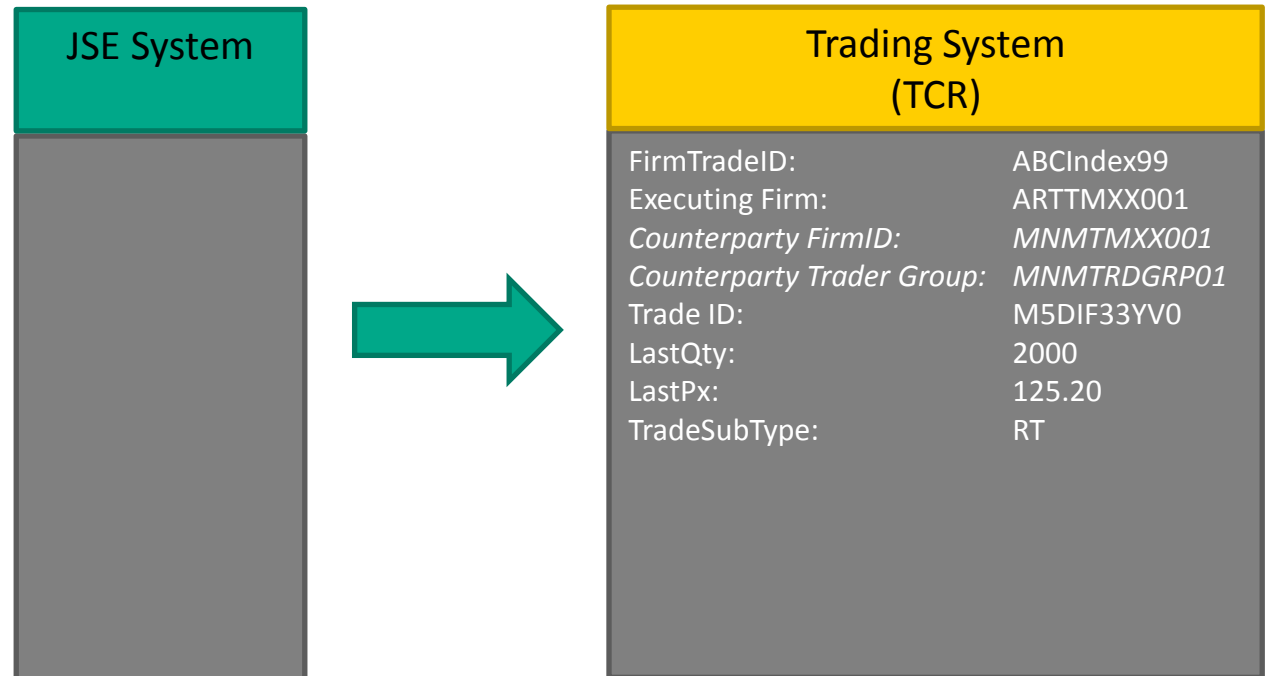
Step 2: TCR Ack (AR) accepted or rejected

Off Book Trade Reporting

Dual Party Trade Reporting Example



Step 3: Trade Capture Report Notification sent to Firm by the system
As per **8.6.2.2** in Volume 03 – Post Trade Gateway specifications

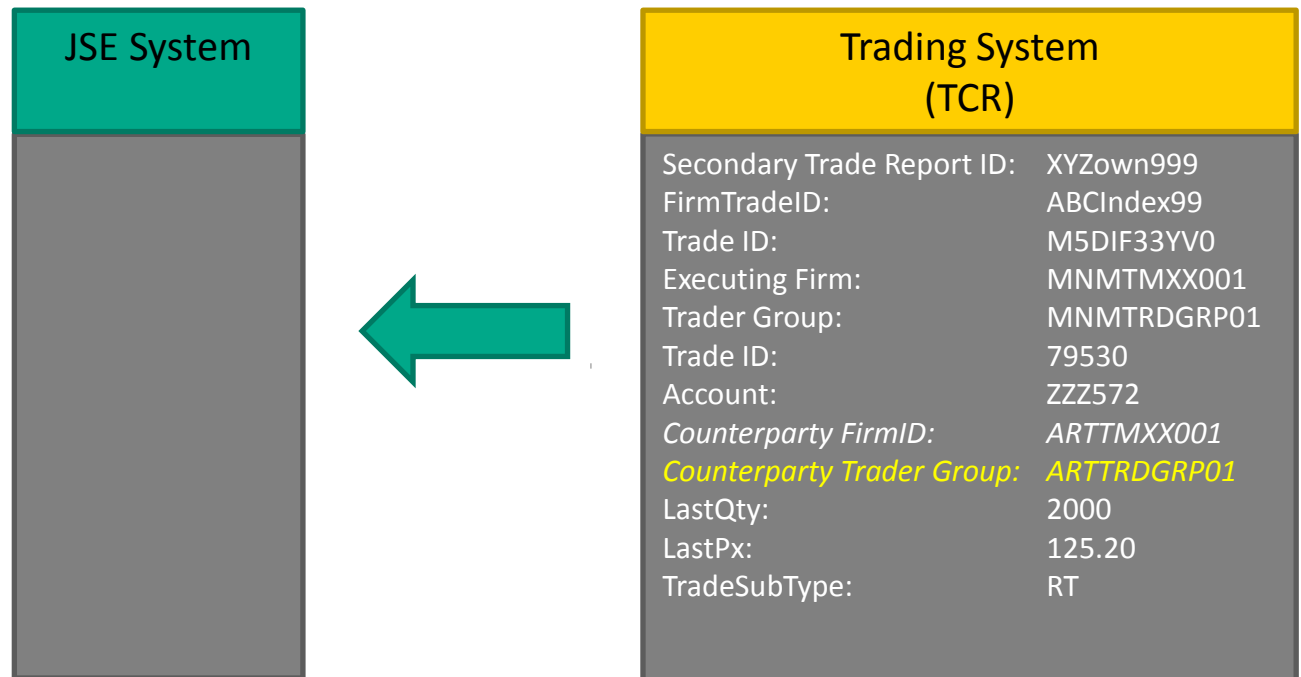


Off Book Trade Reporting

Dual Party Trade Reporting Example



Step 4: Trade Capture Report entered by Firm
As per **8.6.1.2** in Volume 03 – Post Trade Gateway specifications



Step 5: TCR Ack (AR) accepted or rejected

Off Book Trade Reporting

Dual Party Trade Reporting Example



Step 6: Trade Capture Report sent to **buy** side Firm
As per **8.6.2.4** in Volume 03 – Post Trade Gateway specifications

Trading System (TCR)

SecondaryTradeReport ID: XYZown999
FirmTradeID: ABCIndex99
TradeID: M5DIF33YV0
Executing Firm: ARTTMXX001
Trader Group: ARTTRDGRP01
TraderID: 24680
Account: ABC123
Counterparty Firm: MNMTMXX001
LastQty: 2000
LastPx: 125.20
TradeSubType: RT
Side: Buy

JSE System

Clearing System

TradeReportID: XYEZown999
firmTradeId: ABCIndex99
tradingSystemMatchId: M5DIF33YV0
RtcTradeSideInfo (buy)TradingMember: ARTTMXX001
TradingUser: 24680
RtcTradeSideInfo (buy) ExternalAccountID: ABC123
offbookQuantityQty: 2000
price: 125.20
trade Type: report
...
...

Off Book Trade Reporting

Dual Party Trade Reporting Example



Step 6: Trade Capture Report sent to **sell** side Firm.
As per **8.6.2.4** in Volume 03 – Post Trade Gateway specifications

Trading System (TCR)

SecondaryTradeReportID: XYZown999
FirmTradeID: ABCIndex99
TradeID: M5DIF33YV0
Executing Firm: ARTTMXX001
Trader Group: ARTTRDGRP01
TraderID: 24680
Account: ABC123
Counterparty Firm: MNMTMXX001
LastQty: 2000
LastPx: 125.20
TradeSubType: RT
Side: Sell

JSE System

Clearing System

TradeReportID: XYEZown999
firmTradeId: ABCIndex99
tradingSystemMatchId: M5DIF33YV0
RtcTradeSideInfo (sell)TradingMember:MNMTMXX001
TradingUser: 79530
RtcTradeSideInfo (sell) ExternalAccountID: ZZZ572
offbookQuantity: 2000
price: 125.20
trade Type: report
...
...

Off Book Trade Reporting

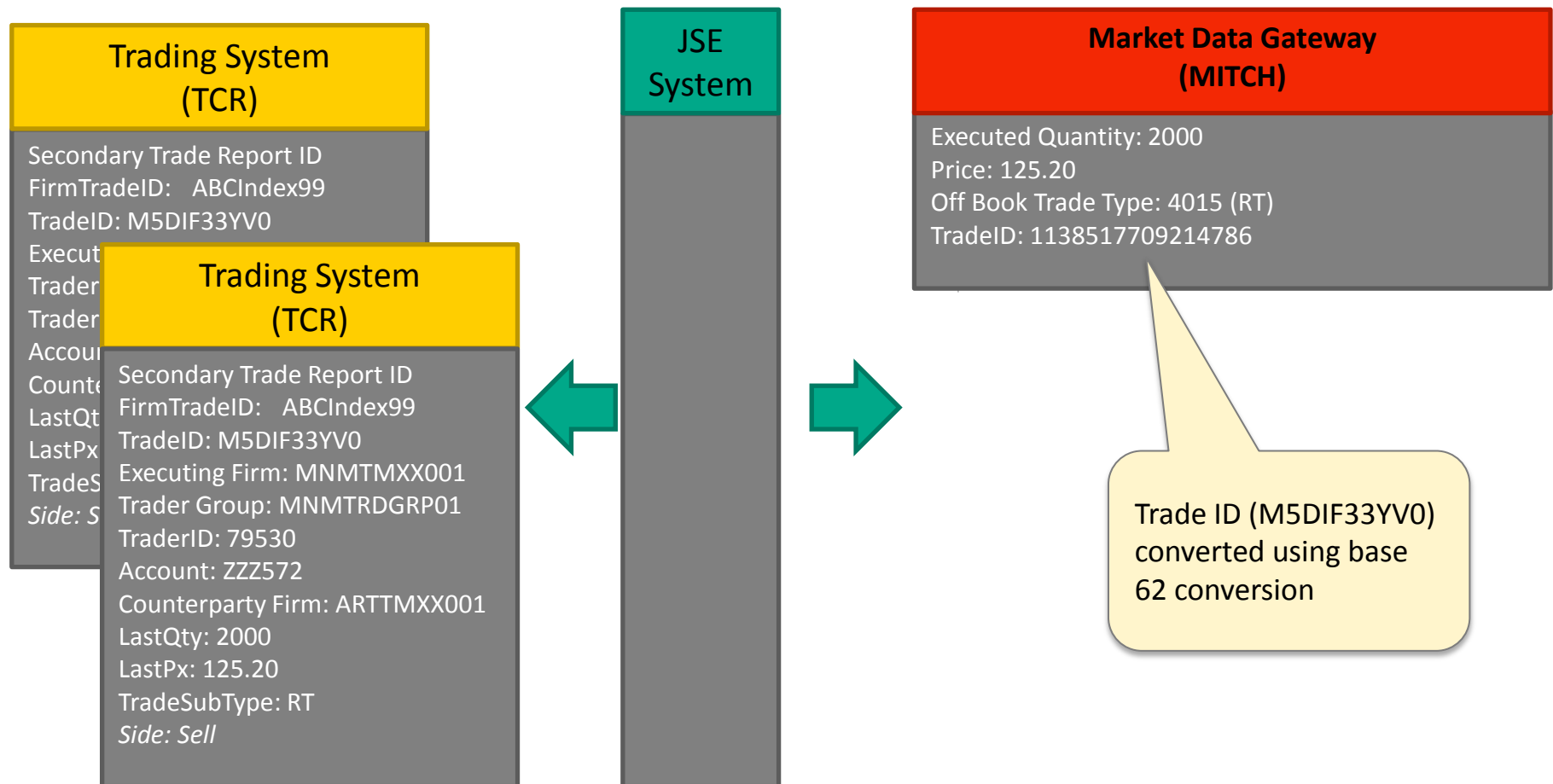
Dual Party Trade Reporting Example



Market Data Example

Off Book Trade message sent for executed trade

As per 9.14. in Volume 03 – Post Trade Gateway specifications



Additional Matching Criteria



In addition to the standard matching criteria there are specific match

- Equity and FX Options
 - Price/Volatility (31)
 - Futures Price (810)
- CFD Reported Trade (CD)
 - Interest Rate Spread (218)
- EP (Exchange for Physical) – only for FX
 - LastSpotRate (194)

Off Book Strategy Trading



- Certain Strategies can be reported via numerous Off Book transactions.
Same logic as entering a single- or dual-sided Off Book Trade
- Fields within Trade Capture Report Messages become mandatory
 - TradeSubType (829) is denoted as Strategy Trade (SR - 4020)
 - Strategy Type (27110) has mandatory values of either
 - 1 – Delta Option
 - 2 – Inv Cal Spread (currently Calendar Spread)
 - 3 – Splits
 - 4 – FwdFwd
 - StrategyLinkID (27100) is mandatory for ensuring all individual TCRs are linked to indicate a strategy trade
 - Billing identifies the individual deals via the StrategyLinkID

Off Book Strategy Trading



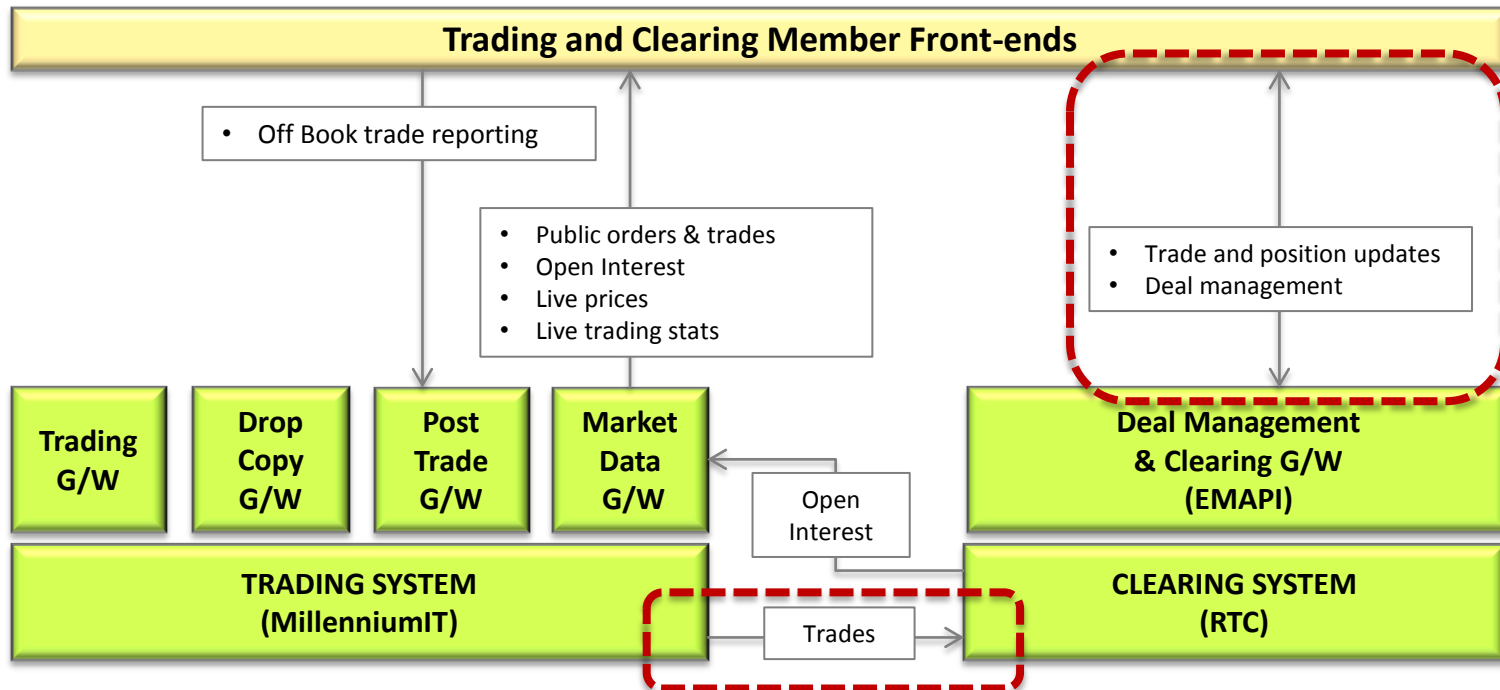
- Fields within Trade Capture Report Messages become mandatory
 - TradeSubType (829) is denoted as Strategy Trade (ST)
 - Structured Products that are not multi-legged i.e Structured Products
 - Strategy Type (27110) must not be populated * WIP
 - StrategyLinkID (27100) is not mandatory for * WIP

Post Trade Gateway

Off Book Trade Reporting – Clearing



- All Off Book reported trades (including single and dual party reported trades) are received and processed in the RTC clearing system in the same manner as On Book trades
- Upon receipt of an Off Book trade, trade and position updates are published via the RTC deal management & clearing gateway
- Trading and Clearing Members (on behalf of) will be able to perform all deal management functions on the Off Book reported trades via the RTC system
- All reported trades will have trade type mapped as 'report', except for cancellations



Off Book Strategy Trading

Clearing Implication



- All strategy trades are received in RTC as individual trades that make-up the strategy
- The individual trades are linked by a common 'Link ID'
- All deal management functions are allowed on the individual trades



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Trade Cancellations

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Johannekie Schnetler

Trade Cancel

On Book Trade, Same Day



- On Book trades may be cancelled (following Market Regulation approval) through the submission of a Trade Capture Report (TCR) via the Post-Trade Gateway
- Both parties are required to submit cancellation TCR's identifying the original trade to be cancelled
- Only once both sides of the cancellation request are received, will the cancellation be confirmed

Trade Cancel

On Book Trade, Same Day



The following basic business requirements for requesting a trade cancellation must be considered:

- The counterparty will be contacted to request a voluntary cancellation of the error trade. If the counterparty is unwilling, JSE will invoke the Error Trade rule which considers the following:
 - Error trade occurred less than 20 minutes prior to it being reported to the JSE
 - The order resulting in the error trade has been on the order book for less than 30 minutes
 - The aggregate loss is at least 50 000 ZAR when compared with the reference price
 - The error price is outside of the “No Cancellation Range”
- **JSE Market Regulation will investigate whether the nature of the error qualifies for cancellation in terms of the JSE rules and directives – only then can an On Book trade be cancelled.**

Trade Cancel

On Book Trade, Same Day - Example



1. Member A matches with Member B on-screen:

Order book: ABCD

O1	TR1 (for Member A)	200 @ 125	O2	TR2 (for Member B)	200 @ 125
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Match

Trade ID: 123
Buy Side: Member A
Sell Side: Member B
Qty: 200
Price: 125

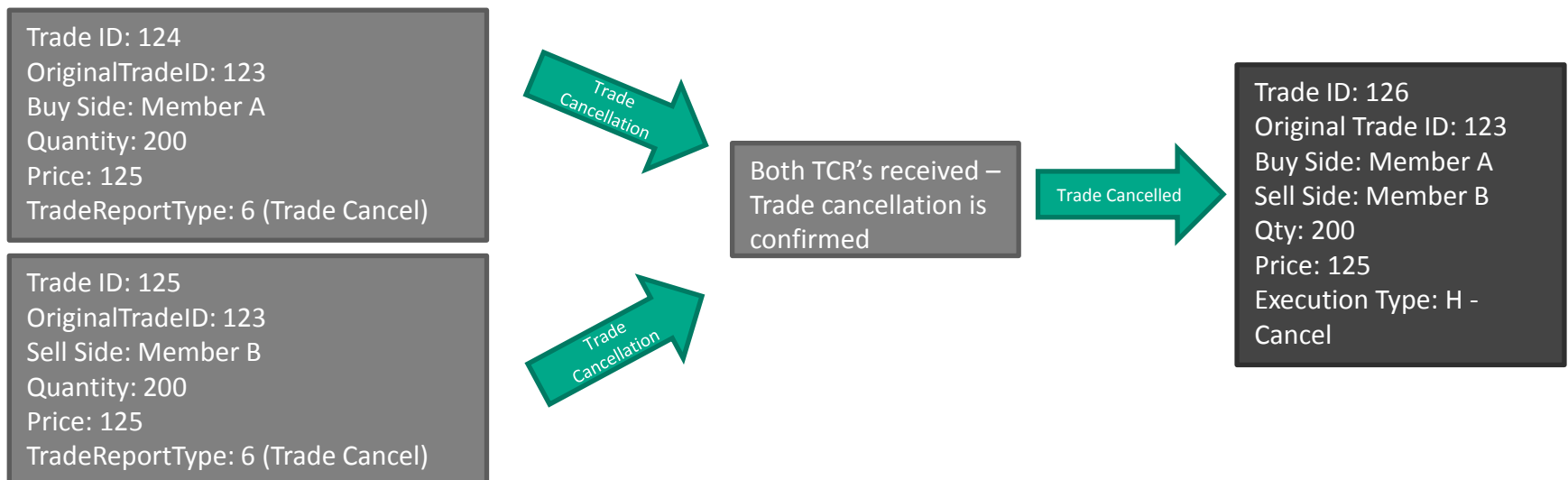
2. Member A has incorrectly captured their order and thus wish to cancel the trade and contacts the JSE
3. The Counterparty and JSE Market Regulation are consulted for approval

Trade Cancel

On Book Trade, Same Day – Example contd.



4. If approved, Member A submits cancellation request (TCR) through the Post Trade Gateway with TradeReportType = 6 (Trade Cancel)
5. Member B submits trade cancellation request (TCR) through Post Trade Gateway
6. Both cancellation TCR's will identify the original trade (Original Trade ID), and the side of the reporting party (buy/sell)
7. When both cancellation TCR's are received, a cancellation confirmation is sent to both parties via a TCR message with the Original Trade ID = Trade ID of cancelled trade, and Execution Type = H (Trade Cancel)



Trade Cancel

On Book, Same Day with Price Adjust



- Under certain circumstances Market Regulation may approve a trade cancellation with a Price Adjust. Such circumstances may include:
 - The innocent counterparty has already closed the position and thus their P&L position needs to be considered
 - The position was an underlying hedge, and cancellation may leave this innocent party exposed
 - Other conditions are considered on a case by case basis
- In this case, the original on book trade is cancelled, and re-captured at an adjusted price via a Off Book Trade. The original positions are not reversed, only P&L is adjusted

Trade Cancel

On Book, Same Day with Price Adjust - Example



1. Member A matches with Member B on-screen

Order book: EFGH

O1	TR1 (for Member A)	200 @ 125	O2	TR2 (for Member B)	200 @ 125
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Match

Trade ID: 567

Buy Side: Member A

Sell Side: Member B

Qty: 200

Price: 125

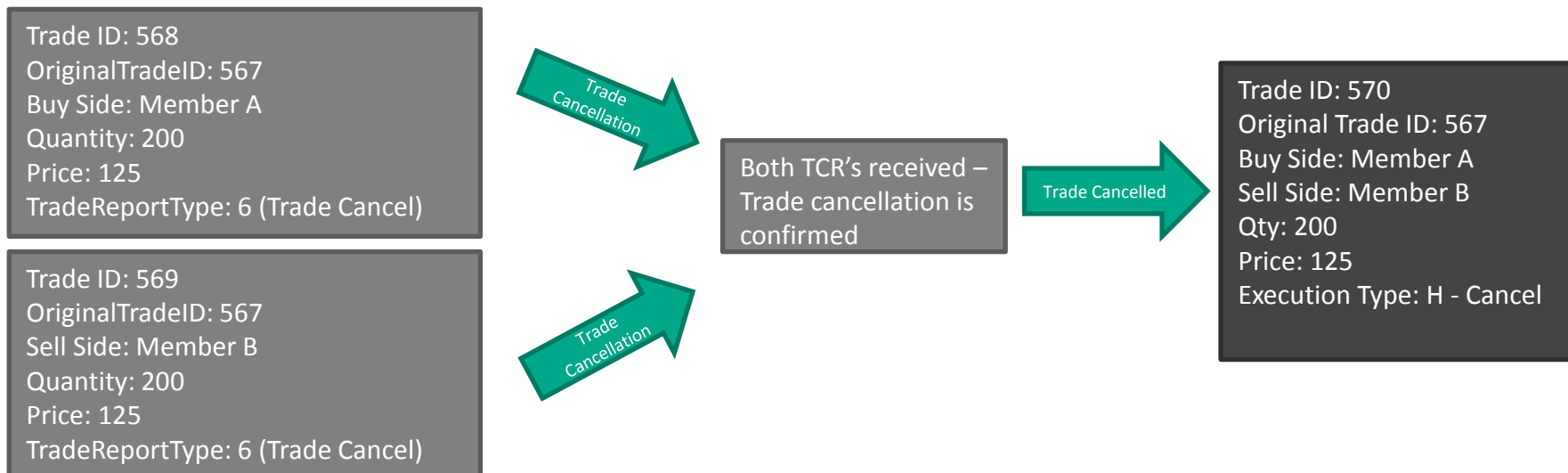
2. Member A wishes to cancel the trade
3. Market Regulation is consulted and approve the trade cancellation with a Price Adjust.
The adjusted price is communicated to the counterparties

Trade Cancel

On Book, Same Day with Price Adjust – Example contd.



4. Member A and Member B submit cancellation TCR's. Once received the original trade is cancelled through the Post Trade Gateway with TradeReportType = 6 (Trade Cancel)
5. Confirmation TCR is published with the Original Trade ID = Trade ID of cancelled trade, and Execution Type = H (Trade Cancel)

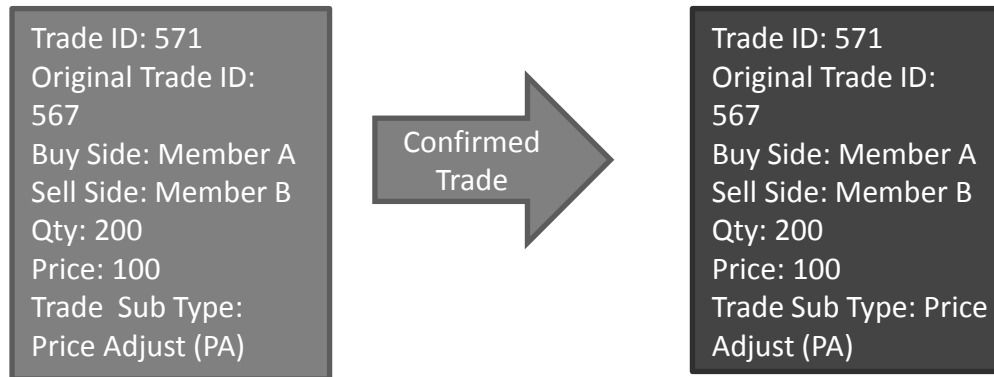


Trade Cancel

On Book, Same Day with Price Adjust – Example contd.

JSE

6. JSE captures new Off Book trade at adjusted price, with trade sub type = PA (Price Adjust)



Trade Cancel

Off Book, Same Day



Off Book cancellations will occur as follows:

- The requesting Member will report a cancellation TCR. Both sides of the trade will be included in cancellation TCR (For Single-Sided trades, Executing Firm and Counterparty Firm will be the same)
- The counterparty will receive a TCR which they must accept or reject (Dual-Sided model)
- If accepted, the cancellation is confirmed and a Trade Capture Report is published via the Post Trade Gateway



Trade Cancel

On Book & Off Book, Next Day



- Can only be carried out through an equal and opposite Off Book trade report (i.e. reversal of positions)
 - TradeReportType = 0 (Submit New Report)
- Reporting party must include the following information:
 - Counterparty Information (For Single-Sided trades, Executing Firm and Counterparty Firm will be the same)
 - OrigTradeID must be populated – required for JSE validation
 - Trade Sub Type = LC (Off Book) * WIP
 - Trade Sub Type = PC (On Book)* WIP
- The counterparty must accept or reject the trade report (Dual-Sided Model)
- When accepted, a Trade Capture Report is published via the Post Trade Gateway
 - ExecType = F (Trade)
- JSE validates OrigTradeID to ensure the cancellation has been executed correctly* WIP
 - Ensure the PC/LC trade is an equal and opposite capture of the original trade

Trade Cancel

General Information



- Cancellation of Negotiated Trades (i.e. trades resulting from RFQ's) will be identical to On Book Trade cancellations
- A Trade Break message is published via the MITCH market data multicast feed when a trade is cancelled on the day of execution, which will include the following:
 - The Trade ID of the cancelled trade
 - On Book, Off Book or Negotiated (RFQ) trade
- All price and volume fields published on the Extended Statistics message via the MITCH gateway will be updated accordingly following a trade cancellation
- Clearing Member users will be permissioned to submit trade cancellation TCR's for any trade reported under the Trading Member firms they are enabled for. The process will be identical to the trade cancellation process for Traders

Trade Cancel

Clearing Implications



- Cancelled trades (On Book and Off Book) are received by RTC as new reported trade with trade type 'CT'
- A trade update will be sent out for the original trade, indicating that no further deal management will be allowed
- A trade and position update will be sent out for the cancelled trade - the cancelled trade is effectively an equal and opposite of the original trade
- All deal management functions are allowed on the new cancelled trade – this is to allow for corrections where the original trade was deal managed before the cancellation was done
- In the event where the original trade was part of an Accumulation and resulted in an average price for the new accumulated trade, the cancelled trade should be booked at the average price and the original quantity

Trade Cancel

Clearing Implications contd.



- In all other deal management scenarios e.g. Assign, Allocate, etc. the cancelled trade should be booked at the original trade price and quantity
- New trades that are booked to facilitate Price Adjusts, Next Day On Book and Off Book cancellations, will be received and managed in RTC as normal reported trades with specific reported trade types:
 - Price Adjust – PA,
 - Next Day On Book Cancellation - PC
 - Next Day Off Book Cancellation - LC



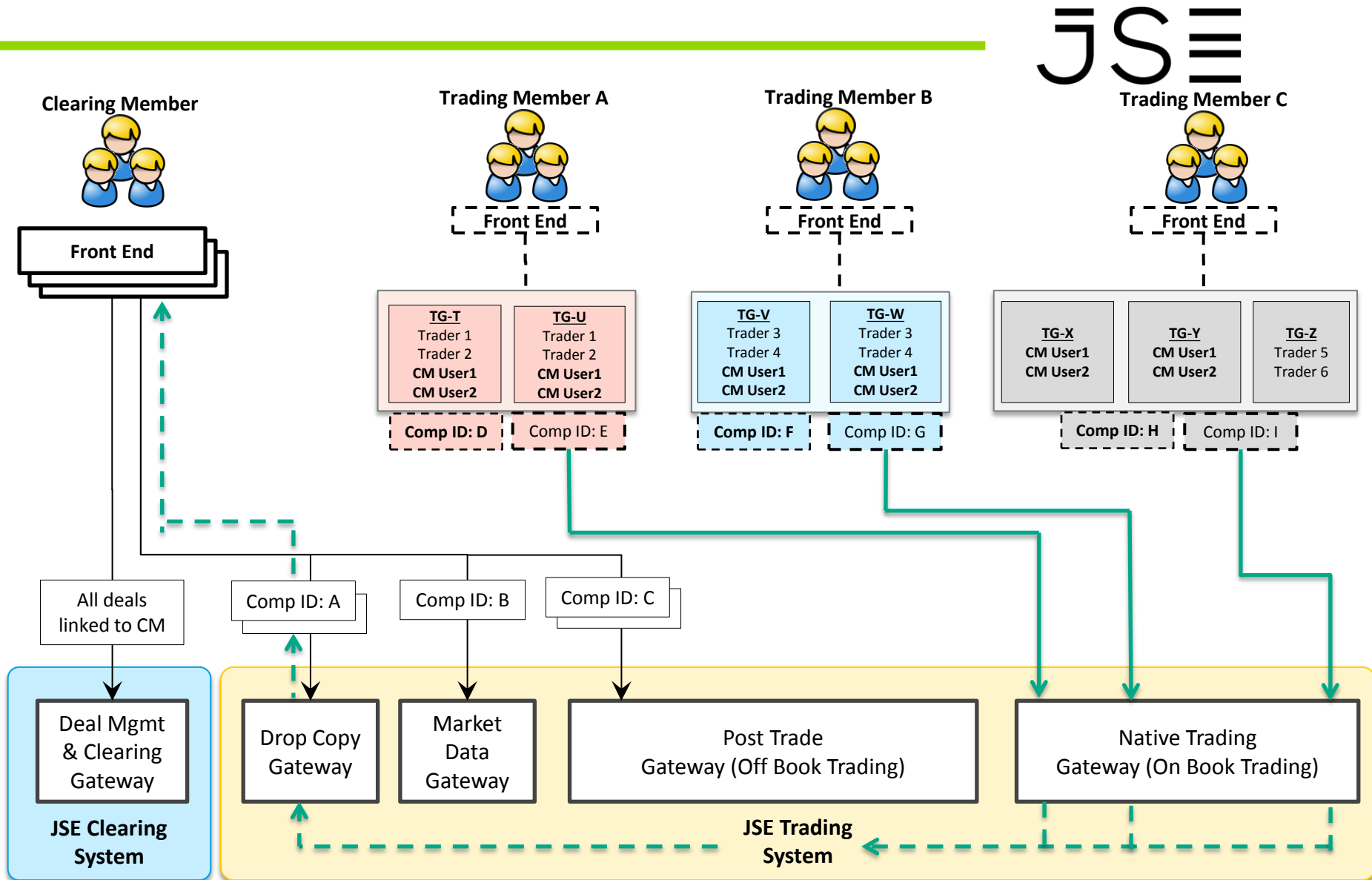
JS≡

Drop Copy and Trade Copy functionality

Martin Koch

Clearing Member Real-Time Services

Drop Copy – Execution Reports



Clearing Member Real-Time Services

Drop Copy – Execution Reports



- Execution Reports are sent by the server in response to Native Trading Gateway order-entry messages
- The same Execution Report (ER) is 'copied' and sent to the Drop Copy Gateway
- Identifiers in the ER allows the CM to identify the origin and owner of the order
 - OnBehalfOfCompID (115) indicates the CompID that initiated the activity in the Native Trading Gateway
 - ClOrderID (11) maps directly to each message submitted to the Native Trading Gateway by the Trading Member user
 - OrderID (37) displays the system-generated identifier of the order and can be mapped back to the public message
 - PartyRole (452) identifies the Firm, Trader Group and TraderID submitted in the original message

Clearing Member Real-Time Services

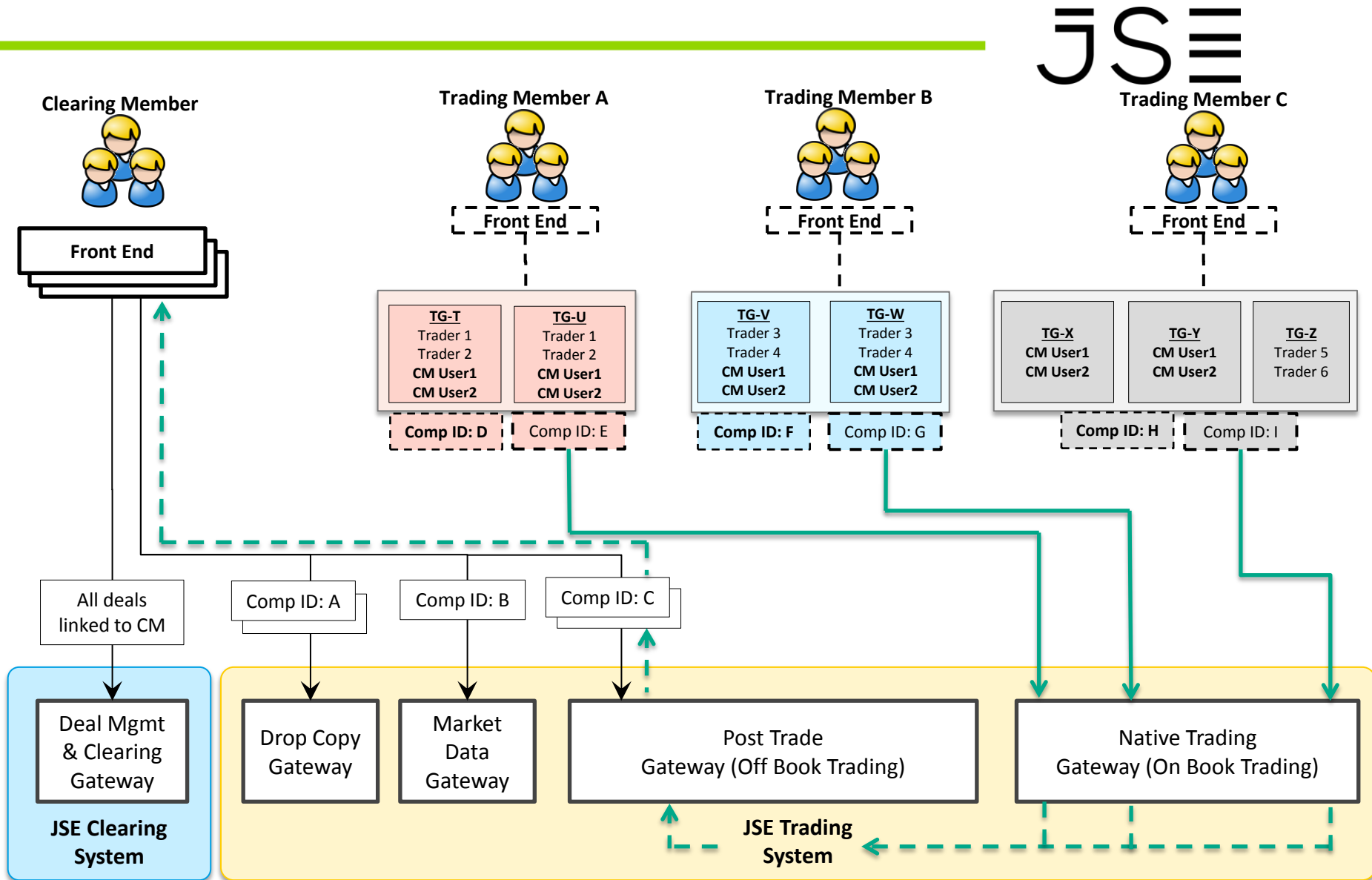
Drop Copy – Execution Reports



- Allows for real-time monitoring of positions
- Clearing Member (CM) connects per asset class and receives all ERs from all Trading Members (TMs) the Clearing Member (CM) clears for
- Benefits
 - Fast, microsecond difference between ERs to CM and TM
 - Independent view of exposure
 - Detailed exposure and status of orders all the way down to a Trader ID level

Clearing Member Real-Time Services

Trade Copy – Trade Capture Reports



Clearing Member Real-Time Services

Trade Copy – Trade Capture Reports



- An On Book order that matches or a matched Off Book Trade are sent by the server to the TMs Post Trade Gateway as confirmed Trade Capture Reports (TCR)
- The same TCR is 'copied' and sent to the Post Trade Gateway to be consumed by CM logins
- Identifiers in the TCR allows the CM to identify the origin and owner of the order
 - No CompID identifier exists as this is considered Post Trade activity
 - ClOrderID (11) maps directly to each message submitted to the Native Trading Gateway by the Trading Member user
 - OrderID (37) displays the system-generated identifier of the order and can be mapped back to the public message
 - PartyRole (452) identifies the Firm, Trader Group and TraderID submitted in the original message

Clearing Member Real-Time Services

Trade Copy – Trade Capture Reports



- CMs also receive TCRs when Off Book trades are reported
- CM connects per asset class and receives all TCRs from all TMs the CM clears for
- Benefits
 - Fast, microsecond difference between TCRs to CM and TM
 - Independent view of exposure
 - Detailed exposure and status of position all the way down to a Trader ID level
 - Insight into Off Book trade activity before execution takes place



Reference and pricing data management

Martin Koch &
Lionel Goncalves

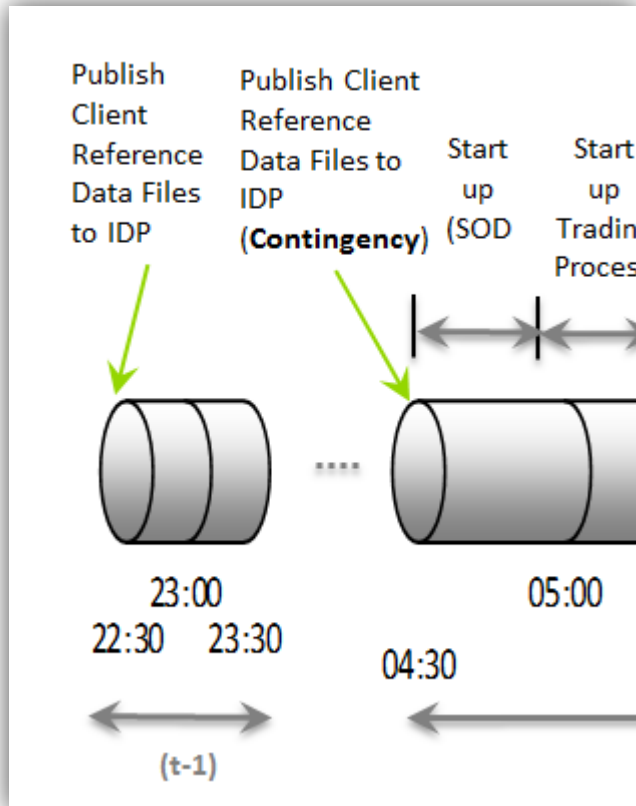
Reference Data Management

Static Reference Data



Reference Data is available every evening (by 22:00) on JSE IDP site for download and for contingency purposes by 5:00 the next morning

- All detailed information available
- All detailed Instrument Data
 - Futures, Options, CFDs etc.
- Markets
- Firm details
- Order Books applicable to instruments
- Trading Parameters (On and Off Book)
- Tick Structures
- Trade Types (Off Book)
- etc



Reference Data Management

TraderGroup File



- Trade Reporting is enhanced to include Counterparty TraderGroup in addition to Counterparty Firm
- Both fields are now mandatory when submitting a dual-sided trade report (Equity Market still only requires the Counterparty Firm ID)
- TraderGroup Naming

Firm Alpha Code (3) + Role Type (..) + System generated 3 digit number

How do you want it? All or selected?

Reference Data Management

TraderGroup File



File layout:

5.2.6 Trader Groups

The Trader Groups CSV file will be downloaded with the following layout

File name: TraderGroups.csv

Field Name	DataType	Description
BrokerID	varchar(11)	A unique identifier of the Firm or Information Subscriber across the system per market. This is the Firm ID.
TraderGroupName	varchar(11)	Trader Group identifier within the specific firm
Description	varchar(100)	Optional description to be used by clients to inform counterparties about a specific Trader Group and its uses.

ARTTMZZV222	ARTTRDGRP01	CFDs
ARTTMZZV222	ARTTRDGRP02	Dividend Neutrals
ARTTMZZV222	ARTTRDGRP03	Options Desk
ARTTMZZV222	ARTTRDGRP04	Retail
ABCTMZZV321	ABCTRDGRP01	Dual-Party Trader Group
DEFTMZZV789	DEFTRGGRP01	Index Futures
DEFTMZZV789	DEFTRGGRP02	Other Futures
DEFTMZZV789	DEFTRGGRP03	Currencies
DEFTMZZV789	DEFTRGGRP04	Institutional
DEFTMZZV789	DEFTRGGRP05	Retail

Reference Data Management

TraderGroup File

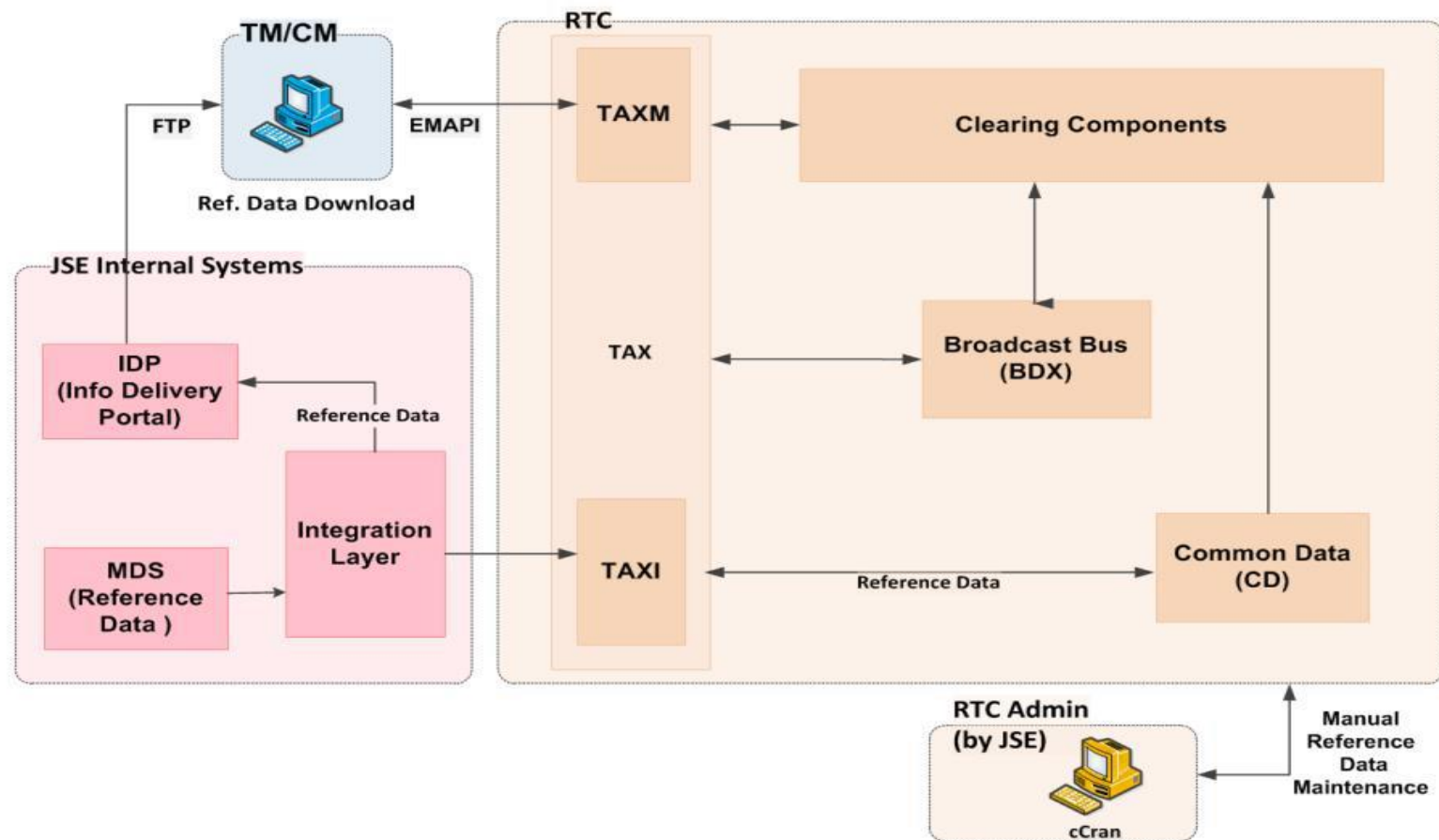


Feedback required:

- Publish all TraderGroups of a Firm numbered consecutively?
- Publish only TraderGroups needed for Dual-Party Reporting?
 - Clients to indicate which Groups should be published on order form during the enablement process?

Reference and Market Data in support of Clearing

Architecture overview



Clearing Reference Data

Principles



- All reference data required to interface to RTC is provide via EMAPI¹
- A full set of reference data is provided daily
- Reference data is maintained by the JSE and Customers (via EMAPI)
- Reference data is published on guaranteed broadcast data flow (TCP/IP)
- Subscriptions can be done via snapshot (full set of reference data) as well as intraday updates
- Replay of reference data is not supported as the snapshot subscription will provide all current reference data

¹*Billing parameters available via IDP*

Clearing Reference Data

Sample reference data



#	Reference Data Entity	Reference Data Flow Object	JSE to Maintain (Yes/No)	Members to Maintain (Yes/No)
1.	Clearing Member	Member	Yes	No
2.	Trading Member	Member	Yes	No
3.	Member Branch	Member	Yes	No
4.	Member Client	Member	No	Yes
5.	Clearing Member Link	ClearingMemberLink	Yes	No
6.	Tripartite Agreement	TripartiteAgreement	Yes	No
7.	Cash Account	CashAccount	Yes	Yes
8.	Market	Market	Yes	No
9.	Market List	MarketList	Yes	No
10.	Segment	Segment	Yes	No
11.	Instrument	Instrument	Yes	No
12.	Tradable Instrument	TradableInstrument	Yes	No
13.	Calendar	RtcCalendar	Yes	No
14.	Currencies	Currency	Yes	No
15.	Country	Country	Yes	No
16.	Risk Node	RiskNode	Yes	No
17.	Series Spread Group	SeriesSpreadGroup	Yes	No

Market Data in support of Clearing

Real-time data



- Certain market data will be provided via RTC EMAPI
 - Incl. events related to prices, curves, volatility surfaces, dividends and rates
- Market data is published on a RTC guaranteed broadcast flow (TCP/IP)
- Customers can set up subscriptions to receive the latest market data as well subsequent updates
- Replay of current day market data is supported

Market data is published at regular intervals during the day

NB. Participants using public reference and pricing data provided via the RTC EMAPI interface for operational purposes will need to sign JSE Data Agreements stipulating for what purpose the data is allowed/not allowed to be used.

Market Data in support of Clearing

Non-live market data



- Data provided in a FTP location (IDP) and pull based
- Data provided in fixed width and/or Excel formats
- Data available once a day at end of day
- Standard JSE IDP data retention principles apply
- Offering aimed as an alternative to EMAPI

NB. Participants using this data for operational purposes will need to sign JSE Data Agreements stipulating for what purpose the data is allowed/not allowed to be used.

Market Data in support of Clearing

Non-live market data



Product	Description	New/ Changed
EOD Products – Equity Derivatives	All record types	Changed
EOD Products – Interest Rate and Currency Derivatives	All record types	Changed
Risk Parameters Report	Contains all input parameters for J-Span	New
Dividends	Dividend information for a tradable instruments	Changed
Volatility Surfaces	Market data for a surface	Changed
South African Rates	Yield information	Changed
Rand Spot	Exchange rate	Changed

IDP will replace the JSE website as the primary point of access for non-live market data



JS

Market structure and setup

Martin Koch

Market Structure and Setup

High-level overview



- Markets will be split into
 - JSE_EDM
 - JSE_FX
- Order Books
 - Normal (On Book)
 - Off Book
 - Negotiated (RFQs)
- Trading Currency – **ZAR**
 - Equity Market trades in ZAC

Market Structure and Setup

High Level Overview



- Instruments will exist in broad instrument category
 - Future
 - Option
 - Underlying (non-tradeable)
 - Delta Option
 - CFD etc.
- These types are then grouped into Instrument Groups that allow trading parameters to be assigned in a larger bundle of instruments. Some instrument groups include:
 - JSE_EDM_ALSI – Equity Derivative ALSI expiries
 - JSE_EDM_SSF – Equity Derivative Single Stock Future expiries
 - JSE_FXM_STD – Currency Derivative Standard Instruments
 - JSE_FXM_EXT etc.

Market Structure and Setup

High Level Overview



- Various Price Tick Tables will be incorporated in the design, as different instruments will trade at different decimals depending on the market
 - JSE_STD_TICK – no decimals
 - JSE_2_TICK – two decimals
 - JSE_VOL_TICK – for volatility instruments
 - JSE_STD_TICK_NEG – for instruments that can trade with negative values
- Trading Parameters will determine what type of orders are allowed, Lot sizes, Maximum Order sizes, Circuit Breakers, implied order creation etc.
- Session Parameter Tables will specifically indicate the percentages that apply for circuit breakers to take effect, both dynamic and static

Market Structure and Setup

High Level Overview



- Different Trading Cycles will be created, these govern the times instruments move into certain pre-defined sessions per day. e.g.
 - EDM_FUT
 - EDM_OPT
 - FX_NORMAL_FUT
 - FX_DLSAVING_FUT
- These settings also determine specific trading sessions like Continuous Trading, Intra-day Auctions, Closing Auctions etc.

Questions?

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