Johannesburg Stock Exchange

JSE Release Document

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Note: The enhancements/changes are applicable to all markets (EDM, EQM and FXM) unless the market(s) is specified in brackets next to the change.

All changes marked with an asterisks (*) have a conformance impact. Volumes 201 and 202 will be updated in due course.

Upgrade Enhancements:

1. **Cancelling of Orders during the Start of the Trading Session**
   - Functionality to allow clients to cancel orders via Trading Gateways during the Start of Trading session.
   - No API document changes.
   - Volume 00D Section 5.4 and Volume 00E Section 8.4.2.

2. **Delayed Publication of BT Off-Book Trades (EQM):**
   - A delayed market data publication model will be implemented for Off-Book Trades of trade type 'BT' (Block Trades).
   - The configured delay will apply to all traded volumes and will be for a specific period (e.g. 2 hours).

     NOTE: This change will not go live with the current upgrade project, the functionality is enabled in this release and for information. Further communication will be provided after Go-Live to inform clients when this feature will be enabled

   - A new enum 'Delayed Publication (2)' will be added to the TradePublishIndicator (1390) field of the TCR submission request.
   - A new enum 'Release (3)' will be added to the TradeReportTransType (487) field of the Trade Capture Report.
   - No API document changes.
   - Volume 00E Section 11.
   - API document changes:
     - Volume 03 – Post Trade Gateway (FIX 5.0 SP2)

API Changes:

1. **Introduction of Liquidity Indicator (EQM) ***
   - A Liquidity Indicator field will be introduced to the Execution Reports of the Trading and Drop Copy Gateways to enable clients to determine the liquidity providing and liquidity taking sides of an execution.
   - A new field 'LastLiquidityInd (851)' will be introduced to the Execution Reports of FIX Trading Gateway and FIX Drop Copy Gateway.
   - A new field 'Last Liquidity Indicator' will be introduced to the Execution Report of the Native Basic Gateway.
   - API document changes:
     - Volume 01 – Native Trading Gateway
     - Volume 02 – Trading Gateway (FIX 5.0)
     - Volume 04 – Drop Copy Gateway (FIX 5.0)

2. **Adding the number of orders to the MITCH Top of Book Message (EDM & FXM) ***
   - The number of orders that constitute the best bid and best offer will be displayed in the MITCH Top of Book message (in addition to the existing best bid and offer prices and sizes in the Top of Book setting).
   - A new field 'Splits' will be introduced to the Top of Book message on the MITCH Market Data Gateway.
   - API document changes:
     - Volume 05 – Market Data Gateway (MITCH – UDP)

3. **Link the Business Reject Message with the Security Definition Request Message (EDM & FXM)**
   - Currently, when an invalid Security Definition Request message is submitted to the system a Business Reject message is disseminated back with no means of linking the two.
   - The Client Order ID field in the Business Reject message will be enhanced to display the Security Request ID submitted in the Security Definition Request message.
   - This will enable clients to link the Business Reject message with the Security Definition Request message.
   - API document changes:
     - Volume 01 – Native Trading Gateway

4. **Increase Length of Password Field on the Native Trading Gateway Logon Message ***
   - The lengths of the Password and New Passwords fields on the Logon Message will be updated to cater for a minimum of 12 and a maximum of 25 length in order to enhance the security for clients.
   - API document changes:
     - Volume 01 – Native Trading Gateway
   - **Note:** Due to the password length increase from the current length of 10 to a minimum of 12, all password fields across all APIs will need to be updated accordingly.

5. **Ability to use Security ID for User-Created Instruments (EDM & FXM) ***
   - Functionality to enable user-created instruments using the Instrument ID of the Reference Instrument.
   - The existing 'Reserve Field' (offset 31) position will be used to introduce the new 'Reference Instrument Identifier' field in the Security Definition Request message.
   - This field will indicate whether the 'Reference Instrument' field is the 'Symbol' or the 'Instrument ID'.
   - **Note:** If this field is 'empty', the Native Enhanced Gateway will default the value to 0 (symbol). Thus, clients **may opt to not submit the 'Instrument ID'** of the reference instrument and instead **continue to use the 'symbol' with no change to their systems**.
   - API document changes:
     - Volume 01 – Native Trading Gateway

6. **Working Indicator ***
   - The 'Container' field in the Native Trading Gateway Execution Report will be replaced with a new field called 'Working Indicator' (similar to that on the FIX Trading Gateway Execution Report).

- The 'Working Indicator' field will be used to identify if the order is currently being worked (i.e. that the order has transitioned from a contingent order to a regular market/limit order).
- API document changes:
  - Volume 01 – Native Trading Gateway

7. **Microsecond Time Stamping ***
- The granularity level of all required time stamp fields will be increased to a microsecond level (i.e. in the YYYYMMDD-HH:MM:SS.uuuuuu format).
- The change will result in an increase in the length of fields.

   Note: There is no length change in the Native trading GW as the field length already caters for nanosecond granularity.

- API document changes:
  - Volume 01 – Native Trading Gateway
  - Volume 02 – Trading Gateway (FIX 5.0 SP2)
  - Volume 03 – Post Trade Gateway (FIX 5.0 SP2)
  - Volume 04 – Drop Copy Gateway (FIX 5.0 SP2)
  - Volume 05 – Market Data Gateway (MITCH – UDP)
  - Volume 06 – Market Data Gateway (FAST – UDP)

8. **Introduction of Protocol Versioning on Native Trading Gateways ***
- A new field 'Protocol Version' will be introduced to the Logon message of the Native Trading Gateway to enable clients to specify the protocol version.
- Version 1 will support the current live version.
- Version 2 will support any future releases by including new fields and enums introduced to messages, allowing clients who decide not to take up these features to remain on Version 1.
- Clients who connect leaving the Protocol Version field blank will be defaulted to the Version 1 Protocol.
- **Note**: **only Version 1 will be applicable for this release.**
- API document changes:
  - Volume 01 – Native Trading Gateway

9. **Enhancement to Post-Trade Transparency ***
- New post trade transparency flags, defined by clients and derived by the system will be disseminated via Market Data and Post Trade Gateways for Off-Book trades.
- The flags will be disseminated as 4 letter string fields via the MITCH and FAST Market Data Gateways.
- Dual-sided Off-Book trade reporting is subject to post-trade transparency flag validations, whereby both parties must submit the same set of flags.
- Other validations introduced include the rejection of Off-Book trades submitted by clients that are defined with flags that do not correspond to the instrument class.
- The following messages are impacted by this enhancement:
  - Trade Capture Report (Post Trade Gateway)
  - Market Data Incremental Refresh (FAST Market Data Gateway)
  - Trade message; Auction Trade message; Recovery message; and Off-Book Trade message (MITCH Market Data Gateway)
- API document changes:
  - Volume 03 – Post Trade Gateway (FIX 5.0 SP2)

- Volume 05 – Market Data Gateway (MITCH – UDP)
- Volume 06 – Market Data Gateway (FAST – UDP)

10. Real Time Circuit Breaker Alerts to Brokers *
- Clients that use the Drop Copy Gateway will have the option to receive a real time alert when one of their traders triggers a circuit breaker.
- The breach will be communicated via a 'News' message which will be introduced to the Drop Copy Trading Gateway. (Note: this is an optional message)
- The details of the trader responsible for the circuit breaker breach will be available in the RoutingID (217) field when the RoutingType (216) = 10 (Users) as the concatenated trader group and the trader ID (e.g. Tradergroup_TraderID).
  Note: The dissemination of trader details in this instance is different to the standard trader detail dissemination in the trader group party block in other FIX messages (i.e. trader group and trader ID are in separate repeating blocks).
- API document changes:
  - Volume 04 – Drop Copy Gateway (FIX 5.0 SP2)

11. Reject Code for Throttling
- A new enum 'Message Rate Exceeded' (8) will be added to the BusinessRejectReason (38) of the Business Reject Message.
- This will be disseminated when a client submits a message that exceeds the maximum rate of an Interface User ID (i.e. CompID).
- This new enum replaces the current enum 'Other' (0).
- API document changes:
  - Volume 02 – Trading Gateway (FIX 5.0 SP2)
  - Volume 03 – Post Trade Gateway (FIX 5.0 SP2)
  - Volume 04 – Drop Copy Gateway (FIX 5.0 SP2)

12. Post-Trade Information in Auction Bulk Trade Messages *
- The below information will be disseminated for an auction bulk trade via the Market Data Feeds.
  - ~~Instrument identification code and code type;~~ venue of execution~~; price notation; trading date and time; publication date and time; trading currency.~~
- API document changes:
  - Volume 05 – Market Data Gateway (MITCH – UDP)
  - ~~Volume 06 – Market Data Gateway (FAST – UDP)~~

13. Removal of Trade Break message
- The dissemination of the Trade Break message upon a trade cancellation via the MITCH Market Data Gateway will be discontinued.
- Instead, a trade cancellation will be communicated in the Trade, Off-Book or Auction messages. Each of these messages will have the 'CANC' flag sent.
- In addition, a trade cancellation message will be communicated in the Market Data Incremental Refresh message on the FAST Market Data Gateway.
- API document changes:
  - Volume 05 – Market Data Gateway (MITCH – UDP)
  - Volume 06 – Market Data Gateway (FAST – UDP)

Behaviour Changes:

1. **Include OrigClOrdD only for Client Requested Amendments and Cancellations**
   - Clients will no longer receive OrigClOrdID (41) in the Execution Reports sent via the FIX and Drop Copy Trading Gateways for amendments and cancellations initiated by the system and/or market operations.

2. **Submitting an invalid 'new' password**
   - In the event that a client creates a new password which is invalid (i.e. does not comply with the password policy) the system will still enable the client to connect (provided the username and current password were entered correctly). The system will then send a message indicating that the new password has not been accepted.

3. **Prioritising Parked Orders based on the Original Entry Time in Park Order Queue**
   - Previously, orders that moved between the main container and the parked container would lose priority when added back to the parked queue.
   - This enhancement enables orders to move between containers without losing time priority (due to the movement).
   - As a result, orders that are allowed to trade in multiple auctions, such as GFA Orders, will be able to participate in multiple auctions without losing time priority.
   - Volume 00E Section 8.3.2 and Volume 00D Section 6.1.3.

4. ~~**Dissemination of Trigger Price for Stop and MIT Orders**~~
   - ~~When a Stop or MIT order is converted to a Limit Order, the Trigger Price (the Stop Price) will be disseminated via the FIX Trading and Drop Copy Exception Reports.~~

5. **Submission of an invalid PartyID**
   - The party block will not be stamped for rejections received via the FIX Trading Gateway due to an invalid user whose party role is set to 'trading mnemonic' (PartyRole = 53).

6. **FIX message validation**
   - When a valid FIX message is submitted to a FIX-based gateway that does not support that particular FIX message, the action will be rejected via a Session Reject message (previously it was via a Business Reject message).
   - Note: refer to Appendix A.

7. ~~**PartitionID Field in the Security Definition Message on FAST Market Data Gateway (EQM)**~~
   - ~~The PartitionID Field in the Security Definition message of the FAST Market Data Gateway will be changed from being a mandatory field to non-mandatory.~~
   - ~~API document changes:~~
     - ~~Volume 06 – Market Data Gateway (FAST – UDP)~~

Notes:

1. **RFQ related messages have been introduced across all APIs. These messages represent current functionality and use of RFQs in the trading system. There may be changes to these message and fields when the JSE decides to implement RFQ functionality. Further information will be communicated in due course. Please refer to the appendix B.**

2. MiFID II related fields have been removed ~~introduced~~ across all APIs. A few fields have been introduced. Please refer to the appendix C.

3. Volume 09E/D will be published [in a combined document.](#)

Appendix

A: FIX Message Validation

<u>Changes to field level validations:</u>
Previously, if any of the following fields were submitted with 'Null', they would be rejected with a session reject (code - 1, reason - Required tag missing). After this change, these fields will be rejected with a business reject (code - 5, reason - Conditionally required tag missing).

Message	Fields	Gateway
New Order Single Order Cancel Request Order Cancel/Replace Request ~~Mass Quote~~ Quote Quote Request Quote Response Quote Request Reject	PartyIDSource PartyRole RFQ ID	FIX Trading Gateway
Order Mass Cancel Request Quote Cancel	TargetParty IDSource TargetParty Role	FIX Trading Gateway
TCR (Off Book SSTR and DSTR)	PartyID Source PartyID Source Party Role Party Role	Post Trade Gateway

Message	Fields	Gateway
TCR (amend)	PartyID Source Party Role	Post Trade Gateway

Previously, when the following field was submitted with 'Null', it would be rejected with "1-Unknown symbol (security)". After this change, this field will be rejected with a session reject (code - 1, reason - Required tag missing).

Message	Field	Gateway
~~Mass Quote~~	~~Symbol~~	~~FIX Trading Gateway~~

Previously, when the following field was submitted with 'Null', it would be rejected with code - 7813 and reason - TradeReportTransType not specified. After this change, this field will be rejected with a session reject (code - 1, reason - Required Tag missing).

Message	Field	Gateway
TCR (Off Book SSTR and DSTR) TCR (On Book- Cancel Contra Accept/Decline) TCR (amend)	TradeReportTrans Type	Post Trade Gateway

Previously, when the following field was submitted with 'Null', it would be rejected with code - 7812 and reason - Invalid TradeReportTransType. After the change, this field will be rejected with a session reject (code - 1, reason - Required Tag missing).

Message	Field	Gateway
TCR (On Book- Cancel)	TradeReportTrans Type	Post Trade Gateway

Previously, when the following field was submitted with the value 'Null', it would be rejected with code - 7822 and reason - Instrument not specified. After this change, this field will be rejected with a session reject (code - 1, reason - Required tag missing).

Message	Field	Gateway
TCR (On Book- Cancel Contra Accept/Decline)	Symbol	Post Trade Gateway

B: RFQ related messages and fields

Volume 01 – Native Trading Gateway

Application Messages of the Basic Gateway: Client-Initiated
New messages introduced:
- Quote Request
- Quote Request Reject
- RFQ Quote
- Quote Response

Application Messages of the Basic Gateway: Server Initiated
New messages introduced:

- Quote Request
- Quote Request Reject
- Quote Status Report
- RFQ Quote
- Quote Ack
- Quote Response
- RFQ Execution Report

Application Messages of the Enhanced Gateway: Client Initiated

Quote Request
New fields introduced:
- Quote Request Type
- Limit Price
- RFQ Execution Delay (s)
- Min Number of Quotes
- Disclose Side
- ExpireTime Millisecond Portion
- AutoRFQExecStrategy

Application Messages of the Enhanced Gateway: Server Initiated

Quote Request
New fields introduced:
- Quote Request Type
- Limit Price
- RFQ Execution Delay (s)
- Min Number of Quotes
- Disclose Side
- ExpireTime Millisecond Portion
- AutoRFQExecStrategy

Quote Status Report
New field introduced:
- Transact Time

Quote Ack
New field introduced:
- Transact Time

RFQ Execution Report
New fields introduced:
- Transact Time
- Waiver Flags
- Multi Leg Reporting Type
- Delay Publication Instruction
- Contra Order Book
- Avg Px

Volume 02 – Trading Gateway (FIX 5.0)

Application Messages: Quote Handling: Client Initiated:

New messages introduced:
- Quote
- Quote Cancel
- Quote Request
- Quote Response
- Quote Request Reject

Application Messages: Quote Handling: Server Initiated
New messages introduced:
- Quote Status Report
- Quote Request Reject
- Execution Report
- Quote Ack
- Quote Response
- Quote Request

Volume 03 – Post Trade Gateway (FIX 5.0 SP2)

Trade Capture Report
New fields introduced:
- DelayPublicationInstruction (3305)
- DelayMode (2706)
- IntendedPublishTime (2707)

Volume 04 – Drop Copy Gateway (FIX 5.0 SP2)

Execution Report
New fields introduced:
- NoTrdRegPublications (2668) repeating group
- DelayPublicationInstruction (33005)
- ContraOrderBook (33007)

Volume 05 – Market Data Gateway (MITCH – UDP)

Application Messages
New message introduced:
- Indicative Quote Info

Add Order
New field introduced:
- RFQ ID

Volume 06 – Market Data Gateway (FAST – UDP)

Application Messages (Server-Initiated)
Market Data Snapshot (Full Refresh)
New field introduced:
- RFQID (30006)

Market Data Incremental Refresh

New field introduced:
- RFQID (30006)

C: MiFID II related messages and fields

Volume 01 – Native Trading Gateway

Application Messages of the Basic Gateway: Server-Initiated
RFQ Execution Report
New field introduced:
- Waiver Flags

Application Messages of the Enhanced Gateway: Server-Initiated
RFQ Execution Report
- Waiver Flags

Volume 02 – Trading Gateway (FIX 5.0)

Application Messages: Quote Handling
Execution Report
New field introduced:
- NoTrdRegPublications (2668) repeating group

Volume 03 – Post Trade Gateway (FIX 5.0 SP2)
Trade Capture Report
New fields introduced:
- MarketID (1301)
- TZPublicationTime (20001)
- NoTrdRegPublication (2668) repeating group
- PreviouslyReported (570)
- NoTradePriceConditions (1838) repeating group
- SecondaryTrdType (855)
- OrigTradeDate (1125)
- UnderlyingNotionalCurrency (2615)

Volume 04 – Drop Copy Gateway (FIX 5.0 SP2)
Application Messages (Server-Initiated)
Execution Report
New field introduced:
- NoTrdRegPublication (2668) repeating group

Volume 05 – Market Data Gateway (MITCH – UDP)

Application Messages:
Order Executed
New fields introduced:
- Trading Date and Time
- Instrument Identification Code
- Instrument Identification Code Type
- Price

- ~~Currency~~
- Venue of Execution
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~

Order Executed with Price/Size
New fields introduced:
- ~~Trading Date and Time~~
- ~~Instrument Identification Code~~
- ~~Instrument Identification Code Type~~
- ~~Currency~~
- Venue of Execution
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~

Trade
New fields introduced:
- ~~Trading Date and Time~~
- ~~Instrument Identification Code~~
- ~~Instrument Identification Code Type~~
- ~~Currency~~
- Venue of Execution
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~
- PTCancellationFlag
- PTAmendmentFlag

Auction Trade
New fields introduced:
- ~~Trading Date and Time~~
- ~~Instrument Identification Code~~
- ~~Instrument Identification Code Type~~
- ~~Currency~~
- Venue of Execution
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~
- PTCancellationFlag
- PTAmendmentFlag

Off Book Trade
New fields introduced:
- ~~Trading Date and Time~~

- ~~Instrument Identification Code~~
- ~~Instrument Identification Code Type~~
- ~~Currency~~
- ~~Venue of Execution~~
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~
- PTCancellationFlag
- PTAmendmentFlag
- ~~PTBenchmarkTransactionFlag~~
- ~~PTPriceDiscoveryContributionFlag~~
- ~~PTPriceFormingTradesFlag~~
- ~~PTAgencyCrossTradeFlag~~
- ~~PTSpecialDividendFlag~~
- ~~PTSizeFlag~~
- ~~PTPriceImprovementFlag~~
- ~~PTDuplicateFlag~~
- ~~PTLargeInScaleFlag~~
- ~~PTLiquidityFlag~~
- ~~PTSupplementaryFlag~~
- ~~PTPriceFlag~~

Recovery Trade
New fields introduced:
- ~~Trading Date and Time~~
- ~~Instrument Identification Code~~
- ~~Instrument Identification Code Type~~
- ~~Currency~~
- Venue of Execution
- ~~Price Notation~~
- ~~Notional Amount~~
- ~~Notional Currency~~
- ~~Publication Date and Time~~
- PTCancellationFlag
- PTAmendmentFlag
- ~~PTBenchmarkTransactionFlag~~
- ~~PTPriceDiscoveryContributionFlag~~
- ~~PTPriceFormingTradesFlag~~
- ~~PTAgencyCrossTradeFlag~~
- ~~PTSpecialDividendFlag~~
- ~~PTSizeFlag~~
- ~~PTPriceImprovementFlag~~
- ~~PTDuplicateFlag~~
- ~~PTLargeInScaleFlag~~
- ~~PTLiquidityFlag~~
- ~~PTSupplementaryFlag~~
- ~~PTPriceFlag~~

Volume 06 – Market Data Gateway (FAST – UDP)

<u>Application Messages (Server-Initiated)</u>
<u>Market Data Incremental Refresh</u>
New fields introduced:
- ~~SecurityAltID (455)~~
- ~~SecurityAltIDSource (456)~~
- ~~Currency (15)~~
- MdMkt (275)
- ~~TZTransactTime (1132)~~
- ~~TZPublicationTime (20001)~~
- ~~PTBenchmarkTransactionFlag (30200)~~
- ~~PTPriceFormingTradesFlag (30201)~~
- ~~PTNonContributingForPriceDiscoveryFlag (30202)~~
- ~~PTAgencyCrossTradeFlag (30203)~~
- ~~PTSpecialDividendFlag (30204)~~
- ~~PTPriceImprovementFlag (30205)~~
- ~~PTNegotiatedTradesLiquidityFlag (30206)~~
- ~~PTTradeReportFrequencyFlag (30208)~~
- ~~PTNotSubjectToCurrentMarketPriceFlag (30209)~~
- ~~PTLargeInScaleFlag (30210)~~
- ~~PTSizeFlag (30211)~~
- ~~PTSupplementaryFlag (30212)~~
- PTCancellationFlag (30213)
- PTAmendmentFlag (30214)