JSE Equity and Commodity Derivatives API Specification

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Created by: STT
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1. References

Document	Author	Version	Issue Date

2. Version Control

Version	Author	Date	Reason for Changes
Ver.01 Rev.00	J. Hodgson L. Bonthuys A. Murrell	17 March 2005	Creation of Document
Ver.01 Rev.01	L. Bonthuys J. Marais	22 May 2006	Differentiation between Private and Public messages Inclusion of error codes from the Trading System to the API Explanation of subscription process Inclusion of SSF Auto Quote parameters, messages and setup
Ver.01 Rev.03	L. Bonthuys	28 June 2006	Update / Amendment
Ver.01 Rev.04	L. Bonthuys	29 June 2006	Update / Amendment
Ver.01 Rev.05	T. Lewis	3 August 2006	Update / Amendment
Ver.01 Rev.06	L. Bonthuys	23 August 2006	Update / Amendment
Ver.01 Rev.08	L. Bonthuys	28 September 2006	Updated 56 message • User Reference number in other bid message Updated messages for Principle Agency field. Added skew download table
Ver.01 Rev.09	Neil (JSE)	November 2006	Update

Version	Author	Date	Reason for Changes
Ver, 01 Rev. 10	L. Bonthuys	27 November 2006	Added More EOD reference and Level reference. Updated for Neil.
Ver. 01 Rev. 11	M. Kempgen	09 February 2007	Section 5.1 – Protocol Details now refer to Section 1.3 – 1.5 Section 9.1 – Instruments Data – added fields resulting in change to message layout Section 9.2 – Contract Dates – added fields resulting in change to message layout Section 9.6 – MTM Data – added fields resulting in change to message layout
Ver 01 Rev 12	L Bonthuys	16 February 2007	Added retrieval details for: 9.18 Group 9.19 Fee data – Number 79 9.20 Fee scale data – Number 80. 9.21 Fee Calculation data – Number 81
Ver 01 Rev 13	G Theunissen	19 February 2007	Unmatched structure – Added type field and renamed fields that is not filled in to Unused Active Orders- Added gash fields for exchange usage Completed Orders – Added Fields for surveillance usage and order tracking from positions, and added exchange fields. Positions – added fields for the calculation of fees on physical positions and deliveries.
Ver 01 Rev 14	L Bonthuys/G Theunissen	24 February 2007	Added more info on login message for information subscribers. Transfer Client Transfer Client member data Transfer member Transfer member Clearing member Physical grades Silo Owner Silo location Delivery Notices Certificate Origin Silo Certificates Delete Physical Delivery Edit Silo Certificate Add Silo Certificate Daily Account Summary
Ver 01 Rev 15	A Murrell	26 February 2007	Added input message for loading a new physical delivery

Version	Author	Date	Reason for Changes
Ver 01 Rev 16	A Murrell	24 April 2007	Table 1.2 Time field corrected Encryption Description corrected and elaborated DOS Date Format elaborated Password Change Message changed Change Member Message Subscription changed First Bid Message Makeup changed Edit Suspended Order corrected Edit Sub Account Message Split Deal Message changed Insert Report Only Deal changed Tri-part Deal Entry changed Assign Deal changed Position Roll Forward change Change Member Limits changed Create Client Message corrected Add Silo Certificate changed Edit Silo Certificate changed Possible Data Transmissions table updated Session Key Challenge Message corrected Successful Log in Response Message corrected Display/Price Update Message corrected and changed Daily Trend Reply changed Request Data Upload Header corrected Unmatched Deal Data changed Instruments Data corrected Contracts Dates corrected Market Display Data changed Completed Orders Data corrected Deals Data changed Positions Data changed Dealer Data corrected Added Daily Rates output message Deliver Notices Data corrected Added Allocation and Delivery Notices Report output message Silo Certificates changed Daily Account Summary changed Error and Information Messages updated

Version	Author	Date	Reason for Changes
Ver 01 Rev 17	A Murrell	2 May 2007	Contract Date Corrected (pg54) Error Messages Added (pg83) Delete Silo Certificate Message (type 136) added (pg44) Login Message Corrected(pg30) Display Update Changes (pg48) Insert Report Only Deal corrected (pg37) Instruments Data Corrected (pg52) Added more information about the company and version numbers section 5.5. Added more descriptive display data type for display message 5.7
Ver 01 Rev 18	D Esterhuyse	16 May 2007	Re-request Message (3) added (pg31) Password Change Message (88) corrected (pg32) Insert Report Only Deal (26) changed (pg38) Login reply (1) updated (pp50) Display Update Message (59) Structure change (pg51) Heart beat Message 10 added(pp53) Instruments data (2) corrected (pp56), Contract dates (3) updated, (pg57), Market Display Data (1) updated (pg60), Positions Data (9) Message structure change (pg71) Fee data (79) Description updated (pg76), Delivery notice report (87) updated, (pg81), Daily Account summary (70) updated, (pg83)
Ver 01 Rev 19	L Bonthuys	22 May 2007	123 vs 36 (6.6) Important NOTE Added (pg27) Added table for Origin field Descriptions (6.15) and Reason field Descriptions (6.16) (pg31) Password Change Message (88) Explanation Added (pg33) Order Message (56) field definition changes (pg36) Cancel Active Order Message (85) Corrected (pg38) Edit sub account message (7.4.1) Updates to indicate that it should work off 2 unmatched messages. (pg39) Cumulate Deal Message (24) Field Length Explanation (pg40) Insert Report Only Deal (29) Fixed incorrect field lengths (pg40) Option Exercise message(31) Corrected (pg 42) Option Abandon (33) Added (pg43) Change Member Limits (6) Updated – Onscreen, Option and Report only is a double was an integer in document (pg44) Create Client (102) Corrected field types and Changed (pg44)

Version	Author	Date	Reason for Changes
			Add Silo Certificate (129) Field Lengths corrected (pg47) Add new Physical Delivery (128) Type changed (pg48) Request data retrieval (36) Corrected (pg48) 36 message table (4.1) Updated (pg49) Successful Login Response (1) Market Offline time added and fields Corrected (pg51) Request Data Upload Header (9.1) Corrected field type and field Descriptions (pg55) Instruments Data (2) Corrected field type definitions (pg57) Contract Dates (3) Corrected field type definitions and Updated field Descriptions (pg59) Deals Data (8) Changed (pg73) Skew Data (19) Updated field length Descriptions (pg77) Dealer Risk Value Limits data message (24) Added (pg77) Available Equity Instruments data (29). Added (pg78) Message Type Data (38) Added (pg78) Tripartite Setup message (61) Added (pg79) Changed Flex future to Custom future (63) (pg79) Custom Future Data (63) Added (pg79) Trace Deal download (64) Added (pg80) Clearing member download (65) Added (pg81) Message subscription (67) Added (pg81) Group Definition (78) Corrected field type definitions (pg82) Fee Data (79) Corrected field Descriptions (pg82) Physical Grade (73) Corrected case Descriptions (pg86) Silo Owner (72) Corrected case Descriptions (pg86) Silo Location data (71) Corrected case Descriptions (pg87) Delivery Notices (68) Corrected field length Description (pg87) Delivery Notice Report (87) Corrected field type, and case Description (pg88) Certificate Origin (75) Corrected case Description (pg88) Silo Certificates (69) Corrected field Description (pg89) Daily Account summary (70) Corrected case Description (pg90) Client Detail Record Layout (66) Added (pg91)

Version	Author	Date	Reason for Changes
Ver 1 Rev 20	A. Murrell	11 June 2007	Added Holiday download type 18 (pg64) Added Exchange Announcement download type 89 (pg 88) Change to Display Update Message type 59 to include time stamp (pg 56) General – Added descriptions for messages and downloads General – Added message lengths General – Added process flow diagram (pg 20) General – Large Data transmission description updated (pg 17) Order Type definitions added (pg 38)
Ver 1 Rev 21	L. Bonthuys	15 June 2007	Cancel Flag table added in Order Insert Message (type 56) (pg 37) Added indicator in Information and Error messages (message 125) to indicate if the message is an error or information message (pg 56). Instrument Type Number table added for Instruments data (Number 2) (pg 60) Changed Active Order data (type 5) field Original Qty to not used as this is for Yield-x (pg 65) Reason field added to Completed Orders (type 7) (pg 66)
Ver 1 Rev 21	A. Murrell	26 June 2007	Quote Format and Price Format definition updated in Contract Dates (Number 3) (pg 61) Price Rounder and Quote Rounder made unused in Contract Dates (Number 3) (pg 61) SSF Auto Quote (type 121) field definitions improved (pg 90) Error and Information messages (Section 11) grouped (pg 92) General – User Reference standard across all messages.
Ver 1 Rev 22	A. Murrell	13 July 2007	Added Physical Settlement field to instruments data (pg 62) Added definition for Equity Price Update Message Type 60 (pg 94) Added definition for Equity Price Subscription Message Type 98 (pg 94) Added Member field to Client Verification (pg 51) General – Added mandatory fields Unmatched message definitions and usage expanded (pg 46) Corrected length completed orders (pg 70) Unmatched Deal Accept Message 40 updated explanation (pg 46) Explained Exception Handling on Order Insert Message 56 (pg 38) Previous Business Day corrected in login response Message Type 1 (pg 56)

Version	Author	Date	Reason for Changes
Ver 1 Rev 23	A. Murrell	25 July 2007	Updated exception handling of Order Insert Message 56 (pg 38) Description added for updates to Display Update Message 59 (pg 58) Order Rejection Message 126 Added (pg 59) Re-instated trade date on Deals Data download type 8 (pg 71) Added Information Message for Mark to Market Rates ready for download (pg 95) Added error messages (pg 100) Added additional explanation for SSF Auto Quote Message 121 (pg 91)
Ver 1 Rev 24	A. Murrell	4 August 2007	Added a description for contract code conventions (pg 33) Added new message type Physical Delivery Allocation Message Type 137 (pg 55) Added new download type Delivery Allocations Type 91 (pg 57) Added Group Description to Instruments Data Download (pg 66) Added Download Data for Delivery Allocation Type 91 (pg 93) Added new Information Message for Daily Rates available to download (pg 99) Corrected error message error code (pg 106) Added a note on password policy and encryption (pg 27)
Ver 1 Rev 25	A. Murrell	3 September 2007	General – Standardized the use of Instrument Sequence. Market Data Levels corrected (pg 25) Note added for unsubscribe (pg 37) Note added to Message Type 8 and Message Type 15 for deleting or suspending orders (pg 38) Correction made to Create Client Message 102 (pg 50) Note added to Display Update Message 59 (pg 60) Correction made to display update message type 59 (pg 60) Settlement Margin field made available on Instruments data 2 (pg 66) Completed Orders Data download corrected to remove Counterparty (pg 73) Download of Delivery No Physical (Exchange for physical) 90 added (pg 94) Error message 84 added (pg 104)

Version	Author	Date	Reason for Changes
Ver 1 Rev 26	A. Murrell	17 September 2007	Changed report only structure to include field for Future Price when reporting option trades. (pg 47) Changed unmatched deal data download to include Future Price. (pg 66) Error message added (pg 106)
Ver 1 Rev 27	A. Murrell	10 October 2007	August month code changed from O to Q (pg 33) Delivery Notice Reference Number added to Delivery Allocation download (pg 95)
Ver 1 Rev 28	A. Murrell	21 January 2008	Added description for Contract Status in Display Update Message 59 (pg 60)
Ver 1 Rev 29	A. Murrell	25 March 2008	Corrected the description of Display field in Market Display Data Download (pg 71)
Ver 1 Rev 30	A. Murrell	31 March 2008	Added note for message handling (pg 26) Removed Equity Price Subscription (pg 97) Origin field type added (pg 35) Added note for re-request messaging (pg 37) Auction notifications expanded (pg 107)
Ver 1 Rev 31	A. Murrell	21 May 2008	Added note for re-request handling (pg 37) Added note for Exchange Reference Numbers and Versions (pg 75) Added note for allocation vs assignment messaging (pg 44) Added note regarding subscription and global sequence number (pg 39)
Ver 1 Rev 32	A. Murrell	18 June 2008	Added note regarding subscription and the information provided in the display file. (pg 72 and pg 39) Corrected Fill or Kill and Take or Kill order type numbers (pg 41) Added Market Period Announcements (pg 108)
Ver 1 Rev 33	A. Murrell	3 July 2008	Updated to include Option Statistics Request (Message Type 135) pg 39
Ver 1 Rev 34	A. Murrell	4 September 2008	Inclusion of new Deal Origin Types (pg 36) Inclusion of new Deal Reason Types (pg 36) Added Single Leg identifier to report only message (pg 47)

Version	Author	Date	Reason for Changes
			Added description for Trade Correction Process (pg 47) Clarified use of instrument type number (pg 69) Added additional Instrument Types (pg 71) Updated Reference number descriptions on deal data download (pg 77)
Ver 1 Rev 35	A. Murrell	23 September 2008	Added Price Reference field to unmatched message structure (pg 49, pg 69) Added Market Time Change message type 140 (pg 66) Added Updated description for Days History Request (pg 65) Added new download data Options Traded (pg 99)
Ver 1 Rev 36	A. Murrell	8 December 2008	Added new deal origin “Principle Correction” (pg 36) Updated description for reporting trade corrections (pg 47)
Ver 2 Rev 1	A. Murrell	15 January 2009	Added Description for Anonymous Trading (pg 28) – available in JSE Test environment on 24 February 2009 Change to Login Response Message (pg 63) – available in JSE Test environment on 24 February 2009 Changes to Display Update Message (pg 64) – available in JSE Test environment on 24 February 2009 Changes to Contract Date Data Download (pg 73) – available in JSE Test environment on 24 February 2009 Futures Close Out Iteration Publishing (pg 105) – available in JSE Test environment on 24 March 2009 Early Valuations Data download added (pg 102) – available in JSE Test environment on 24 March 2009 Early Valuations Data ready for download message added. (pg 107) – available in JSE Test environment on 24 March 2009
Ver 2 Rev 2	A. Murrell	26 February 2009	Roll Over Trade functionality description added (pg 48)
Ver 2 Rev 3	A. Murrell	8 May 2009	Added Download for Dividend Payments (pg 107) Added new *Dividend Paid* field to Instrument Data Download (pg 74) Added *Dividend Payment Field* to Daily Account Summary Data Download (pg 100) Added *Entered Time and Allocation Time Field* to Deals Data Download (pg 84) Modified Buy Sell Description for Unmatched Data Downloads – Clearing Member Only accepted W and D status (pg

Version	Author	Date	Reason for Changes
			72) Added *Multiplication Factor* field to client data download (pg 86) Added Short Name field to Set Limit Message (pg 54) Added *Short Name* field to Dealer Risk Value Limit Data Download (pg 87) Added new message for Mark Delivery as EFP (pg 62) Added new Download structure *Dividend Payments Data- Number 100 (*page 107)
Ver 2 Rev 4	L Bonthuys	2 June 2009	Added Download for *Client Margin Multiplier Data Number 101* p114 Added Insert/Edit Message for Client Margin Multiplier Number 150 p64
Ver 2 Rev 5	A. Murrell	4 August 2009	Added note for the setting of dealer risk value limits (pg 56) Added Download for First Trade of the day (pg 108) Added additional Instrument Types (pg 77)
Ver 2 Rev 6	A. Murrell	13 October 2009	Added field to Transfer Member Clearing Member data structure (pg 97) Added field to Transfer Client Member data structure (pg 95) Added new Origin type (pg 39) Added new field to Delivery Notice data structure (pg 98) Added new field to Display data structure (pg 81) Added new field to Contract Date data structure (pg 78) Added note for Early Valuations (pg 108) Change Client Detail download (pg 106) Change Create Client message (pg 60)
Ver 2 Rev 7 – Draft ONLY	A. Murrell	31 December 2009	Changed the layout of Completed Orders Data (pg 86) Changed delivery notice allocation data (pg 108) Changed transfer member clearing member structure (pg 99) Changed transfer client member structure (pg 97) Added additional download Comprehensive Orders (pg 113) Added new Deal Origin type (pg 40) Added new field in Contract Dates download for minimum reported volume (pg 81) Differentiated between standard and other reported transactions with the introduction of message 28 (pg 51)
Ver 2 Rev 8	A. Murrell	08 March 2010	Changed the layout of Completed Orders Data (pg 86) Changed delivery notice allocation data (pg 108) Changed transfer member clearing member structure (pg 99) Changed transfer client member structure

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			(pg 97) Added new Deal Origin type (pg 40) Added new field in Contract Dates download for minimum reported volume (pg 81) Differentiated between standard and other reported transactions with the introduction of message 28 (pg 51) Added additional field to members download (pg 90) Added Delta to Deals Data download (pg 89) Added Delta to Completed Orders Data download (pg 86) Added Is Discount to Fee Data download (pg 98) Changed FCO Publish messages (pg 120)
Ver 2 Rev 9	A. Murrell	24 March 2010	Added new field to Allocation Notice and Delivery Notice download (pg 103) Added new field to Silo Auction Bid Structure (pg 114) Added new Reason fields (pg 41)
Ver 2 Rev 10	A. Murrell	24 March 2010	Added Volatility to Options Traded Download (pg 111)
Ver 2 Rev 11	A. Murrell	3 May 2010	Added Important note for reporting Roll Over trades (pg 53) Added Additional Origin for reporting Roll Over trades (pg 41) Added Display Data to list of Mutual Market Download files (pg 32) Corrected Silo Certificate on Auction Download Data 104 (pg 113) Added ID Global Market to Client Details download (pg 108)
Ver 2 Rev 12	A. Murrell	19 August 2010	Changed Dividend Payments Data download (pg 112) Added Option Concentration Risk Download data type 107 (pg 116)
Ver2 Rev 13	M. Kempgen	06 December 2010	Added Section 4.18 Market Maker Flags and Automated applications
Ver 2 Rev 14	A. Murrell	06 December 2010	Added explanatory note for Display Updates on Dividend Neutral Contracts (pg 74) Added messages to edit and cancel active orders (pg 50)
Ver 2 Rev 15	A. Murrell	8 February 2011	Added two fields for Top 40 and Top 100 to instruments download data (pg 84) Corrected the size of Principle on Edit active order by id and reference number messages(pg 52)
Ver 2.1 Rev 1	A.Murrell	19 August 2011	Amended section on Mutual Market Access (pg 32) Added section on Market Shard implementation (pg 35) Added Market Shard Number to re-request message (pg 46)

Version	Author	Date	Reason for Changes
			Added Contract Name to delete order message (pg 48) Added Contract Name to resubmit order message (pg 49) Added Contract Name to split deal message (pg 55) Added Contract Name to accumulate deal message (pg 55) Added Contract Name to unmatched deal delete message (pg 59) Changed Option Exercise and Option Abandon messages (pg 60) Added Contract Name to unmatched deal accept message (pg 61) Added Contract Name to Add Silo Certificate message (pg 67) Added Contract Name to Add Physical Delivery message (pg 68) Added Contract Name to Delivery Allocation message (pg 69) Added Contract Name to Mark delivery as EFP message (pg 69) Added Contract Name to Request History message (pg 72) Updated Display Update Message description (pg 78) Updated Instrument Date data download (pg 86) Changed Positions data download (pg 97) Changed Silo Certificate data download (pg 112) Updated Year conventions (pg 42) Updated notes on login process (pg 37) Updated notes on password encryption (pg 47) Updated note on password change (pg 48) Added new messages for failure of exchange system (pg 84) Added new information message (pg 128) Added note regarding sequencing across shards (pg 35) Added note regarding download of mutual market data (pg 32) Added note regarding intraday updates from mutual market (pg 33)
Ver 2.1 Rev 2	A.Murrell	21 February 2012	Added additional user reference to insert order message (pg 51) Added additional user reference to active orders (pg 94) Added additional user reference to completed orders (pg 95) Added additional user reference to deals (pg 97) Added self traded field to deals (pg 104) Changed insert silo certificate (pg 68) Added trading of spot silo contracts (pg 75, pg 129) Added additional reference to edit suspended order (pg 55)

Version	Author	Date	Reason for Changes
			Added additional reference to edit active order by reference (pg 56) Added additional reference to edit active order by id (pg 56) Added additional instrument type (pg 94) Added currency code to Daily Account Summary data (pg 121) Added additional reference to split deal message (pg 58) Added section 7.12.11 Accumulate Spot Deals Amended section 9.39 Silo Certificates Download structure, adding new fields for spot trading. Amended section 9.56 Silo Spot Completed Orders structure: added Origin. Added Silo Receipt Spot Trading Message subscription to 7.2.3. Added section 7.12.12 Insert Report Only Spot Basis Deal Added new field to client loading message (pg 71) Added new field to client detail download message (pg 130) Add CountryCode to Certificate Origin Download(section 9.38) Changed field in Client Structure (pg 112) Changed field on Client Loading structure (pg 71) Changed field in Client Detail Structure (pg 131) Added new download data type for Country (pg 145) Added new field to Daily Rates download (pg 114) Corrected size for SiloLocation.LocationCode to 11 bytes(Section 9.35) Used unused filed in login reply (pg 87) Changed country code size of origin download (pg 125) Added note for password encryption (pg 41) Additional fields on positions file download (pg 110) Additional fields on unmatched deal data download (pg 94) Additional fields on option exercise, message t ype 31 (pg 66) Additional fields on option abandon , message type 33 (pg 67) Added new data type download to provide additional data for the splitting of silo certificates (pg 144) Added new data type for spot positions (pg 145)
Ver 2.1 Rev 3	A.Murrell	28 November 2012	Added new field to Journal Transaction Payments record (pg 131)

Version	Author	Date	Reason for Changes
	A Murrell	18 December 2012	Changed Contract Dates message to use unused fields (pg 100) Changed Deals message to use unused fields (pg 107) Added new messages for editing order price by sequence number and edit order by reference number (pg 60) Updated instruments to use unused field (pg 98) Added new field to Options Traded message (pg 131)
Ver 2.1 Rev 4	A Murrell	18 March 2013	Added note for cancel order by reference number messages (pg 60) Added new message for edit spot basis active order by sequence number (pg 82) Added new message for edit spot basis active order by reference number (pg 83) Added MinimumInitiationFee and FirstTradeReference to Instrumentsdata (pg 100) Removed MinimumInitiationFee and FirstTradeReference from ContractDates (pg 103) Added ZeroFeeAutoCloseTrades to Instruments data (pg 100) Added hold over date to spot active order structure (pg 138)
Ver 2.1 Rev 5	A Murrell	20 June 2013	Added data type downloads (pg 79) Added CFD data download types (pg 154) Added input messages for CFD trading (pg 90) Updated instrument data (pg 106) Added CFD audit deals to data type download (pg 79)
V2.1 Rev 6	A Murrell	27 September 2013	Added CFD tripartite assign message (pg 92) Added EnterTime and TradeTime to CFD Deal structure (pg 157) Added CFD audit deal structure (pg 160)
Ver 2.1 Rev 7	A Murrell	10 April 2014	Changed Origin Descriptions (pg 49) Added note for reporting report only cancellations and report only corrections (pg 63) Added download for Additional Margins (pg 157) Added download for Intraday Margin MTM Rates (pg 157) Added download for Intraday Margin Deals (pg 157) Updated contract dates structure (pg 105) Added new information to announcements (pg 162)
Ver 2.1 Rev 8	A Murrell	6 March 2015	Updated Contract Dates download (pg 105) Added new download for Instrument Silo Accreditation (pg 136)
Ver 2.1 Rev 9	A Murrell	3 July 2015	Updated Contract Dates download (pg 105) Updated Fee Download (pg 124)

3. Intended Audience

This document is intended for review by relevant JSE internal departments as well as external/market review by:

- Equity Derivative Members;
- Agricultural Products Members;
- Clearing Members;
- Public Information Subscribers;
- Software Providers

Please note that while this document is equally important for trading and clearing member firms and their software providers, as well as Information Subscribers.

4. System Description

4.1 Introduction

The new JSE Derivatives Trading System is an exchange layer of markets that allow for the trading and dissemination of multiple product types using one system, through a common API. These products can be diverse, each containing their own set of values. Products are further separated into different markets.

Products do contain links between them to facilitate the trading of spreads and switches (also called splits).

4.2 Connecting to a market

The system consists of several server programs. A set of server programs constitutes a market. Each market has an interface which allows external systems to communicate with it. The protocol used to interface to the system is TCP/IP. Each market may have its own IP Address and Port number.

The programmer who wishes to use this API specification must first ensure that they can establish a streamed TCP/IP permanent socket connection to the appropriate port.

From this point onwards, all communication is done using message packets. Every message packet, either in or out, must carry a **Transport Header**, which consists of 4 bytes. A description of the transport header can be found in **Table 1.1**.

The transport header is followed by a **Message Header**. The message header contains the indication of who the user is, the details of the transaction performed, etc. A description of the Message Header can be found in **Table 1.2**.

4.3 TCP/IP Transport system

The TCP/IP transport system may or may not send a message in its entirety. Due to the nature of the routers, carriers, etc, it is likely that in some cases a message that consists of large number bytes is transmitted in smaller pieces, the length of each being random. The API programmer must ensure the receipt of not only a complete and valid transport header, but also a complete number of message bytes before acting on the contents of the message.

4.4 Field Formats

Throughout the document the following **field types** will be referred to:

- I: Intel Integer format; the length is defined
- U: Intel unsigned integer; the length is defined
- D: Intel/IEEE floating point; 8 byte format
- P: Pascal type string with leading length byte, maximum length is the defined length – 1. All strings are represented in this manner.

  Example:

  A string representation of the word MITS into a 6 long field would be sent in the following manner:

0	1	2	3	4	5
4	M	I	T	S	

  The system will validate the string only in this context using the byte 0 as the length.
- B: The field is made up of 1 or more bytes of type U
- C: Single character; ASCII equivalent

A **field description** will also be given which describes the contents:

- A: Alpha only
- N: Numeric only - Default for types I.U.D
- AN: Alpha numeric

Time Format

- All times given in this document are given as 4 byte values in the following format:

  Byte 0 = Hours
  Byte 1 = Minutes
  Byte 2 = Seconds
  Byte 3 = 0

Please Note: Mandatory fields in this specification are market with an asterisk (*). All non-mandatory fields which are not going to be filled in should be sent with 0 for numeric values, and empty strings or padded with null (0) for alpha fields.

4.5 Message Headers

Table 1.1 Transport Header

Name	Length	Comment
Byte 1*	1	255 or FF
Byte 2*	1	Low byte of the message length **(not including the 4 byte transport header)**
Byte 3*	1	High byte of the message length **(not including the 4 byte transport header)**
Byte 4*	1	XOR of bytes 2 and 3

Total Length: 4 Bytes

Table 1.2 Message Header

Name	Length	Type	Description	Case	Example	Comment
Sequence Number	4	I	N	n/a	123	Used for message trace purposes. This is a sequence number per socket and is incremented with each message sent.
User Code*	6	P	AN	U	ABMN	Logged in Member Code. This is the member code the user used to log into the system.
User Dealer*	4	P	AN	U	JOE	Dealer code of logged in dealer. This is the dealer code the user used to log into the system.
User Number*	4	I	N	n/a	66	Any user integer. This is kept by the system and returned to the user unchanged.
Market Number*	1	B	N	n/a	3	See Table 1.3
Time*	4	B	N	n/a	11, 56, 55, 0	Time Format: Hours, Minutes, Seconds, 0
Message Type*	1	B	N	n/a	36	Message Number.
Member Code*	6	P	AN	U	ABMN	This is the member code that would be referred to when the exchange handles the message. For information subscribers this must be set to 'DATA'.
Dealer Code/User Code*	4	P	AN	U	JOE	This is the dealer code that would be referred to when the exchange handles the message. For information subscribers this must be set to the user code supplied.

Total Length: 34 Bytes

Note: The Member Code and Dealer Code may differ from the User Code and User Dealer, for example: A Clearing Member acting on behalf of a Member.

Data in the message portion of the packet will then follow the Message Header.

Name	Length	Type	Description	Case	Example	Comment
Message	MAX - 5466	B	AN	n/a		Defined or compressed message.

The messages are defined in two groups:

- Input Messages sent by the API user.
- Output Messages sent to the API user.

These defined groups contain message types that can be defined into two further groups:

- Private Messages
    - These are messages that contain confidential information that is specific for an individual dealer or an individual member firm. An example of this is the 123 Message with deal update/insert indicator.
- Public messages
    - These are non-confidential messages that contain information that is market specific and available to all users who subscribe to public data. For example: a last price change on a contract would be received by the whole market. Information Subscribers will be key users of these messages.

These messages are Asynchronous; therefore, they may be received in any order.

All header messages contain a market indicator number; **Table 1.3** contains market numbers

Table 1.3 Market Number

Market Number	Market Abbreviation	Full Market Name
1	EDM	Equity Derivatives Market
2	APD	Agricultural Product Division
4	MUT	Mutual Market

4.6 Compression

A large number of the messages contain data which is considered amenable to compression. Therefore, this data is compressed using the LZH algorithm. The data contains an LZH header defining the decompression criteria, and once a complete compressed data string of bytes has been received, it must be decompressed. The structure of the DECOMPRESSED data is given in this document.

Details of the LZH decompression algorithm can be found at the following URL:

http://www.programmersheaven.com/download/2215/download.aspx

4.7 Large Data Transmission

Message Packet (Message Type 123 and 36)

Transport Header 4 Bytes	Message Header 34 Bytes	Message Sub Header 14 Bytes (Section 9.1)	Data Section Max 5000 Bytes

Message Packet (Message Type 59)

Transport Header 4 Bytes	Message Header 34 Bytes	Message Sub Header 1 Byte (Section 8.3)	Data Section Max 5000 Bytes

All Data Sections transmitted to users will have a maximum size of 5000 bytes. When the compressed data buffer is greater than 5000 bytes the system will split this data buffer into a series of Data Sections. These Data Sections will all have a length of 5000 bytes, except the last Data Section which will contain the remainder of the data.

Each data section will then be sent with its own transport header, message header and message sub-header. The message sub-header will indicate if this is the final message of a series. The data will inevitably be in compressed format. Upon receipt of the final message, all Data Sections can be appended and decompressed as a whole.

Only messages 36 (data retrieval), 59 (contract update) and 123 (data update) are compressed, all other messages are not compressed.

4.8 Subscription to Instrument Update Messages

The system works on a subscriber basis for all instrument and depth updates. The user will have to send a subscription request message to subscribe to a contract. The list of all configured and active contracts are available through the API specification using a 36 type message (Section **6.6 Market Display data~~Market Display data~~**).

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In order to subscribe to a contract, the user would send a type 99 message. This message would contain all the contracts for which the user would like to receive updates. In order to unsubscribe from a contract, the user would send in a type 42 message. This message would contain a list of the contracts from which the user would like to unsubscribe.

The result of sending a type 99 message is a type 59 message containing all the details of the instruments the user subscribed to. When an order is added to the instrument or any depth of the instrument changes the user would receive a type 59 message on the instrument with the updated details automatically. Thus the user only has to subscribe to the instrument once and thereafter they would receive all updates to the instrument. This has to be done for each session.

Subscription is per instrument, date, and expiry and not on the instrument alone. For example the user has to subscribe to DEC 2010 FBWC and not just the FBWC instrument. For more information on contracts see Section **6.6 Instrument, Date and Strike Sequences~~Instrument, Date and Strike Sequences~~**.

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4.9 Acknowledgement of messages

The system is transactional and asynchronous. This means that no ACK or NACK is sent on the application layer to confirm the receipt of messages. Instead a transaction response is sent when a message has been processed by the system.

There are three types of transaction responses:

- 123 Message (Data update)
  This is the positive response to the transaction. The data in the message informs the user of the data change and the action taken on the data i.e. Insert, Update or Delete.
- 59 Message (Contract update)
  This is the positive response to the transaction. The data in the message contains the updated instrument information and depth on the instrument.
- 125 Message (Error and information messages).
  These responses are either negative or positive. A list of common messages can be found in **Section 11**.

In all these message types the Sequence Number in the message header is incremented by each send to the specific socket.

4.10 Complex Instruments

Complex instruments are two contracts that are grouped together to make up one contract. The following Complex Instruments can be traded:

- Spread
  - A Spread is a contract that constitutes one instrument and two expiries.
  - Example: a spread can be traded between the **DEC 2007 FBWC** and the **FEB 2008 FBWC** contracts
- Switches
  - A Switch consists of 2 different instruments with the same expiry date.
  - Example: a switch is contract that is traded between the **DEC 2007 FBWC** and **DEC 2007 ALSI** contracts.

4.11 Process Flow

4.11.1 The Login Process

API Application		Exchange System
User Establishes TCP Connection.	→	
	←	Message Type 16 with session key is sent.
User sends Message Type 0.	→	
	←	Message Type 1 **OR** Message Type 125.

4.11.2 I'm Alive from Exchange System

API Application		Exchange System
	←	Message Type 10 is sent at regular intervals.

4.11.3 Heartbeat to the Exchange System

API Application		Exchange System
User sends Message Type 84.	→	

4.11.4 Changing Password

API Application		Exchange System
User sends Message Type 88.	→	
	←	Message Type 125 is returned.

4.11.5 Requesting Data

API Application		Exchange System
User sends Message Type 36	→	
	←	Message Type 36 **OR** 125 is returned.

4.11.6 Subscribing to Contract Display Updates

API Application		Exchange System
User sends Message Type 99 **OR** 67	→	
	←	Message Type 59 **OR** Message Type 125 is returned. Subsequent Display

		Updates are sent.

4.11.7 Un-Subscribing from Contract Display Updates

API Application		Exchange System
User sends Message Type 42		
		Display updates for supplied contracts will no longer be sent. A Message Type 125 may be returned.

4.11.8 Re-Request of Display Updates

API Application		Exchange System
User sends Message Type 3		
		One or more Message Type 59 messages **OR** Message Type 125 will be returned

4.11.9 Onscreen Activity

API Application		Exchange System
User sends Message Type 56 **OR** Message Type 8 **OR** Message Type 27 **OR** Message Type 85 **OR** Message Type 104		
		The following messages may be returned: Message Type 125 Message Type 123 Message Type 59

4.11.10 Report Only Activity

API Application		Exchange System
User sends Message Type 29 **OR** Message Type 26 **OR** Message Type 30 **OR** Message Type 40		
		One or more File Update (123) Message are returned **OR** Message Type 125

4.11.11 Post Deal Management Activity

API Application		Exchange System
User sends Message Type 22 **OR** Message Type 24 **OR** Message Type 31 **OR** Message Type 33 **OR** Message Type 62 **OR** Message Type 64 **OR** Message Type 115	→	
	←	One or more File Update (123) Messages are returned **AND/OR** Message Type 59 **OR** Message Type 125

4.11.12 Entity Administration Activity

API Application		Exchange System
User sends Message Type 6 **OR** Message Type 7 **OR** Message Type 102 **OR** Message Type 109 **OR** Message Type 120 **OR** Message Type 124	→	
	←	File Update (123) Message is returned **OR** Message Type 125

4.11.13 Agricultural Physical Delivery and Silo Certificate Activity

API Application		Exchange System
User Sends Message Type 128 **OR** Message Type 129 **OR** Message Type 131 **OR** Message Type 136	→	
	←	One or more File Update (123) Messages are returned **OR** Message Type 125

4.11.14 Auto Quote Activity

API Application		Exchange System
User Sends Message Type 98	→	

	←	Message Type 60 **OR** Message Type 125 is returned. Subsequent Equity Price updates are sent.

API Application		Exchange System
User Sends Message Type 42	→	
	←	Equity Price Updates for supplied contracts will no longer be sent. A Message Type 125 may be returned.

API Application		Exchange System
User Sends Message Type 121	→	
	←	Any Price Update for the contract specified will be returned as Message Type 59

4.12 Authorisation of messages and Initial Margin Limits

This section does not apply to information subscribers, as the exchange will authorise subscription to messages for information subscribers.

The system contains levels of authorisation that defines which messages are accepted by entities. (Please see Message Type 7) It also contains authorisation for initial margin limits for each entity (Please see Message Type 6).

The levels of authorisation are as follows starting from the top entity:

- The Exchange
  - The exchange can control all the entities and set all entities' limits and access rights.
- The Clearing Member
  - The Clearing Member limits are set by the exchange; they can lessen the limits set by the exchange but cannot exceed the limits.
  - The Clearing Member can set limits for all members and member branches that belong to this clearing house.
- The Member / Member Branch
  - The compliance officer for this member can set limits for all dealers on his trading floor.
  - The compliance officer cannot increase any dealer limits higher than their own.
- The Dealer
  - The dealer can set their own limits lower than what was assigned to them, but not higher.

Limits include messages that are allowed to be sent to the exchange and initial margin limits

Example A:

1. The exchange sets a clearing members initial margin limit at R100
2. The clearing member can alter the limits of his members to R50 each. He cannot set it higher than his limits of R100.
3. The compliance officer can set each of the dealers on the floors limits to R30, but not higher than his limit of R50.

Example B:

1. The exchange sets the limits for a clearing member and allows him to insert and verify the loading of a client.
2. The clearing member does not want his members' dealers to verify clients as he would like to do this himself, but does allow them to insert the client.
3. He thus restricts his members' dealers to only use the insert client message and not the verify message.

4.13 Market Data levels on 59 and 99 messages

This section only applies to Information Subscriber users.

The system allows for 2 levels of subscription for the screen update message (59).

- Level 1 – Best Bid or Offer (Allows the user to only see the top of the depth)
- Level 2 – Full Depth (Allows the user to see the full depth on a contract)

These levels are setup by the Exchange on the subscription profile of the user. The message received by the user is the same in both cases only the number of depth items changes.

4.14 Principle Agency indicator

Each deal must contain a Principle/Agency indicator. This indicator shows the intention of the deal booked. This indicator has to be sent through in all insert messages of orders and report only deals.

The rule for Principle and Agency is the following.

- An 'A' - Agency or 'P' – Principle has to be specified on inserting an active order, and on the report only deal entry.
- Agency and Principle deals cannot be accumulated together.
- On Agency trades the price cannot be changed when assigning a deal.
- On Principle trades the price can be changed when assigning a deal.

4.15 Servicing message from TCP IP

Under high amounts of volume, it is imperative that users service the messages from their TCP/IP socket in an efficient manner. The exchange system has controls in place to ensure that users who are not servicing messages in an efficient manner, and thus causing their queue on the communications layer of the exchange system to build up, are disconnected to avoid a build up of pending messages.

A recommended solution to this would be to remove messages from the socket as soon as they arrive, and create an application resident queue of messages. This application resident queue can then be used to process messages. This will then send acknowledgement of receipt of the message to the exchange system as soon as messages arrive, and avoid the potential of being disconnected.

4.16 Anonymous Trading – ADDED to API Version 2 published on 18 February 2009

Some instruments will be listed as anonymously traded instruments. The Contract Date download message (Download Message Number 3) includes flags (Future Anonymous and Options Anonymous) to identify the anonymously traded instruments.

The Display Update Messages (59's) published on these instruments will be flagged as anonymous, and the member codes previously displayed will not be published.

The member codes on these display updates will be replaced with uniquely identifiable numbers. Each user will be assigned a number upon login, and this same number will be present in the display update messages. This will allow users to identify their own orders in the market depth.

To cater for anonymously traded instruments user will need to cater for changes to the following messages:

- Change to login response message (Message 1)
- Change to display update message (Message 59)
- Change to contract dates data download message (Message 3 download structure)

4.17 Mutual Market Access – from Version 2.1

Revision 2.1 of the API specification enhances the Mutual Market access to members of the Equity Derivatives and Commodity Derivatives divisions of the JSE.

Mutual Market access is now facilitated via their existing connection to either the Equity or Commodity Derivatives Markets.

The mutual market is therefore no longer a separate instance, but rather a subset of contracts available for trading on either the APD or EDM connection.

The following points should be noted:

Download notes

- The download of transactional data (i.e. active orders, unmatched deals, completed orders, deals, positions) will only be provided from the market on which the principle on transactional has elected to clear their mutual market in.
- To provide easier access to data, requests downloaded from the primary markets will be inclusive of the mutual market data. For example the download of MTM data, when requested from primary market will include primary market as well as mutual market entries for MTM data. (The primary market is defined as either Equity Derivatives or Commodity Derivatives). This holds true for the following data requests:

Name	Data Type number
Display Data	1
Instruments data	2
Contract Dates	3
Strike Data	4
Active Orders Data	5
Completed Orders	7
Deal Data	8
Positions data	9
Unmatched deal data	10
MTM data	16
Skew	19
Daily Rates	25

Trace Deal data	64
Daily Account Summary	70
Group definitions	78
Fee data	79
Fee Scale data	80
Fee Calculation data	81
Exchange Announcements	89
Early Valuations	100
First Trade of the day	103

Intraday File Update notes:

- When connected to only one market e.g. EDM and placing an order on a mutual market listed contract, the file update message will be returned to the market the user is connected on.

- When connected to both markets (EDM and APD) **as the same user code (e.g. SAFMMAT)**, and an order is placed on a mutual market contract on the EDM connection, the file update will be returned on both the EDM and APD connection. This is inline with the above download notes, i.e. mutual market data is made available on both download and intraday updates on both markets.

- Mutual market data included in both intraday file updates (123) and public data broadcasts (59) will have Market Number 4 set in the header of the message received. This will allow users to identify the source of the data as the mutual market.

4.18 Automated Applications connecting to NUTRON

Any applications used for market making or algo trading purposes must be declared as such before connecting them to the JSE environments.

Applications used for automated trading/quoting activity should make use of the single bid / offer per principal functionality to prevent excessive cancellation of order messages into the exchange. See section 7.3.4 and the Cancel Flag field in the Insert Order Structure.

Further the JSE requests all applications of this type to be linked to a user code that is flagged as a Market Maker account. The Market Maker flag changes the behavior of the API slightly. The flagging of the user code as a Market Maker can be requested from the JSE at any time.

Please refer to example below for details:

1. Orders
    a. Active order confirmations will be sent to the user as per normal.
    b. The Active Order Sequence number sent is an official record of the receipt of the active order, and can be used to cancel or replace the active order.

    c. When logging out, the setting “Delete orders on lost connection” is enabled by default, regardless of the user’s login message. Therefore any log out, or lost connection will result in all the users active orders being cancelled from the order book.

2. Matching of active orders
    a. Active orders placed by the users which result in a match will be cancelled, and a new “physical” copy of this active order will be issued.

b. The above means that a new active order sequence number will be generated, and sent to the user, and this active order sequence number will be recorded as the matching active order.
c. An active order delete message (123) will be sent for the previous active order.
d. Consider the below example:
    i. Active Order is placed to Buy 100 DEC ALSI at 2500
    ii. In reply active order sequence number 1 is returned by the exchange
    iii. Another user then trades this active order.
    iv. A 123 Delete message will be sent for active order sequence number 1
    v. A new physical copy of this active order will be recorded in the database, and a 123 insert message for sequence number 2 will be sent to the user, with a copy of the details from sequence number 1.
    vi. A 123 insert message for completed order, deal and/or position will be returned to the user.
    vii. A 123 delete message will be sent for sequence number 2, to indicate that it has matched.

4.19 Market Shard Implementation – from Version 2.1

In order cater for higher order throughput on the NUTRON exchange system, multiple instances of the trading system will be deployed. As a result multiple trading engine shards per market will host different instruments. This has no impact to message processing for the user, besides the impact to the depth re-request message (message type 3).

The market depth data message (Display Update Message Type 59) currently contains a Global Sequence Number. This is a sequential message for display updates for a particular market. With the introduction of market shards, this global sequence number changes its scope to **be sequential per market shard**.

The depth re-request message allows the user to re-request market depth data for a market. With the introduction of multiple shards, this now means that data will be returned per market shard, and the re-request message is required to change to facilitate the request per market shard.

The market shard number in the re-request message will identify the market sub set on which particular contracts can be found. This will match up with the market shard number on the Instrument Data download, and therefore Instruments can be mapped accordingly to a particular market shard.

PLEASE NOTE: The exchange may at any time change the market shard definition of an instrument, and it is the users responsibility to handle this change without prior notice by the exchange, by referring to the correct shard number in the Instruments Data Download. A change like this will typically be facilitated overnight with relevant notification given.

On go live of the solution it is envisaged for the Equity Derivatives Market to consist of 3 shards, while the Commodities Market will remain as a single trading engine for the time being.

Note regarding sequence number used for 123 messages

To avoid duplication of sequence numbers for transactional data (i.e. Active Orders, Deals, Completed Orders, and Unmatched) across different shards, the sequence number used for each of these data files will begin in a separate range from other shards. This will be done by ensuring the above file types are sequenced by their shard number * 100 000 000.

e.g. Active orders for contracts on shard 3 will have sequence numbers in the range of 300 000 000 – 399 999 999. And completed orders on shard 1 will have sequence numbers in the range of 100 000 000 – 199 999 999.

If at any point this range is exhausted the range will restart from shard number * 100 000 000.

5. Log In Process Message

5.1 Establish a connection to the market

Refer to Section 4.2 for protocol details.

The user must create a TCP/IP socket and attach this to the listening market, using the appropriate IP Address and Port number. This connection must be maintained throughout the life cycle of the session. Any break in this connection would be seen as an irregularity in the system and the user would be removed from the market at the exchange's end.

5.2 Market encryption key

When the system accepts a new connection a message (type 16) will be generated and sent to the user who established the connection. This message contains the normal headers. The data part of the message contains a key for the session.

5.3 Sending the login message

When the session key is obtained the user can send their login message. The structure of this message is defined in section **7.1.2 Log in Message**. An example of this log on message is provided in table 2.1.

Table 2.1

Field	Example	Description
Working Directory	C:\Derivtrading\	The working/running directory of the application. This is used for tracking and user assistance.
Company Code*	API USER	The code of the company developing the software that is logging in. The exchange will assign this code to the developing software company after conformance test.
Version*	1.0.0.1	The version number of the application. This is user defined.
View All Dealer Data*	1	Compliance officers of a member firm can use this to get information on data for other dealers in the firm. If this is set to true the user logging in will receive all deals, orders, completed orders and unmatched deals from all dealers in the member firm
Delete Orders on lost connection**	1	If this field is set, the system will delete all orders when a socket error is received from the user. * This is not needed for Information subscribers.
Encrypted password*	#@$#@$	See description below.
Active Directory User Name*	APIUSER	See description below.
Domain*	JSE	See description below.

5.3.1 Encrypted Password, User Name and Domain

- The Encryption Key Buffer is made up of:

- *Session key + Member code + Dealer code + Password*

- The Data Buffer is made up of:
  - *Member code + Dealer code + Session key*
- The encryption key is used to encrypt the data, which is then sent in the **Encrypted Password** field.
- The system will reply with a login acceptance message. (Refer to Message type 1) if authentication succeeds.
- If the system does not authenticate the user an error message will be sent. The user is then restricted to only changing their password. After the user has done this successfully, they can login again using the same session key.

When encrypting the password it is important that the buffers used to hold the key and data are 0 filled for unused characters, as the blowfish algorithm uses block sizes of 8 bytes. Thus a password of length 11 will encrypt to 16 bytes, and the 5 unused bytes need to be null or 0. **No string encoding should be performed on either the Encryption Key Buffer, Data Buffer or resulting Encrypted Data Buffer – these should be maintained as raw arrays of bytes at all times.**

Please note that the data buffer length should be set to a multiple of 8 bytes to cater for the block size of the algorithm, and should be padded with 0 byte values for the complete length. The key buffer length should be kept as the length of the parts which make up the key, and no padding is required.

Please note that the member code and dealer code / user code are applicable to all API users, not only to trading participants. In the message header, the member code field for Information Subscribers must be 'DATA', the user code that the Exchange supplies must be filled into the user code field in the login message.

The password must comply with the following standards:

- Minimum length – 8 characters
- Complexity: Any three of the following four:
  - Uppercase
  - Lowercase
  - Numeric
  - Special character

5.4 I'm Alive

The system will transmit to the API user an '*I'm alive'* message (message 10, **Section 8.5**). This will only be transmitted if no message has been sent from the system to the user in the last 45 seconds, or a pre-configured amount of time set by the Exchange.

The API user must send a Heart beat message (message 84, **Section 7.9**) to the system if there has not been a message sent from the user in the last 45 seconds, or a pre-configured amount of time set by the Exchange.

6. Data Sources

Data can be requested from the system by sending a request message (See **6.3 Requesting Data~~Requesting Data~~**). A series of compressed message packets will be sent to the user in response to the request. Each of these packets will be preceded with a Transport Header, Message Header and Request Data Header. (See **Section 4.7** for the handling of the response)

Formatted: Fo

In the Request Data Header (**Section 9.1**) the Data Type defines the structure of the data. The size of the decompressed data will be a multiple of the size of the defined structure. This decompressed data can therefore be type cast into a series of records.

Example:

1. Request data for MTM File (Type 16)
2. Received a complete data buffer of 414 bytes (After decompression).
3. Number of records contained = Length of Decompressed Buffer (414) / Size of MTM Structure (46) = 9
4. 9 Records returned by Download.

6.1 Historical Data

Data can be requested for the previous business day. The Data Request message contains a date parameter, and must be set to download data for the required date.

Table 4.1 contains a reference to data sets available for historical data retrieval.

6.2 Error and Information Messages

IT IS SUGGESTED THAT THE API USER ENSURES THAT THE ERROR AND INFORMATION MESSAGE (TYPE 125) HAS BEEN CATERED FOR, AND HANDLED.

These messages are sent to users specifically when;

- An error occurs as a result of a message sent
- When a requested process cannot be completed,
- When the exchange wishes to make an announcement of any sort.

Certain announcement messages are generated automatically by the system, for example, warnings on market open, auction start, etc. These messages contain an integer field indicating the error number, this is followed by a byte field indicating if the message is an error message or a information message. These fields are followed by the messages in text format. The exact text of the message may vary as the message may include contract information.

(Refer to Error and Information Messages see Section 11)

6.3 DOS Date Format

This format is the compressed DOS 2 byte date (ISO 8601 MS theta-1980) consisting of 16 bits where the day is stored in bits 0-4, the month in bits 5-8, and the year, with base of 1980, is stored in the remaining bits.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Day					Month				Year						

This is the equivalent of a small integer (date).

The standard formula for calculating a DOS date format is:

```
todaydate = ((Year - 1980) * 512) + (Month * 32) + (Day);
```

The formula for decoding the dos date is:

```
int day = date & 0x1F;
int month = (date & 0x1E0) >> 5;
int year = ((date & 0xFE00) >> 9) + 1980;
```

6.4 Requesting Data

There are several different data retrievals that have a data type associated with them. Once the data has been requested a 36 message(s) is returned with the requested data. See **Section 4.7.**

To obtain a data download, 256 is added to the Data Type field. For example referring to the 36 message above the Data Type for Active Orders is a 5. A 36 request for a Data Type 261 will be sent to download the Active Orders data.

6.5 123 Messages vs. 36 Messages

The 123 and 36 Messages are received when downloading or receiving private and public data from the exchange.

Updates or inserts are received intra-session with message type 123, which always contains only one record.

When an input message 36 is sent; messages containing multiple records can be received.

NOTE: Data retrieved when input message 36 is sent is identified by the Data Type + 256, whereas Data received via the 123 message is identified by Data Type without the 256 addition.

Example:

When a 36 Message is sent to the exchange containing data set Number 257 (Market Display), multiple records will be received.

During the trading session a 123 Message (Data Update) can be received containing data type indicator Number 1 (Market Display). This will only contain one record, an insert, update or delete for the display data.

Example:

On a Report only Deal insert message, the user would receive a 123 message with indicator set to unmatched and action set to insert.

6.6 Market Display data

To facilitate the ease of trading, a data set is available through the API specification that contains the entire set of contracts available for real-time trading on each market. The Market Display data contains all relevant links of each contract (Instrument, Date and Strike Sequences. See **Section 6.6**). The market display data also contains the information for that contract that is relevant for trading of the contract in the current market session.

The data set structure is available for retrieval as a Message 36 in Request Data Header – Message Type 36 and 123.

6.7 Instrument, Date and Strike Sequences

The system defines contracts by an Instrument, Date and Strike Sequence. These are all linked (Display Data Set) and together define a contract. Each sequence refers to a specific record within a data set that holds information about a specific Contract. For example the instrument sequence number can be linked to the instrument data set, and the instrument data set contains all the relevant information of that instrument.

Each combination of instrument, date and strike sequences is an individual and unique contract.

The **Instrument** refers to the underlying type. These values contain information about the instrument.

The **Date** refers to the expiry in the Contract. This contains information that is specific to this expiry date.

The **Strike** refers to the option on the Contract. If the strike sequence is zero the contract is a Future, otherwise the contract is an Option. The strike contains the information for the option or delta.

Example table of instrument, date and strike sequences used:

Key
IS – Instrument Sequence
CS – Contract Date Sequence
SS – Strike Sequence

INSTRUMENT	DATE	STRIKE	CONTRACT CODE	DESCRIPTION
ALSI **IS 1**	DEC 2006 **CS 1**	**SS 0**	FZ615 ALSI	Future
ALSI **IS 1**	DEC 2006 **CS 1**	1500 Put **SS 1**	YZ615 ALSI 1500 P	Option
ALSI **IS 1**	DEC 2007 **CS 2**	1500 Call **SS 2**	YZ715 ALSI 1500 C	Option
ALSI **IS 1**	DEC 2007 **CS 2**	**SS 0**	FZ715 ALSI	Future
FBWC **IS 2**	DEC 2006 **CS 3**	**SS 0**	FZ615 FBWC	Future
FBWC **IS 2**	DEC 2006 **CS 3**	1500 Put **SS 3**	YZ615DFBWC 1500 P	Delta Option
FBWC **IS 2**	DEC 2007 **CS 4**	1500 Call **SS 3**	YZ715DFBWC 1500 C	Delta Option
FBWC **IS 2**	DEC 2007 **CS 4**	**SS 0**	FZ715 FBWC	Future

The date sequence 1 is connected to the ALSI instrument and is a date of the ALSI. The FBWC instrument will have its own set of date sequences. Data sequences are not interchangeable on instruments as they contain information relating to an instrument for the expiry.

Complex instruments are linked in a similar fashion. An extra set of sequence numbers is available in the Market Display data set called Second Instrument Sequence and Second Date Sequence, using the table below and the following complex instruments will be created by the system:

INSTRUMENT	SECOND INSTRUMENT	DATE	SECOND DATE	STRIKE	CONTRACT CODE	DESCRIPTION
ALSI **IS 1**	ALSI **IS 1**	DEC 2006 **CS 1**	DEC 2007 **CS 2**	**SS 0**	ZZ6Z7 ALSI	Spread between DEC 2006 and DEC 2007 ALSI
FBWC **IS 2**	FBWC **IS 2**	DEC 2006 **CS 3**	DEC 2007 **CS 4**	**SS 0**	ZZ6Z7 FBWC	Spread between DEC 2006 and DEC 2007 FBWC
ALSI **IS 1**	FBWC **IS 2**	DEC 2006 **CS 1**	DEC 2006 **CS 3**	**SS 0**	XZ6Z6 ALSI/FBWC	Switch between DEC 2006 ALSI and FBWC
ALSI **IS 1**	FBWC **IS 2**	DEC 2007 **CS 2**	DEC 2007 **CS 4**	**SS 0**	XZ7Z7 ALSI/FBWC	Switch between DEC 2007 ALSI and FBWC

Contract **Inheritance** flows from the instrument to strike. Thus the valuation date on the strike will override the expiry date on the contract date.

The contracts available on the market and the sequence numbers that make up the contract are available in the Market Display Data.

6.8 Entity Codes

The following Entities used currently exist in the system:

- Member
  - Members are 5 byte long Pascal type strings
  - Example: **ABCD**
- Dealer
  - Dealers are 4 byte long Pascal type strings
  - Example: **JOE**
- Clients
  - Clients are 7 byte long Pascal type strings. 3 Alpha, followed by 3 numeric characters
  - Example: **CLI001**
- Sub-Accounts
  - Sub-accounts are 6 byte long Pascal type strings, that do not end in 'C'
  - Example: **SUB99**
- Clearing Members
  - Clearing members are 6 long Pascal type strings
  - Clearing members always end with a character C in byte 5
  - Example: **ABCDC**

6.9 Contract Character Convention

6.9.1 Type Convention

CHARACTER	CONTRACT	POSITION	EXAMPLE
F	Future	1	**F**G427 ALSI
Y	Option	1	**Y**G427 ALSI 12.13 C
Z	Spread	1	**Z**G4H4 ALSI
X	Split / Switch	1	**X**G4G4 ALSI/INDI
C	CFD	1	**CZ_24 ANGC**

6.9.2 Year Convention

NUMERAL	YEAR	POSITION	EXAMPLE
7	2007	3	JG**7**30 JBAR
8	2008	3	FG**8**27 R153
9	2009	3	HG**9**27 JROD
A	2010	3	FG**A**27 ALSI
B	2011	3	FG**B**12 FINI
C	2012	3	FH**C**01 GOVI
…	…	3	FH#01 FBWC
Z	2035	3	FHZ01 FBWC
[	2036	3	FH[01 FBWC
****	2037	3	FH\01 FBWC
]	2038	3	FH]01 FBWC
^	2039	3	FH^01 FBWC
_	2040	3	FH_01 FBWC
‘	2041	3	FH’01 FBWC
a	2042	3	FHa01 FBWC
b	2043	3	FHb01 FBWC
…	…	3	FH#01 FBWC

6.9.3 Month Convention

CHARACTER	MONTH	POSITION	EXAMPLE
F	January	2 (+ 4 Spreads)	F**F**427 ALSI
G	February	2 (+ 4 Spreads)	Y**G**527 ALSI 15000 C
H	March	2 (+ 4 Spreads)	F**H**627 ALSI
J	April	2 (+ 4 Spreads)	F**J**730 ALSI
K	May	2 (+ 4 Spreads)	F**K**827 ALSI
M	June	2 (+ 4 Spreads)	F**M**927 ALSI
N	July	2 (+ 4 Spreads)	Y**N**527 ALSI 15000 C
Q	August	2 (+ 4 Spreads)	F**Q**730 ALSI
U	September	2 (+ 4 Spreads)	F**U**404 ALSI
V	October	2 (+ 4 Spreads)	F**V**404 ALSI
X	November	2 (+ 4 Spreads)	F**X**427 ALSI
Z	December	2 (+ 4 Spreads)	F**Z**721 ALSI

6.9.4 Day Convention

Note: When the contract code refers to a complex instrument (referring to 2 contracts), the ‘day’ field is not used. This is retrieved from the underlying contract dates that make up the complex instrument.

CHARACTER	DAY	POSITION	EXAMPLE
XX (where XX equal days of the month and XX is <= to 31)	27	4 & 5	FG4**27** ALSI

6.9.5 Contract Code Description and Implementation

The contract code will be presented in the following format in all contract code fields. The format is give as:

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
%	T	M	Y	D	D	d	C	C	C	C	S	S	S	S	S	S	S	S	c

% - Length of the contract code string
T – Instrument Type (See 6.9.1)
M – Month Character (See 6.9.3)
Y – Year Character (See 6.9.2)
D – Day Characters (See 6.9.4)
d – Delta Option indicator
C – Instrument Name
S – Strike Value
c – Call or Put Indicator

The following are some examples:

6.9.5.1 Future Contract (May 2007 ALSI)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
10	F	K	7	2	1		A	L	S	I									

6.9.5.2 Naked Option Contract (May 2007 ALSI 26 000 Call)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19	Y	K	7	2	1		A	L	S	I	2	6	0	0	0	.	0	0	C

6.9.5.3 Naked Option Contract (May 2007 TKGQ 2.53 Put)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19	Y	K	7	2	1		T	K	G	Q	2	.	5	3	0	0	0	0	P

6.9.5.4 Delta Option Contract (May 2007 CDAG 25 603.65 Put)

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
19	Y	K	7	2	1	D	C	D	A	G	2	5	6	0	3	.	6	5	P

6.10 Origin field Descriptions

The Origin field is an indicator of the process that was followed which caused an unmatched trade, trade or completed order. For example if the origin is Accumulate it then indicates that the trade is the result of an accumulation.

NAME	CHARACTER	DESCRIPTION

None	‘ ‘ – byte 32	No activity recorded on trade
Accumulate	A	Trade Accumulation occurred with this trade as result
Principle Change	D	A trade was split with a change in the principle from the original
Assign Send	Q	This trade has been assigned This trade cant be accumulated, assigned or split again
Assign Receive	F	This trade is a result of a trade that was assigned to another party, and this is the opposite leg generated.
Rolling forward position	R	This trade is a result of a roll forward on a position.
Tripartite Receive	T	This trade is the result of a tripartite allocation forward leg.
On Screen	O	This trade is the result of an On Screen trade
Report Only	P	This trade is the result of report only trade that occurred
Sub Account Modification	S	This trade is the result of a sub-account modification
Option Exercise	E	This trade is the result of a option exercise
Option Abandon	B	This trade is the result of a option abandon
Tripartite Send	W	This trade was allocated to the client of another member. This trade cannot be assigned, accumulated, split or used in another tripartite allocation
Allocate Send	L	The trade was used in a split transaction. This trade cannot be accumulated, split again, used in a tripartite allocation or assigned.
Allocate Receive	M	This trade is the client’s leg of a split or allocation. This trade cannot be split again.
Corporate Action	C	This trade is the result of a corporate action.
Sub Account Change	H	This indicates that a sub account has been changed on a trade leg.
Allocation Error	G	This indicates that this trade has been corrected as the client was incorrect
Allocation Correction	I	This indicates that this trade is a correction trade for a client trade which was booked incorrectly
Principle Correction	N	This indicates that this trade is a correction trade for a client trade that was booked incorrectly and subsequently moved back to the member’s account.
Transfer	K	Indicates this trade was as a result of a transfer.
Report Only After Roll	8	Is to be used for input purposes only when reporting Roll Over Trades. Please see “Reporting Roll Over Trades” (pg 53) for additional details.
Report Only Correction	U	Origin indicates the trade is a report only correction.
Report Only Cancellation	V	Origin indicates the trade is a report only cancellation

6.11 Reason field Descriptions

The Reason field is an indication of why an unmatched trade is booked.

NAME	CHARACTER

Correction Trade	A
Mis-deal	B
Mis-match	C
Structured Trade	D
Normal Trade	N or byte 32 (space)
Corporate Action	R
Allocation Correction	L
Exchange For Physical	E
ExchangeForRisk	F
DeltaOptionTrade	G
StructuredOptionTrade	H
NettOffClient	I
RingFencedTrade	J

7. Input Messages

7.1 Connection Messages

7.1.1 Encryption

The encryption method used is Blowfish. The following URL can be referenced for example and explanations for the blowfish encryption methodology.

http://www.schneier.com/blowfish-download.html

Encryption is required in the following two scenarios:

- When the API user sends a Login Message (Message Type 0)
- When the API user sends a Password Change Message (Message Type 88)

The encryption algorithm uses the following values:

- Hash Mode: Sha1
- Cipher Mode: Blowfish is a variable-length key block cipher
- Block size: 8 bytes – 64 bits
- Max key: 56 bytes – 448 bits

Test vectors are available on the following website for testing purposes:
http://www.schneier.com/code/vectors.txt

Some samples from this website include:

Key Used	Bytes Encrypted	Encrypted Bytes
0000000000000000	0000000000000000	4EF997456198DD78
FFFFFFFFFFFFFFFF	FFFFFFFFFFFFFFFF	51866FD5B85ECB8A
3000000000000000	1000000000000001	7D856F9A613063F2
1111111111111111	1111111111111111	2466DD878B963C9D
0123456789ABCDEF	1111111111111111	61F9C3802281B096
1111111111111111	0123456789ABCDEF	7D0CC630AFDA1EC7
0000000000000000	0000000000000000	4EF997456198DD78
FEDCBA9876543210	0123456789ABCDEF	0ACEAB0FC6A0A28D
7CA110454A1A6E57	01A1D6D039776742	59C68245EB05282B

7.1.2 Log in Message – Message type 0

Name	Length	Type	Description	Case	Example	Comment
Working Directory	255	P	AN	UL	C:\API	Current Working directory of application
Company Code*	20	P	AN	UL	APIUSER	Company Code assigned to you by the exchange.
Version*	10	P	AN	U	1.0.0.1	Version number accepted as current version of API solution, as agreed with exchange.
View All Dealer Data*	1	B	N	n/a	1 – True 0 – False	The logged in user can see all other dealers data (only master dealer)
Delete Orders on lost connection*	1	B	N	n/a	1 – True 0 – False	Delete the dealer's order if he disconnects, or loses

						connection from the exchange
Encrypted password*	24	B	N	n/a	“@!#%@#”	See description below
Active Directory User Name*	255	P	AN	n/a	APIUSER	The Active Directory user name assigned to you by the exchange
Domain*	255	P	AN	n/a	JSE	The domain name assigned to you by the exchange.

Total Length: 821 Bytes

Encrypting the password:

- The Encryption Key Buffer is made up of:
  - *Session key* + *Member code* + *Dealer code* + *Password*
- The Data Buffer is made up of:
  - *Member code* + *Dealer code* + *Session key*
- The encryption key is used to encrypt the data, which is then sent in the **Encrypted Password** field.

7.1.3 Log out Message – Message type 4

- This message does not contain any details.
- The exchange will log the user out of the market, and if “Delete Orders on Lost Connection” is selected in the login message, all active orders on the market would be deleted.

7.1.4 Re Request – Message type 3

Re Request of 59 messages. The Display Update (Message Type 59) contains the sequence numbers required to facilitate this request. The From Sequence and To Sequence are both inclusive in the result set. The exchange will reply in result sets of 100 sequences at a time, for the supplied sequence number range.

When the user is disconnect, and re-connects they are advised to re-request missing messages starting with the last global sequence number received. This is to ensure that any updates to the last global sequence number received are taken into account.

The user is also advised that live messages should be received in conjunction with the response to re-requests. This is to avoid missing live messages whilst re-requests are being received.

It is also advised that if a sequence number is received out of order, the user should build functionality that manages any triggers for re-request. This functionality could potentially make use of a counter that only after 3 checks, triggers a re-request for a missing sequence number. This will cater for the possibility that a sequence number is received out of order due to message routing or other factors, and allow the user to ensure all data is received in good order.

The market shard number will identify the market sub set on which particular contracts can be found. This will match up with the market shard number on the Instrument Data download, and therefore Instruments can be mapped accordingly to a particular market shard. PLEASE NOTE: The exchange may at any time change the market shard definition of an instrument, and it is the users responsibility to handle this change without prior notice by the exchange.

Name	Length	Type	Description	Case	Example	Comment
From Sequence*	4	I	N	n/a	12	From this sequence number
To Sequence*	4	I	N	n/a	112	To this sequence number
Market Shard Number	4	I	N	n/a	1	Indicates the market shard number on which you would like to re-request data from.

Total Length: 12 Bytes

7.1.5 Password Change Message – Message type 88

The password encryption works similarly to the login password except that the new and old passwords are the encrypted data that is transferred.

The following are NOT length prefixed:

- Session Key
- Member Code
- Dealer Code
- Old Password
- New Password
- Key Buffer
- Data Buffer
- Encrypted Result

The process is as follows for encrypting the old password.

- Key Buffer: Session key + member code + dealer code + old password
- Data Buffer: old password
- The encrypted result is then sent in the Old Password field.

The process is as follow for encrypting the new password.

- Key Buffer: Session key + member code + dealer code + old password
- Data Buffer: new password
- The encrypted result is then sent in the New Password field.

Name	Length	Type	Description	Case	Example	Comment
Old Password*	24	B	AN	n/a	@@#*%	The previous password in encrypted format.
New Password*	24	B	AN	n/a	%%@&$	The new password in encrypted format.
Active Directory User Name*	255	P	AN	n/a	APIUSER	The Active Directory user name assigned to you by the exchange.
Domain*	255	P	AN	n/a	JSE	The domain name assigned to you by the exchange.

Total Length: 558 Bytes

7.2 Subscription Messages

7.2.1 Unsubscribe Contract – Message type 42

To inform the system that the user no longer wants to receive Display Updates on a particular contract, a user must send a Message Type 42 with the list of contracts that they wish to

unsubscribe from. This message caters for up to 40 contracts per message. To unsubscribe to all options on the market, the message can be sent with a quantity of 1 and an empty list of contracts.

Name	Length	Type	Description	Case	Example	Comment
Quantity*	2	I	N	n/a	3	Number of contracts to unsubscribe from.
Contracts to unsubscribe*	40*20	P	AN	U	FG603 ALSI, FG603 INDI, FG603 FINI	List of contracts names to unsubscribe from

Total Length: 802 Bytes

7.2.2 Option Contract Subscription – Message type 67

Sending this message type will result in the API user receiving Display Updates (Message Type 59) on the contracts listed in the Option Contract Subscription Message.

The following scenarios are catered for:

- If the message contains the future contract – the user will be subscribed to all option strikes' depths on the future expiry.
- If the message is empty all the options on the market on which an order has been placed, will be subscribed to.
- If a single option is specified only this contract will be subscribed to.

When subscribing to a contract using the 67 message, further updates will be sent when activity is recorded on that contract. To receive an initial state of the contract in terms of market statistics the display file will contain the latest information for this contract. It is advised that the information in the display data download is used as an initial state of the contract, and that the 67 message is used to subscribe to further updates.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U	FG503 ALSI	See explanation above for implementation.

Total Length: 20 Bytes

7.2.3 Future Contract Subscription – Message type 99

Sending this message type will result in the API user receiving Display Updates (Message Type 59) on the contracts listed in the Future Contract Subscription Message. Up to 40 contracts are catered for in this message.

For the agricultural market, subscription to silo receipt spot trading display updates is possible by product only. This is done by listing a normalized contract name for the product, for intance: to subscribe to all white maze silo receipt spot contract updates, specify the contract name as follows:

B00000WMAZ

Name	Length	Type	Description	Case	Example	Comment
Quantity*	2	I	N	n/a	2	The number of contracts for request.
Contracts Requested For Display*	40*20	P	AN	U	FG625 ALSI, FG612 INDI	This field displays all the contract names that have been

						requested.

Total Length: 802 Bytes

7.2.4 Option Statistics Request – Message type 135

The Option Statistics Request allows a user to receive a Display Update (Message Type 59) which will include information for all option contracts traded since the beginning of the trading session. Therefore statistics included in the Display Update Message such as volume, last price, days high and days low will be filled with the details for option contracts traded.

The contract name field of this message should be left empty when sending this request.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U		See explanation above for implementation.

Note regarding subscription and global sequence number

When subscribing to an update on a contract, the resulting 59 message will contain a global sequence number of the last global sequence number sent, and will not increment. Therefore 59 messages received as a reply to a subscription message (message type 99) should not be used as part of any global sequence number processing, as these updates do not fall in line with the normal sequence number series. Any subsequent 59 messages after subscription has been processed will continue with the normal global sequence number series.

7.3 Order Insert/Suspend/Cancel Messages

7.3.1 Suspend/Delete Active Order Message – Message type 8

The Suspend Order message informs the system to either suspend or delete the order with the specified exchange order sequence. The activity (suspend or delete) is controlled by the suspend / delete flag in the message. This message should be used for suspending or deleting orders which are currently on the order book as active.

Name	Length	Type	Description	Case	Example	Comment
Exchange Order Sequence*	4	I	N	n/a	2563	Sequence number of order to suspend or delete
Contract Name*	20	P	AN	U	FG503 ALSI	Name of contract on which order will be suspended. Only used for suspending an order.
Buy or Sell*	1	C	A	U	B	Indicates whether the order being suspended/deleted is a Buy(B) or Sell(S)
Suspend/Delete Flag*	1	C	A	U	S	S – Suspend, D - Delete

Total Length: 26 Bytes

7.3.2 Delete Order Message – Message type 15

The Delete Order message allows the user to delete an order with the specified exchange order sequence which are either currently suspended or active. This message should be used

for deleting orders which are currently suspended. This message cannot be used to delete orders which are currently active.

Name	Length	Type	Description	Case	Example	Comment
Exchange Order Sequence*	4	I	N	n/a	6262	Order Sequence number of order to delete
Contract Name*	20	P	AN	U	FG503 ALSI	Name of the contract which you would like to delete

Total Length: 24 Bytes

7.3.3 Resubmit Order Message – Message type 27

The Resubmit Order Message allows a user to resubmit a particular order with the specified order sequence number. This will submit the order onto the live trading screen, and a subsequent display update will be returned, if an error does not occur.

Name	Length	Type	Description	Case	Example	Comment
Order Sequence number*	4	I	N	n/a	100015	Order Sequence number of suspended order to be resubmitted. This will make the suspended order an active order.
Contract Name*	20	P	AN	U	FG503 ALSI	Name of the contract on the order which you would like to resubmit.

Total Length: 24 Bytes

7.3.4 Order Insert Message – Message type 56

- Order messages are stacked and 11 orders can be inserted on different contracts in one message.
- The message is preceded with a number of orders and a first order message, followed by the other orders that can be inserted.
- The following fields apply to all orders:
  - Order Principal
  - Order Type
  - User Member
  - User Dealer
  - Order Timeout
  - Cancel Flag
- The number of orders indicates the total orders to be inserted including the first order.

Exception Handling:

- When processing multiple order entries in this message, each order will be validated individually and processed. Order rejection messages (message type 126) will be returned for each order which is rejected, with an indication of the order reference and the error number and message. Orders which are successfully processed will be acknowledged with the appropriate file update message (message type 123).

Order message makeup

Name	Length	Type	Description	Case	Example	Comment
Number of orders (NOB)*	1	B	N	n/a	2	Only values 1 – 11 are valid

First Order*	Size of First Order	First Order	n/a	n/a		First Order structure
Other Orders	10 * Size of Other Order	Other Order	n/a	n/a		Can handle up to 10 items of Other Orders structures

Total Length: 686 Bytes

First Order Structure

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U	FG503 ALSI	Name of contract on which the order will be inserted
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the order being inserted is a Buy(B) or Sell(S)
Order Value*	8	D	N	n/a	19543.00	Quoted value of order.
Quantity*	4	I	N	n/a	10	This field indicates the number of contracts involved in the order message
Iceberg Quantity	4	I	N	n/a	10	This field indicates the number of contracts in total if the order is of type Iceberg. **NOTE: This functionality will only be available in a future release. For initial implementation this field should be set to 0.**
Order Principal*	8	P	AN	U	AAAA / ABC678	This field displays the code of the Principal to the deal
Order Type*	1	B	N	n/a	0	0 – Normal; 1 – Take or Kill; 2 – Fill or Kill; 4 – Iceberg; 8 – Stop Order; 16 – At Best Order; 32 – All or Nothing Order; 128 – At Close Order
User Reference*	10	P	AN	U	FFS2232S	Reference number to appear on order message.
User Dealer*	4	P	A	U	XXZ	Dealer code of intended dealer.
Order timeout	4	I	N	n/a	45	This field displays the number of seconds until the order expires
User Member*	6	P	AN	U	AAAA	Member code of intended member.
Cancel Flag	4	I	N	n/a	1	See Explanation below for implementation.
Unused	4	B	n/a	n/a		
Unused	4	B	n/a	n/a		
Hold Over Date	3*4	I	N	n/a	2007, 5, 15	Date until which the order is good for. This order will be resubmitted at the start

						of trading until this order is satisfied. **NOTE: This functionality will only be available in a future release. For initial implementation this field should be set to 0,0,0.**
Principle Agency*	1	C	A	U	'P' or 'A'	Principle Agency indicator
Additional user reference	10	P	AN	n/a	ABC123567	Additional user reference which will be updated to completed orders and deals once matched.

Total Length: 105 Bytes

Other Order Structure

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U	FG503 ALSI	Name of contract on which order will be inserted
Buy Or Sell*	1	C	A	U	B, S	Buy/Sell field of the order being inserted
Order Value*	8	D	N	n/a	19426.45	The quoted value of the order.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts involved in the deal.
Unused	4	B	n/a	n/a		
Principle Agency*	1	C	A	U	'P' or 'A'	Principle Agency indicator
User Reference*	10	P	AN	U	FFS2232S	Reference number to appear on order message.
Additional user reference	10	P	AN	n/a	ABC123456	Additional user reference which will be updated to completed orders and deals once matched

Total Length: 58 Bytes

Cancel Flag	Description
0	No cancel
1	Cancel all orders for this dealer currently on this contract, on the specified buy or sell stack
2	Cancel all orders for this principle currently on this contract, on the specified buy or sell stack

Order Type Definitions

- Iceberg Order – The bid message has place for a quantity and Iceberg Quantity. When the Iceberg Order Type is selected an order with Quantity 10 and Iceberg Quantity 100, an order will be place on screen for a quantity of 10, and when hit, an order will automatically be submitted for a further 10 contracts, when this is hit another order will be submitted automatically etc. until the Iceberg Quantity of 100 is reached.

- At Best Order – This order takes no price, and an order will be submitted onto the exchange automatically at the best price on top of the stack. The order price will follow the best price until completely satisfied.

- Stop Order – This is an At Best Order and will follow the best price. If the market price goes below the stop price specified in the price field of the order message, the order will automatically be pulled.

- All Or Nothing – This is an order which must be completely satisfied before it is removed from the stack. An order can therefore be submitted onto the system and will remain until completely satisfied.

- At Close Order – This order is placed onto the system and only appears at market close. At the close of on screen trading period, all at close order orders are submitted onto the market and matched if possible.

7.3.5 Cancel All Active Orders Message – Message type 85

The Cancel All Active Orders Message allows a user to delete all active orders currently on the market. There are various options for cancelling all orders which are detailed in the Cancel Flag description.

Name	Length	Type	Description	Case	Example	Comment
Contract Name	20	P	AN	U	FG503 ALSI	Name of contract to be cancelled. Applicable only when Cancel Flag 0, 1, 2, 3
Cancel Flag*	2	I	N	n/a	4	See explanation below for implementation.
Buy Sell	1	C	A	U	B or S	Buy or sell side to cancel. Applicable only if Cancel Flag not 4.

Total Length: 23 Bytes

Name	Cancel Flag
Top Bid or Offer on Contract	0
All Bids or Offers on Contract	1
All Bids or Offers on all Expiries for Instrument	2
All Bids or Offers on Contract's market sector	3
All Bids and Offers on market	4

7.3.6 Reduce Active Order Quantity – Message type 104

The reduce order allows the user to decease the quantity of an order without changing the place in the stack.

Name	Length	Type	Description	Case	Example	Comment
Exchange Order	4	I	N	n/a	53335	Exchange Order Sequence of order to

Sequence*						be reduced.
Contract name*	20	P	AN	U	FG503 ALSI	Name of contract on which order will be reduced
Quantity*	4	I	N	n/a	10	New Quantity of order.
Buy Or Sell*	1	C	A	U	B, S	This field indicates whether the order being reduced is a Buy(B) or Sell(S)

Total Length: 29 Bytes

7.3.7 Edit Suspended Order – Message type 118

The Edit Suspended Order Message allows a user to edit the details of a particular suspended order with the specified order sequence.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be suspended.
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B) or Sell(S)
Order Value*	8	D	N	n/a	19232.00	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	8	P	AN	U	ABC343	Principal for new order.
User Reference*	10	P	AN	U	RFW3422	Reference number for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for new order
Member Code*	6	P	AN	U	AABB	Member code for new order
Order Sequence*	4	I	N	n/a	5322	Suspended order to be edited.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.

Total Length: 75 Bytes

7.3.8 Edit Active Order By Active Order Sequence Number– Message type 160

The edit active order by active order sequence number message allows users to edit the details of an existing active order with a single message. The exchange will automatically replace the details of the active order with the details supplied in this message.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be edited. This must remain the same as the original order.
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B)

						or Sell(S). This must remain the same as the original order.
Order Value*	8	D	N	n/a	19232.00	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	7	P	AN	U	ABC343	Principal for new order.
User Reference*	10	P	AN	U	RFW3422	Reference number for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for order. This must remain the same as the original.
Member Code*	6	P	AN	U	AABB	Member code for the order. This must remain the same as the original order.
Order Sequence*	4	I	N	n/a	5322	Suspended order to be edited.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.

Total Length: 74 Bytes

7.3.9 Edit Active Order By User Reference Number– Message type 161

The edit active order by user reference number message allows users to edit the details of an existing active order with a single message. The exchange will automatically replace the details of the active order with the details supplied in this message.

Note, that the order sequence number is not required in this message, and therefore allows the user to edit the details of an active order without requiring the acknowledgement from the exchange of the active order.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be edited. This must remain the same as the original order
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B) or Sell(S). This must remain the same as the original order.
Order Value*	8	D	N	n/a	19232.00	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	7	P	AN	U	ABC343	Principal for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for order. This must remain the same as the original.
Member Code*	6	P	AN	U	AABB	Member code for the order. This must remain the same as the original

						order.
User Reference*	10	P	AN	U	RFW3422	Reference number of the order that the user wants to edit.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.

Total Length: 70 Bytes

7.3.10 Cancel Order By User Reference Number– Message type 162

The cancel order by user reference number message allows the user to cancel an active order by sending the user reference number of this order as the index. This allows users to cancel active orders without requiring the acknowledgement from the exchange of the active order.

Please note this message can also be used to cancel spot basis active orders.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be cancelled. This must remain the same as the original order
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the order being canceled is a Buy(B) or Sell(S). This must remain the same as the original order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for order. This must remain the same as the original.
Member Code*	6	P	AN	U	AABB	Member code for the order. This must remain the same as the original order.
User Reference*	10	P	AN	U	RFW3422	Reference number of the order that the user wants to cancel.

Total Length: 41 Bytes

7.3.11 Edit order price by Active order sequence number– Message type 171

The edit order price by active order sequence number allows the user to adjust the price of an active order, and have the existing order details remain the same. This would be useful for users who wish to adjust the price of an order on the order book despite any previous executions already concluded on that order.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be cancelled. This must remain the same as the original order
Order value*	8	D	N	n/a	31000	This indicates the new price of the order
Active Order	4	I	N	n/a	100000004	The active order

sequence*						sequence number of the order to amend.

Total Length: 32 bytes

7.3.12 Edit order price by user reference number– Message type 172

The edit order price by user reference number allows the user to adjust the price of an active order, and have the existing order details remain the same. This would be useful for users who wish to adjust the price of an order on the order book despite any previous executions already concluded on that order.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be cancelled. This must remain the same as the original order
Order value*	8	D	N	n/a	31000	This indicates the new price of the order
User reference number*	10	P	AN	n/a	000001AB2	The active order user reference number of the order to amend.

Total Length: 38 bytes

7.4 Report Only Messages

7.4.1 Split Deal Message – Message Type 22

The Split Deal Message allows a user to allocate a particular portion of a deal to a specified principle and/or sub account. The User Reference field allows the user to indicate what the user reference the resultant deals should have. It is important to consider the rules regarding principle / agency deals when allocating a deal. Deal legs with a Principle (P) capacity can be allocated at a different price to the original deal, however, deal legs with an Agency (A) capacity cannot.

It should be noted that the Split Deal Message is used for client or subaccount allocations. The Assign Deal Message is to be used for assigning trades to other members in the market.

Name	Length	Type	Description	Case	Example	Comment
Deal Sequence*	4	I	N	n/a	3633	The deal sequence number to be allocated.
Quantity*	4	I	N	n/a	5	The quantity to be allocated.
Principal*	8	P	AN	U	ABC242	The principal to which the deal is allocated.
Dealer*	4	P	AN	U	ABC	The dealer who has done the allocation.
Price*	8	D	N	n/a	19345.50	The price at which the allocation is done.
Sub account	6	P	AN	U	ABC23	Sub account code to record the allocation with.
User Reference*	10	P	AN	U		Allows for a user reference to be allocated to the allocated deals

Contract Name*	20	P	AN	U	FG503 ALSI	The name of the contract on the deal which you would like to split
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new allocation.

Total Length: 74 Bytes

7.4.2 Cumulate Deal Message – Message type 24

The Cumulate Deal Message allows a user to accumulate deal legs with the same Principle, Contract, Buy Sell, Principle Agency fields. The Cumulate Deal Message allows for up to 100 deals to be accumulated.

Name	Length	Type	Description	Case	Example	Comment
Number Of Orders*	2	I	N	n/a	5	Number of deals to be accumulated.
Contract Name*	20	P	AN	U	FG503 ALSI	The name of the contract on the deals you would like to cume.
Deal References To Cumulate*	(100 * 4) 100 sequence numbers of type I 4 long	I	N	n/a	2422, 2522, 2622, 2422, 5255	List of Deal Sequences to be accumulated (Maximum 100)

Total Length: 422 Bytes

7.4.3 Edit Report Only Deal – Message type 26

- Please see 7.4.4 for the structure of this message. This structure is the same as the unmatched deal structure, with the unmatched sequence being the unmatched deal sequence already booked. The details captured in this message will be used to modify the existing details of the specified unmatched sequence.

7.4.4 Insert Report Only Deal – Message type 28

The Insert Report Only Deal Message allows a user to capture a Report Only trade onto the market. A few important notes are to be considered with regards to the Counter party field on this message:

- If the counterparty field is a client code. The opposite leg of this transaction will automatically be booked, and matched.
- If the counterparty field is another member code, the opposite leg of this transaction will automatically be booked, and sent to the counterparty if the indicator “Single Leg” has been set to false. In this scenario the counterparty will receive a leg which is equal and opposite to that which the user captured, however, the price and rate fields of this leg will be 0. The counterparty will need to edit the unmatched leg (Message Type 26) before the match will take place. This allows the counterparty and user to agree on the price and/or rate of the transaction.

To confirm the entry of the unmatched trade before a match takes place, the Buy Sell field can be sent with a lower case b or s. This will allow the user to first accept (Message Type 40) the trade, before the match takes place.

The exchange has a limitation on the time in which 2 legs of a reported trade should match. This is usually in the region of 6 minutes.

The message layout for this message will use the same layout as that for message type 29 below.

7.4.5 Other Reported Transactions – Message type 29

Reporting Allocation Corrections

Allocation corrections allow a user to correct the principle code on a trade when the principle is a client code. This gives the user the opportunity to book a reported trade to move the trade to the correct client, or back to the member's account without incurring additional booking fees.

To report a trade which is an allocation correction the user must supply the following fields:

a. Assign Sequence – This must be filled with the Deal Sequence number of the trade to be corrected.
b. Reason – This must be filled with the reason code 'L' – Allocation Correction.

This will update the original trade with a deal origin of 'G' – Allocation Error, and will capture a new trade with the deal origin of 'I' – Allocation Correction. The Principle supplied should be the client code on the trade which you wish to correct, and the Counterparty supplied should be the client to which the trade should belong to. If you wish to move the trade to the members account, the Principle supplied should be the member's account, and the Counterparty supplied should be the client code which you wish to correct. The remainder of the fields should be captured as normal when reporting a trade to the exchange.

Reporting Roll Over Trades

If the user would like to report a roll over trade, i.e. a trade which reports a leg on the current expiry, and the opposite leg on a later expiry, the report only trade message can be used for this purposes.

It is important to note the difference between the "Roll Position" and this "Roll Over Trade" functionality. In the "Roll Over Trade" functionality there is no need to specify the link to an existing position. The "Roll Over Trade" functionality works as follows:

1. A report only trade is captured for the current expiry against a selected counterparty. This trade is captured as any other normal report only trade. To indicate that this is a "Roll Over Trade", the Origin field in the message should be populated with the Origin "R" – Rolling Position.
2. A report only trade is then captured for the later expiry against a selected counterparty. This trade is captured as any other normal report only trade, and the origin should be "8" – Report Only After Roll. PLEASE NOTE, that failing to specify this origin when reporting a roll over trade will result in the Report Only leg of the trade occurring supplementary fees. It is also important to note that the Origin "Report Only After Roll" is only for input use. The resulting trade confirmation message will indicate "P" – Report Only.

It is important to note that the Origin "R" – Rolling Position, will only be accepted on the current expiry.

Reporting Trade Cancellations And Trade Corrections

When a user would like to cancel a trade, they can make use of the report only trade capture to cancel an existing trade. This is done by completing the details of a report only trade message with the same details as the original trade (except the Buy Sell is reversed). The origin on the report only message should be 'V' – Report Only Cancellation, and the Assign Sequence field should be filled in with the Deal Sequence number of the original deal. The

counterparty on this message should be left empty, as the counterparty may not be known for onscreen transactions.

If the user would like to correct a trade, they are required to send the Report Only Cancellation (as above), and then follow it with a further report only message with the details of the corrected trade. In this message the origin should be 'U' – Report Only Correction.

Name	Length	Type	Description	Case	Example	Comment
Unmatched Sequence Number	4	I	N	n/a	12	Sequence number of the unmatched record. Not used for new entries.
Single Leg	1	B	N	n/a	1 – True 0 – False	If this field is true, the opposite leg will NOT be sent to the counterparty
Unused	7	B	n/a	n/a		
Enter Time*	4	B	N	n/a	10, 59, 56, 0	The time of entry of unmatched order
User Member*	6	P	AN	n/a	AAAA	Member Code of logged in member
User Dealer*	4	P	A	n/a	XXZ	Dealer Code of logged in dealer.
Clearing Member	6	P	A	n/a	ABZAC	Clearing Member code of the reporting member
Deals Member*	6	P	AN	n/a	AAAA	Member Code of unmatched deal
Deals Dealer*	4	P	A	n/a	XXZ	Dealer Code of unmatched deal.
Deals Principal*	8	P	AN	n/a	AAAA / ABC678	This field displays the code of the Principal to the deal.
Buy Or Sell*	1	C	A	n/a	B, S, b, s	Buy/Sell field of the unmatched order. Lower case b and s can be used to mark this unmatched trade as unconfirmed. The Accept (40) message can be used to confirm the unmatched trade.
Unused	1	B	n/a	n/a		
Quantity*	4	I	N	n/a	10	This field displays the number of contracts involved in the trade
Contract*	20	P	AN	n/a	R153 AUG04	Contract for this leg of the trade.
Rate*	8	D	N	n/a	12.00000	Rate at which the report only entry was done. Used for volatility for option contracts, or should be set to the same value as price. This field is mandatory when reporting option trades.
User Reference*	10	P	AN	n/a	My Code	User Reference code
Suffix Code	2	I	A	n/a	1	Suffix of entry

Portfolio	8	P	AN	n/a		Portfolio code to record the unmatched deal with
Profit Centre	6	P	AN	n/a		Profit centre code to record the unmatched deal with
Sub Account	6	P	AN	n/a	ABC01	Sub account code for the deal.
Counter Party*	8	P	AN	n/a	SSQM	This field displays the code of the counterparty to the deal
Assign Sequence	4	I	N	n/a	12	For Assigning deals, this is the sequence number of the deal to be assigned.
Origin	1	C	A	U	A,F etc.	See table in section 6.10
Enter Date	2	I	N	n/a	11223	The date which the trade was entered
Trade Date	2	I	N	n/a	11425	The date which the trade was traded
Trade Time	4	B	N	n/a	10, 55, 59 ,0	The time the trade was done
Booking Fee Flag	1	C	A	U	'Z' – Zero Fees-	This flag indicates the fee status on the trade. NOTE: Only the exchange can set this value.
Reason	1	C	A	U	N, R etc,	See table in section 6.11
Unused	4	B	n/a	n/a		
Deal Price*	8	D	N	n/a	124.001	The Price for this leg of the reported trade. This field is used to capture the premium when reporting an option trade, and is always mandatory.
Unused	58	B	n/a	n/a		
Price Reference	8	D	N	n/a	124.001	This field can be used as a reference field to indicate to the counterparty at what price the unmatched trade was booked against.
Unused	3	B	n/a	n/a		
Future Price*	8	D	N	n/a	23560	The future price used when capturing report only option trades. This field is mandatory when reporting option trades.
Unused	21	B	n/a	n/a		
Position Sequence to Roll Forward	4	I	N	n/a	14	Used for Roll forwards, contains the sequence number of position to roll forward
Roll Forward Price	8	D	N	n/a	118.2	Price at which the late leg of roll forward must

						be captured
Unused	16	B	n/a	n/a		
Additional Reference	10	P	A	U	ABC12345	Additional Reference which can be used for the reporting of trades.
Principle Agency*	1	C	A	U	'P' or 'A'	Principle Agency indicator
Unused	10	B	n/a	n/a		

Total Length: 298 Bytes

7.4.6 Unmatched Deal Delete – Message type 30

The Unmatched Deal Delete Message allows the user to delete a specified unmatched deal record.

Name	Length	Type	Description	Case	Example	Comment
Unmatched deal Sequence number*	4	I	N	n/a	1000015	Unmatched sequence number of unmatched deal to be deleted.
Contract Name	20	P	AN	n/a	FG503 ALSI	Contract name on the unmatched deal you would like to delete.

Total Length: 24 Bytes

7.4.7 Option Exercise – Message type 31

The Option Exercise Message allows a user to exercise a position in an option contract.

Name	Length	Type	Description	Case	Example	Comment
Closing position*	8	D	N	n/a	-25	The amount of the position to exercise.
Dealer*	4	P	A	U	ABC	Dealer code of logged in user.
User Reference*	10	P	AN	U	A0031311A	Reference Number which will appear in resulting order's reference number field.
Principal*	8	P	AN	U	ABC231	Principal to which the option will be exercised.
Contract Name*	20	P	AN	U	FG503 ALSI 28000 C	Name of the contract on which this option position is booked.
Action*	2	I	A	n/a	0	0 – Exercise
Additional User Reference*	10	P	AN	U	12345ABC	Additional Reference which will appear on the resulting order and deal

Total Length: 62 Bytes

7.4.8 Option Abandon – Message type 33

The Option Abandon Message allows a user to abandon a position in an option contract.

Name	Length	Type	Description	Case	Example	Comment
Closing position*	8	D	N	n/a	-25	
Dealer*	4	P	A	U	ABC	Dealer code of logged in user.
User Reference*	10	P	AN	U	A0031311A	Reference Number which will appear in resulting order's reference number field.
Principal*	8	P	AN	U	ABC231	Principal to which the option will be abandoned.
Contract Name*	20	P	AN	U	FG503 ALSI 28000 C	Name of the contract on which this option position is booked.
Action*	2	I	A	n/a	0	2 – Abandon
Additional User Reference*	10	P	AN	U	12345ABC	Additional Reference which will appear on the resulting order and deal

Total Length: 62 Bytes

7.4.9 Unmatched Deal Accept – Message type 40

The Unmatched Deal Accept Message allows a user to accept a specified unmatched deal record. A deal must either have a lower case Buy Sell field for it to be accepted. When an unmatched deal is accepted and matches the counterparties leg of the unmatched deal, the unmatched deal will be deleted, and the relevant deal, completed order and position updates will be received. If the unmatched has not been matched, only an update will be received.

Name	Length	Type	Description	Case	Example	Comment
Unmatched deal Sequence number*	4	I	N	n/a	1000015	Unmatched deal sequence number of unmatched deal to be accepted
Contract Name	20	P	AN	U	FG503 ALSI	Name of the contract on which the unmatched deal was booked.

Total Length: 24 Bytes

7.4.10 Tri-part Deal Entry – Message type 62

Please refer to 7.4.4 for the message structure.

The purpose of this message is to allocate a deal to a client of another member. The unmatched message structure filled for this operation should be filled with the following specific information:

- Assign Sequence – This should be the Deal Sequence number of the deal which is to be allocated.
- Counterparty – This field should be filled with the client code of the other member to which the deal specified in the Assign Sequence is to be allocated to.

The unmatched message structure should therefore be filled with the information of the selected deal, specified by the deal sequence. The price and rate field allow the user to

allocate the deal at a defined price and/or rate. The message also allows for the user to specify a new reference number for the resultant trade legs.

The deal specified in the Assign Sequence will be updated with an Origin of Tripartite Send. Once the counterparty's member accepts the trade, new trade legs will be booked with Origin Tripartite Send.

7.4.11 Assign Deal – Message type 64

Please refer to 7.4.4 for the message structure.

The Assign Sequence of this structure must be filled with the Deal Sequence of the deal which the user wants to assign.

The purpose of this message is to assign a deal leg to another member. The unmatched message structure filled for this operation should be filled with the following specific information:

- Assign Sequence – This should be the Deal Sequence number of the deal which is to be assigned.
- Counterparty – This should be filled with the Member Code of the counterparty to which the deal will be assigned to.

The unmatched message structure should therefore be filled with the information of the selected deal, specified by the deal sequence. The price and rate field allow the user to assign the deal at a defined price and/or rate.

The deal specified in the Assign Sequence will be updated with an Origin of Assign Send. Once the counterparty accepts the trade, new trade legs will be booked with Origin Assign Send. The message also allows for the user to specify a new reference number for the resultant trade legs.

7.4.12 Position Roll Forward – Message type 115

Please refer to 7.4.4 for the message structure.

The Position Sequence to Roll Forward of this structure must be filled with the Position Sequence of the position the user wants to roll forward. The Deal Price field of this structure must be filled with the price the user wants to close the current position at, and the Roll Forward Price field of this structure must be filled with the price the user wants to open the next position on. The Contract field of this structure must be filled with the Contract the user wants to open the next position on, (or Roll the position to).

The unmatched message should be filled with the following specific information other than that specified above:

- Quantity – The amount of the current position which should be rolled to the later expiry.
- Buy or Sell – The action to be performed on the current expiry. To roll a negative (short) current position. The buy or sell field should be filled with a B (Buy). This will indicate your intention to buy some of your short position and sell into the later expiry.
- Counterparty – This should be a member or client in the market which has indicated the intention to be the counterparty to this transaction.

The trades captured to close the current position on the existing expiry will be marked with the Origin "Rolling forward position". The trades captured to open the position on the later expiry will be market with the Origin "Report Only".

7.5 Entity Administration Messages

7.5.1 Change Member Message Subscription – Message Type 7

Please see Section 4.12 for details on the rules for using this message type.

The Change Member Message Subscription allows the user to control access to the system for a particular dealer. Only dealers with Master Dealer privileges will be able to set the subscription of other dealers in the member firm.

Name	Length	Type	Description	Case	Example	Comment
Message Subscription Sequence	4	I	N	n/a	0	Not used for input purposes.
Member Code*	6	P	AN	U	AAAA	Member code of logged in user.
Dealer Code*	4	P	AN	U	ABC	Dealer code of logged in user.
Message Number*	4	I	N	n/a	56	The message number sent by user
Is Subscribing*	1	B	N	n/a	1 – True 0 – False	Indicates if this user is able or unable to send this message type.
Is Allowed to Change*	1	B	N	n/a	1 – True 0 – False	Indicates if this user is able or unable to change the subscribing field.
Effective Group*	1	B	N	n/a	1 – True 0 – False	

Total Length: 21 Bytes

7.5.2 Change Member Limits – Message type 6

Please see Section 4.12 for details on the rules for using this message type.

The Change Member Limits Message allows users to edit the limits used for trading. Only dealers with Master Dealer privileges will be able to set the subscription of other dealers in the member firm.

PLEASE NOTE: If a blanket limit for a particular instrument type is submitted, any previous instrument specific limits will be removed from the exchange, and replaced with an entry for the instrument type. When this occurs the user is required to re-concile their limits with the exchange. To do this, please submit a File Download Request (Message Type 36) for type 24 (Dealer Risk Value Limits)

Name	Length	Type	Description	Case	Example	Comment
Sequence number of Risk value limits	4	I	N	n/a	12	Sequence number of Risk value limits
Member Code*	6	P	AN	U	AAAA	Member code of logged in user.
Dealer Code*	4	P	A	U	ABC	Dealer code of logged in user.
Instrument Type Code*	10	P	A	n/a	“AGRIF”	The instrument type to which this limit applies.
Instrument Short Name	5	P	A	n/a	“WMAZ”	The instrument name to which

						this limit applies.. This can be used to specify an specific limit on a particular instrument
Limits On-Screen*	8	D	N	n/a	32.00	Limit for on screen transactions
Limits Options*	8	D	N	n/a	15.00	Limit for option transactions both on screen and off screen.
Limits Report Only*	8	D	N	n/a	74.00	Limit for Report Only transactions

Total Length: 53 Bytes

7.5.3 Create Client Message – Message type 102

The Create Client Message allows a user to create client accounts or client sub accounts. To create a client sub account, the Master Client's sequence number is filled into the Master Client Sequence field of this structure. This message can also be used to update the details of an existing client. To update a client, the Client Sequence Number is filled in with the particular client, and the Is An Update field set to true (1).

Name	Length	Type	Description	Case	Example	Comment
Client Sequence	4	I	N	n/a	2422	For Updates the sequence number of the client is required
Master Client Sequence	4	I	N	n/a	6223	If this client is a sub account for another client, that client's sequence number is required.
Member Sequence*	4	I	N	n/a	267	The sequence number of the member.
Member Code*	6	P	AN	U	ABMN	The member code of the member to which this client is registered
Country Sequence*	4	I	N	n/a	–1	Sequence number of the country record to which this client belongs
Client Code	7	P	AN	U	ABC123	Client code for updates to client details. Not used for new client.
Unused	8	B	n/a	n/a		
ID Number*	15	P	AN	n/a	5504122775089	The ID Number

						of the client, if this client is an individual.
Passport Number	15	P	AN	n/a	1441267	Passport Number for foreign client
VAT Registration Number	51	P	AN	n/a	23-555531-232	VAT Registration number for non-individuals, example companies.
Client Name*	51	P	AN	n/a	Joe Soap	Name of client.
Client Second Name	53	P	AN	n/a	Private Investment Services	Second name of client.
Postal Address Postal Code*	11	P	AN	n/a	2411	Postal Code of the address supplied for postal address
Physical Address Postal Code*	11	P	AN	n/a	4162	Postal Code of the address supplied for physical address
Telephone Number*	25	P	AN	n/a	(011)222-3341	Telephone number at which the client can be contacted
Alternate Telephone Number	25	P	AN	n/a	(011)335-6331	An alternate telephone number at which the client can be contacted.
Fax Number	25	P	AN	n/a	(011)452-2221	Fax number at which the client can be contacted.
Physical Address*	51	P	AN	n/a	4 Exchange Square	First line of physical address
Physical Address Line 2	51	P	AN	n/a	Gwen Lane	Second line of physical address
Physical Address Suburb	21	P	AN	n/a	Sandton	Suburb of physical address
Physical Address City*	31	P	AN	n/a	Johannesburg	City of physical address
Postal Address*	51	P	AN	n/a	4 Exchange Square	First line of postal address
Postal Address Line 2	51	P	AN	n/a	Gwen Lane	Second line of postal address
Postal Address Suburb	21	P	AN	n/a	Sandton	Suburb of postal address

Postal Address City*	31	P	AN	n/a	Johannesburg	City of postal address
Email Address*	51	P	AN	n/a	joesoap@jse.com	Email address at which client can be contacted
Compliance Officer Name	51	P	AN	n/a	Joe Soap	Name of the compliance officer for the member firm.
Discretionary Managed	1	B	N	n/a	1 – True 0 – False	Indicates if this client is discretionarily managed or not.
Date Of Birth*	3*4	I	N	n/a	2006,8,24	Date of birth in format: YYYY, MM, DD
Client's Bank Account Number	19	P	AN	n/a	241122	Bank account number for client
Multiplication Factor	4	I	N	n/a	100	Multiplication factor for foreign clients
Swift Code	13	P	AN	n/a	2411-23	Swift code used by client. BIC Code
Registration Number	21	P	AN	n/a	34223-443	Registration number for non-individuals e.g. CCs
Income TAX Number	21	P	AN	n/a	42551-533	Income tax number of client
Is an Update*	1	B	N	n/a	1 – True 0 – False	Indicates if this record is an update, or not.
Is an Individual*	1	B	N	n/a	1 – True 0 – False	Indicates if this client is an individual or not.
Electronic Account Number	30	P	AN	n/a	4224666	Electronic account number used on delivery notice system for agricultural deliveries.
Is Electronic	1	B	N	n/a	1 – True 0 – False	Indicates if this client can receive electronic delivery notices or not.
Proof of Residence Supplied*	1	B	N	n/a	1 – True 0 – False	Indicates if proof of residence has been supplied by client, or not.

Proof of Registration Supplied*	1	B	N	n/a	1 – True 0 – False	Indicates if proof of registration has been supplied by client.
Unused	24	B	n/a	n/a		
Is Staff Account*	1	B	N	n/a	1 – True 0 – False	Indicates true or false if this client is a staff account
Clearing Member Can Change Margin Multiplier	1	B	N	n/a	1 – True 0 – False	Indicates if clearing member can change margin multiplier
Is Beneficial Interest Account	1	B	N	n/a	1 – True 0 – False	Indicates if this client is a beneficial interest account

Total Length: 882 Bytes

7.5.4 Client Verification message – Message Instr 124

The Client Verification message is reserved for Master Dealers, and allows users to verify the details loaded. Upon verification, the client account can be used for trading. This message can also be used to un-verify a client account by setting the Client Status field to false (0).

Name	Length	Type	Description	Case	Example	Comment
Client Sequence No*	4	I	AN	n/a	5533	Sequence number of the client record in the exchange data set
Client Principal*	8	P	A	U	ABC123	Client Code
Client Status*	1	B	N	n/a	1 – True 0 – False	Change client status from TRUE to FALSE or vice versa
Member Code*	6	P	A	n/a	AAAA	Indicates the member code to which the client belongs to.

Total Length: 19 Bytes

7.6 Physical Delivery/Silo Certificate messages (Agricultural Market only)

7.6.1 Add Silo Certificate – Message type 129

The Add Silo Certificate Message allows users to load new Silo Certificates.

Name	Length	Type	Description	Case	Example	Comment
Sequence of Silo Certificate	4	I	N	n/a	0	When adding a new silo certificate this should be zero
Certificate number*	4	I	N	n/a	12348	Silo Certificate number
Silo Owner Sequence*	4	I	N	n/a	123457	Silo Certificate owner sequence
Silo Location	4	I	N	n/a	54546	Silo Certificate

Sequence*						location sequence
Unused	4	B	n/a	n/a		
Instrument Sequence*	4	I	N	n/a	4564	Instrument table sequence of this certificate
Grade Sequence*	4	I	N	n/a	544546	Grade sequence number
Origin Sequence*	4	I	N	n/a	1346	Sequence of Origin
Member Sequence*	4	I	N	n/a	64	Sequence number of certificate member from member data
Client Sequence	4	I	N	n/a	100	Indicates the sequence number of the client if applicable
Status*	1	C	N	U	N – Not Verified	Status of certificate. Should be marked U on initial entry.
Quantity*	4	I	N	n/a	45	Quantity on certificate
Storages Paid Date*	3*4	I	N	n/a	2006, 7, 23	The Date up until which storage has been paid.
Electronic paper*	1	B	N	n/a	1-True 0-False	Is the certificate paper based
Issued Date*	3*4	I	N	n/a	2006, 5,18	Date on which the certificate was issued.
Original Depositor	50	P	AN	n/a		Name or original depositor
Contract Name	20	P	AN	U	FG503 WMAZ	Name of the current expiry of contract on which you want to load a silo certificate.
Must Deliver Today	1	B	N	n/a	1-True 0-False	Indicates if this certificate must be delivered today.
Quantity Remaining	4	N	N	n/a	5	Indicates how many contracts are remaining to be delivered on this receipt.
Date Valid Until	3*4	I	N	n/a	2012,05,01	Indicates the good till date for this receipt.

Total Length: 157 Bytes

7.6.2 Edit Silo Certificate – Message type 131

Please see 7.6.1 for the message structure.

7.6.3 Delete Silo Certificate – Message type 136

Please see 7.6.1 for the layout of this message. The certificate number field must be that of the certificate you want to delete.

7.6.4 Verify Silo Certificate – Message type 129

Please see 7.6.1 for the layout of this message. Note that the same message is sent for the verification of a silo certificate, as that for a new silo certificate. To verify a silo certificate, the

details of the certificate which you would like to verify must be sent in this message with a status field of 'V'. This will indicate your intention to verify the details of the certificate.

7.7 Request data retrieval

7.7.1 Request data retrieval – Message type 36

The Request Data Retrieval Message allows users to request data from the system. The Data Type field indicates what type of data should be returned. It is important to note that 256 must be added to the specific Data Type in order for the data to be returned. To download a specific record within a data set, the Specific Record field is filled with the sequence number of the record required. The Download Date field allows the user to request data for a specified date. This date can only be set to today or the previous business day. If no data is available for the request, and empty data set will be returned.

Name	Length	Type	Description	Case	Example	Comment
Data Type*	2	I	N	n/a	5+256 (261, orders)	261 is equivalent to an Orders data download
Last Piece of Chunk	1	B	N	n/a	1	Not used for request
Re-request	1	B	N	n/a	True or false	Indicates if this is a re-request for data
Action	4	I	N	n/a		Not used for request
Specific Record	4	I	N	n/a	4664	Allows to download a specific record sequence number and onwards
Download Date*	2	I	N	n/a	12743	Dos Date of days records which must be downloaded

Total Length: 14 Bytes

The following table contains possible data types:
Table 4.1

Name	Data Type number	Historical Data retrieval
Market Display Data	1	No
Instruments data	2	No
Contract Dates	3	No
Strike Data	4	No
Active Orders Data	5	Yes
Completed Orders	7	Yes
Deal Data	8	Yes
Positions data	9	Yes
Unmatched deal data	10	Yes
Client data	12	No
Dealer data	14	No
Member data	15	No
MTM data	16	Yes
Holiday	18	No
Skew	19	Yes
Dealer Risk Value Limits	24	No
Daily Rates	25	Yes
Equity Instruments available	29	No

ATS Message Types	38	No
Tripartite data	61	No
Custom Future data	63	No
Trace Deal data	64	Yes
Clearing Member data	65	No
Client Detail	66	No
Message Subscription data	67	No
Delivery Notices	68	Yes
Silo Certificates	69	Yes
Daily Account Summary	70	Yes
Silo location	71	No
Silo Owner	72	No
Physical grades	73	No
Certificate Physical Origins	75	No
Group definitions	78	No
Fee data	79	No
Fee Scale data	80	No
Fee Calculation data	81	No
Transfer Client	82	No
Transfer Client member data	83	No
Transfer member	84	No
Transfer member Clearing member	85	No
Allocation Notices Report	86	Yes
Delivery Notices Report	87	Yes
Exchange Announcements	89	Yes
Delivery No Physical (Exchange for physical)	90	Yes
Delivery Allocations	91	Yes
Instrument Silo Accreditations	95	No
Early Valuations	100	No
Journal TransactionPayments	101	No
Client Margin Multiplier	102	No
First Trade of the day	103	Yes
Silo Auction Certificates	104	No
Silo Auction Bids	105	No
Options Concentration Risk	107	Yes
Spot Basis Contract	120	No
Spot Basis Active Orders	121	No
Spot Basis Completed Orders	122	No
Spot Basis Deals	123	No
Spot Basis Unmatched	124	No
Spot Basis Positions	125	No
Post Delivery Spot Basis Trades	126	No
Base Rates	130	No
CFD Unmatched Trades	131	No
CFD Trades	132	No
CFD Exposure	133	No
CFD Audit Deals	134	No

7.8 Request Daily Trend – Message type 61

The Request Daily Trend message allows a user to request the on screen trade history for a contract for the current trading session.

Name	Length	Type	Description	Case	Example	Comment
Contract	20	P	AN	U	FG503	Contract name of the

Name*					ALSI	contract on which you are requesting history.

Total Length: 20 Bytes

7.9 Heart Beats – Message type 84

This message contains only a header with message type 84. This message must be sent to the system to inform the system of the users open connection. This will allow the system to verify that the user is still connected, and has not lost connection to the system.

7.10 Client Margin Multiplication Factor – insert/edit/delete – Message type 150

This message contains the information to set, edit or delete the Client Margin Multiplication factor per instrument.

When a client has an additional multiplication factor set on an instrument, the margining process will add in the extra margin for the client, based on the multiplication factor for the instrument. By default all multiplication factors are set to 100 for all clients across all instruments. This functionality is used to override the defaults set.

This message is used by both Clearing Member systems and Member systems. Member users cannot make the Multiplication Factor higher than what the Clearing Member specified. Clearing Member can set the value higher or lower than that of the member.

For Setting the Member Margin Multiplier (Only Clearing Member users)

- The Client Sequence must be zero.
- All clients belonging to this member will have a Multiplier set to the value specified

For Setting the Client Margin Multiplier (Member and Clearing Member systems)

- The Member code must be set to the member of the client
- The Client code must be set to the client sequence that must be changed.

Process flow for Edit/Insert and Delete:

- If there is no multiplication factor set for the member-client-instrument combination then the record will effectively be a INSERT
- If the member-client-instrument combination does exist an EDIT will occur.
- If the multiplication factor is set to 100 a DELETE will occur on the member-client-instrument combination.

If the message is accepted a 123 message will be sent with the updated details.

Name	Length	Type	Description	Case	Example	Comment
Member Sequence*	4	I	N	n/a	267	The sequence number of the member
Client Sequence	4	I	N	n/a	1242	The Client Sequence of the client which the additional Margin is set.
Instrument Sequence*	4	I	N	n/a	2523	Instrument Sequence of instrument for which the Additional Margin is set.
Multiplication Factor	8	D	N	n/a	150.00	Multiplication Factor to use for the client.

Total Length: 20 Bytes

7.11 Spot Trading Silo Certificates (Agricultural Market only)

Dealers can trade Silo Certificates, which have been approved for delivery by the exchange, on a spot market basis. Spot basis trading contracts are defined by the following parameters:

- The product/instrument on the Silo Certificate
- The Silo Location on the Silo Certificate
- The Grade of the grain on the Silo Certificate
- The Origin of the grain on the Silo Certificate
- The Receipt Number on the Silo Certificate.

Spot basis trading contracts follow the following naming scheme:

BXXXXXYYYY

Where:

- B is the identifier prefix for spot basis traded contracts
- XXXXX is the sequence number of the contract, left padded with zero's to a lengh of five.
- YYYY is the short name of the instrument or product on the spot basis contract.

The file structures specific to spot basis trading are the following:

1. Silo Certificate Spot Contract – Number 120
2. Silo Certificate Active Spot Order – Number 121
3. Silo Certificate Completed Spot Order – Number 122
4. Silo Certificate Spot Deals – Number 123
5. Silo Certificate Spot Unmatched Deals – Number 124
6. Post-Delivery Run Deals – Number 126

The input messages specific to spot basis trading are the following:

1. Spot Basis Order Insert Structure – Message 57
2. Suspend/Delete Spot Basis Active Order – Message 11
3. Delete/Suspend Spot Basis Order – Message 19
4. Resubmit Spot Basis Order – Message 32
5. Reduce Active Spot Basis Order Quantity – Message 105
6. Edit Suspended Spot Basis Order – Message 119
7. Delete Suspended Spot Basis Order By Sequence Number – Message 139
8. Split Spot Basis Deal – Message 23
9. Insert Report Only Spot Basis Deal – Message type 166
10. Edit Report Only Spot Basis Deal – Message type 167
11. Unmatched Spot Basis Deal Accept – Message type 168
12. Unmatched Spot Basis Deal Assign – Message type 169

Subscription to public messages/depth updates on spot basis contracts occur by product (see section 7.12.1). Submission of orders, order management operations and deal management operations occur through the normal submission of message structures conforming to the layouts outlined in the sections below.

7.11.1 Spot Basis Trading – Contract subscription mechanism

Subscription to public messages/depth updates on spot basis contracts occur by product only, by specifying a zero contract sequence number and the desired product. For example, to subscribe to all public messages for WMAZ spot basis contracts send a Future Contract Subscription Message (type 99) with the following contract name: B00000WMAZ.

7.11.2 Spot Basis Order Insert Structure – Message 57

Unlike future order inserts(message type 56) ,spot basis orders can only be submitted one per message, of which the structure is shown below.

Spot basis contract creation

Unlike future contracts, spot basis contracts are created based on market demand. Therefore any spot basis order insert message will actually create a tradable contract if a contract with the defining parameters mentioned in 7.12 does not already exist. The creation of a contract is confirmed to the market with a public file update message of file type Silo Certificate Spot Contract – Number 120

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U	B00122WMAZ	Name of contract on which the order will be inserted
SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Instrument ShortName*	20	P	AN	U	WMAZ	Shortname of the underlying future contract
LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	6	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	4	P	AN	U	ZA	Code of the country of origin of the grain
Must Deliver Today	1	B	N	n/a	1 – True 0 – False	If this field is true, if the order is not matched by the end of the day, the stock will be allocated during the end of day process.
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the order being inserted is a Buy(B) or Sell(S)
Premium	8	D	N	n/a	19543.00	Price per ton quoted value of order.
Quantity*	4	I	N	n/a	10	This field indicates the number of contracts involved in the order message
Order Principal*	8	P	AN	U	AAAA / ABC678	This field displays the code of the Principal to the deal
Order Type*	1	B	N	n/a	0	0 – Normal; 1 – Take or Kill; 2 – Fill or Kill; 4 – Iceberg; 8 – Stop Order; 16 – At

						Best Order; 32 – All or Nothing Order; 128 – At Close Order
User Reference*	10	P	AN	U	FFS2232S	Reference number to appear on order message.
User Dealer*	4	P	A	U	XXZ	Dealer code of intended dealer.
Order timeout	4	I	N	n/a	45	This field displays the number of seconds until the order expires
User Member*	6	P	AN	U	AAAA	Member code of intended member.
Cancel Flag	4	I	N	n/a	1	See futures order insert message documentation for cancel flag implementation.
Hold Over Date	3*4	I	N	n/a	2007, 5, 15	Date until which the order is good for. This order will be resubmitted at the start of trading until this order is satisfied.
Hold Over Time	4	B	N	U	11, 56, 55, 0	Time Format: Hours, Minutes, Seconds, 0
Principle Agency*	1	C	A	U	'P' or 'A'	Principle Agency indicator
Additional User Reference	10	P	AN	n/a	ABCD123	Additional user reference field for users to place an order

Total size: 143 bytes
* The Contract name is mandatory on an existing contract, but is specified as empty
* SiloReceiptNo is mandatory only on offers, but optional on bids.

7.11.3 Suspend/Delete Spot Basis Active Order – Message 11

Name	Length	Type	Description	Case	Example	Comment
Exchange Order Sequence*	4	I	N	n/a	2563	Sequence number of order to suspend or delete
Contract Name*	20	P	AN	U	B00122WMAZ	Name of contract on which order will be suspended. Only used for suspending an order.
Buy or Sell*	1	C	A	U	B	Indicates whether the order being suspended/deleted is a Buy(B) or Sell(S)
Suspend/Delete Flag*	1	C	A	U	S	S – Suspend, D – Delete

Total Size: 26 bytes

7.11.4 Resubmit Spot Basis Order – Message 32

Name	Length	Type	Description	Case	Example	Comment
Order Sequence number*	4	I	N	n/a	100015	Order Sequence number of suspended order to be resubmitted. This will make the suspended order an active order.
Contract Name*	20	P	AN	U	B00122WMAZ	Name of contract on which order will be suspended. Only used for suspending an order.

Total Size: 24 bytes

7.11.5 Reduce Active Spot Basis Order Quantity – Message 105

Name	Length	Type	Description	Case	Example	Comment
Exchange Order Sequence*	4	I	N	n/a	53335	Exchange Order Sequence of order to be reduced.
Future contract name*	20	P	AN	U	B00122WMAZ	Name of contract on which order will be reduced
Quantity*	4	I	N	n/a	10	New Quantity of order.
Buy Or Sell*	1	C	A	U	B, S	This field indicates whether the order being reduced is a Buy(B) or Sell(S)

Total Size: 29 bytes

7.11.6 Edit Suspended Spot Basis Order – Message 119

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	B00122WMAZ	Contract of order to be suspended.
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B) or Sell(S)
Order Value*	8	D	N	n/a	19232.00	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	8	P	AN	U	ABC343	Principal for new order.

User Reference*	10	P	AN	U	RFW3422	Reference number for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for new order
Member Code*	6	P	AN	U	AABB	Member code for new order
Order Sequence*	4	I	N	n/a	5322	Suspended order to be edited.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.

Total Length: 75 Bytes

7.11.7 Delete Suspended Spot Basis Order By Sequence Number – Message 139

The Delete Suspended Spot Basis Order message allows the user to delete an order with the specified exchange order sequence which are either currently suspended or active. This message should be used for deleting orders which are currently suspended. This message cannot be used to delete orders which are currently active.

Name	Length	Type	Description	Case	Example	Comment
Exchange Order Sequence*	4	I	N	n/a	6262	Order Sequence number of order to delete
Contract Name*	20	P	AN	U	B00122WMAZ	Name of the contract which you would like to delete

Total Length: 24 Bytes

7.11.8 Edit Spot Active Order By Active Order Sequence Number– Message type 163

The edit spot active order by active order sequence number message allows users to edit the details of an existing spot basis active order with a single message. The exchange will automatically replace the details of the active order with the details supplied in this message.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	B00122WMAZ	Contract of order to be edited. This must remain the same as the original order.
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B) or Sell(S). This must remain the same as the original order.
Premium*	8	D	N	n/a	1	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	7	P	AN	U	ABC343	Principal for new

						order.
User Reference*	10	P	AN	U	RFW3422	Reference number for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for order. This must remain the same as the original.
Member Code*	6	P	AN	U	AABB	Member code for the order. This must remain the same as the original order.
Order Sequence*	4	I	N	n/a	5322	Spot Basis order to be edited.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.
Must Deliver Today	1	B	N	n/a	1 – True 0 – False	Indicates if this order is a must deliver today order
Hold Over Date	3*4	I	N	n/a	2007, 5, 15	Date until which the order is good for. This order will be resubmitted at the start of trading until this order is satisfied.

Total Length: 87 Bytes

7.11.9 Edit Spot Active Order By User Reference Number– Message type 164

The edit spot active order by user reference number message allows users to edit the details of an existing spot basis active order with a single message. The exchange will automatically replace the details of the active order with the details supplied in this message.

Note, that the order sequence number is not required in this message, and therefore allows the user to edit the details of an active order without requiring the acknowledgement from the exchange of the active order.

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	n/a	FG625 ALSI	Contract of order to be edited. This must remain the same as the original order
Buy Or Sell*	1	C	A	U	B, S	This indicates whether the suspended order being edited is a Buy(B) or Sell(S). This must remain the same as the original order.
Order Value*	8	D	N	n/a	19232.00	This indicates the value of the order in Rand terms.
Quantity*	4	I	N	n/a	10	This field displays the number of contracts.
Principal*	7	P	AN	U	ABC343	Principal for new order.
Dealer Code*	4	P	AN	U	ABC	Dealer code for order. This must remain the same as the original.
Member	6	P	AN	U	AABB	Member code for the

Code*						order. This must remain the same as the original order.
User Reference*	10	P	AN	U	RFW3422	Reference number of the order that the user wants to edit.
Additional user reference	10	P	AN	U	RFW3422	Additional Reference number for new order.
Must Deliver Today	1	B	N	n/a	1 – True 0 – False	Indicates if this order is a must deliver today order
Hold Over Date	3*4	I	N	n/a	2007, 5, 15	Date until which the order is good for. This order will be resubmitted at the start of trading until this order is satisfied.

Total Length: 83 Bytes

7.11.10 Split Spot Basis Deal – Message 23

Name	Length	Type	Description	Case	Example	Comment
Deal Sequence*	4	I	N	n/a	3633	The deal sequence number to be allocated.
Quantity*	4	I	N	n/a	5	The quantity to be allocated.
Principal*	8	P	AN	U	ABC242	The principal to which the deal is allocated.
Dealer*	4	P	AN	U	ABC	The dealer who has done the allocation.
Price*	8	D	N	n/a	19345.50	The price at which the allocation is done.
Sub account	6	P	AN	U	ABC23	Sub account code to record the allocation with.
User Reference*	10	P	AN	U		Allows for a user reference to be allocated to the allocated deals
Contract Name	20	P	AN	n/a	B00122WMAZ	Contract of certificate
Additional Reference	10	P	AN	n/a	ABCD1234	Additional reference specified on the split deal message

Total Size:74 bytes.

7.11.11 Insert Report Only Spot Basis Deal – Message type 166

The Insert Report Only Spotbasis Deal Message allows a user to capture a Spot Basis Report Only trade onto the market. A few important notes are to be considered with regards to the Counter party field on this message:

- If the counterparty field is a client code. The opposite leg of this transaction will automatically be booked, and matched.

- If the counterparty field is another member code, the opposite leg of this transaction will automatically be booked, and sent to the counterparty if the indicator “Single Leg” has been set to false. In this scenario the counterparty will receive a leg which is equal and opposite to that which the user captured, however, the price and rate fields of this leg will be 0. The counterparty will need to edit the unmatched leg (Message Type 26) before the match will take place. This allows the counterparty and user to agree on the price and/or rate of the transaction.

To confirm the entry of the unmatched trade before a match takes place, the Buy Sell field can be sent with a lower case b or s. This will allow the user to first accept (Message Type 168) the trade, before the match takes place.

The exchange has a limitation on the time in which 2 legs of a reported trade should match. This is usually in the region of 6 minutes.

The message layout for this message will use the same layout as that for file type 124 Spot basis unmatched deal (see section 9.55).

7.11.12 Edit Report Only Spot Basis Deal – Message type 167

- Please see section 9.55 for the structure of this message. This structure is the same as the unmatched spot basis deal structure, with the unmatched sequence being the unmatched deal sequence already booked. The details captured in this message will be used to modify the existing details of the specified spot unmatched sequence.

7.11.13 Unmatched Spot Basis Deal Accept – Message type 168

The Unmatched Spot Basis Deal Accept Message allows a user to accept a specified spot basis unmatched deal record. A deal must either have a lower case Buy Sell field for it to be accepted. When an unmatched deal is accepted and matches the counterparties leg of the unmatched deal, the unmatched deal will be deleted, and the relevant deal, completed order and position updates will be received. If the unmatched has not been matched, only an update will be received.

Name	Length	Type	Description	Case	Example	Comment
Unmatched deal Sequence number*	4	I	N	n/a	1000015	Unmatched deal sequence number of unmatched deal to be accepted
Contract Name	20	P	AN	U	FG503 ALSI	Name of the contract on which the unmatched deal was booked.

Total Length: 24 Bytes

7.11.14 Unmatched Spot Basis Deal Assign – Message type 169

Please refer to section 9.55 for the message structure.

The Assign Sequence of this structure must be filled with the Deal Sequence of the deal which the user wants to assign.

The purpose of this message is to assign a deal leg to another member. The unmatched message structure filled for this operation should be filled with the following specific information:

- Assign Sequence – This should be the Deal Sequence number of the deal which is to be assigned.
- Counterparty – This should be filled with the Member Code of the counterparty to which the deal will be assigned to.

The unmatched message structure should therefore be filled with the information of the selected deal, specified by the deal sequence. The price and rate field allow the user to assign the deal at a defined price and/or rate.

The deal specified in the Assign Sequence will be updated with an Origin of Assign Send. Once the counterparty accepts the trade, new trade legs will be booked with Origin Assign Send. The message also allows for the user to specify a new reference number for the resultant trade legs.

7.11.15 Delete Spot Unmatched Deal – Message type 170

The purpose of this message is to delete a spot unmatched deal.

Name	Length	Type	Description	Case	Example	Comment
Unmatched Deal Sequence*	4	I	N	n/a	3633	The unmatched deal sequence number to be deleted.
Contract Name	20	P	AN	n/a	B00122WMAZ	Contract of certificate

7.12 CFD Trading

7.12.1 Create an unmatched CFD trade – Message 173

To create a new CFD unmatched trade, the user is required to send a message type 173 with the details of the unmatched trade.

Name	Length	Type	Description	Case	Example	Comment
CFD Unmatched Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD Unmatched record
Enter Time	4	B	N	n/a	10, 5, 20, 0	Indicates the time this unmatched trade was entered.
Enter Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this unmatched trade was entered
Expiry Date	3 * 4	I	N	n/a	2013,12,20	Indicates the expiry date for the CFD
Clearing Member code	6	P	AN	U	AAAAC	Clearing member for this unmatched trade.

Member Code	6	P	AN	U	AAAA	Member code for this unmatched trade
Dealer Code	4	P	AN	U	AAA	Dealer code for this unmatched trade
Principle Code	8	P	AN	U	ABC123	Principle code for this unmatched trade
Buy Sell	1	C	A	U	B – Buy, S – Sell	Indicates if this is a buy or sell unmatched trade.
Quantity	4	I	N	n/a	10	Indicates the quantity for the unmatched trade
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD
Base Rate Code	30	P	AN	n/a	SABOR	Indicates the base rate specified for the CFD
Interest Spread	8	D	N	n/a	-2.5	Indicates the interest spread to be added to the base rate.
Price	8	D	N	n/a	152.45	Indicates the price of the CFD trade.
Reference Number	10	P	AN	n/a	ABC12345	Indicates the user reference for the unmatched trade.
Sub Account	6	P	AN	n/a	AAAAA	Indicates the sub account for the unmatched trade.
Counter Party	8	P	AN	n/a	BBBB	Indicates the counterparty to the unmatched trade
Assign Sequence	4	I	N	n/a	1	Indicates the CFD deal sequence from which this unmatched trade was created from when assigning the trade.
Origin	1	C	AN	n/a	N	Indicates the origin of the unmatched trade
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date of the CFD unmatched trade.
Trade Time	4	B	N	n/a	10,52,20,0	Indicates the trade time of the unmatched trade
Reason	1	C	AN	n/a	N	Indicates the reason for the unmatched trade
Price Reference	8	D	N	n/a	145.00	Indicates the reference price that the initiating member used to create the unmatched trade.
Additional reference	10	P	AN	n/a	ABCD1234	Indicates an additional reference for the unmatched trade
Principal Agency	1	C	A	n/a	P – Principle, A – Agency, N	Indicates the principle/agency indicator for the

					– None	unmatched trade.
Is Accepted	1	B	N	n/a	1 – True, 0 – False	Indicates if this unmatched trade has been accepted.

Total Length: 203 Bytes

7.12.2 Edit an unmatched CFD trade – Message 174

This message uses the same layout as the Capture CFD trade, and the user is required to complete the sequence number of the record they wish to edit, along with the details they wish to edit on the unmatched trade.

7.12.3 Delete an unmatched CFD trade – Message 175

This message can be used to delete an unmatched CFD trade.

Name	Length	Type	Description	Case	Example	Comment
CFD Unmatched Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD Unmatched record
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD

Total Length: 34 Bytes.

7.12.4 Accept an unmatched CFD trade – Message 176

This message can be used to accept an unmatched CFD trade.

Name	Length	Type	Description	Case	Example	Comment
CFD Unmatched Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD Unmatched record
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD

Total Length: 34 Bytes.

7.12.5 Assign a CFD trade – Message 177

This message uses the same layout as the Capture CFD trade, and the user is required to complete the assign sequence of the CFD trade they wish to assign, along with the details of the counterparty they wish to assign the trade to. All the trade information should be included in this message.

7.12.6 Allocate a CFD trade – Message 178

This message uses the same layout as the Capture CFD trade, and the user is required to complete the assign sequence of the CFD trade they wish to allocate, along with the details of the client counterparty they wish to allocate the trade to. All the trade information should be included in this message.

7.12.7 Tripartite Assign – Message 179

This message uses the same layout as the Capture CFD trade. The principal must be a member, and the counter party must be a tripartite client. All trade information should be included in this message.

8. Output Messages

8.1 Session key Challenge – Message 16

The Session Key Challenge Message is returned to a user when a successful TCP socket connection is established to the system. This session key should be used in the encryption of the user's login message, and password change message.

Name	Length	Type	Description	Case	Example	Comment
Challenge	9	P	N	N/A	54341278	The session challenge message. Received when connecting to market. The first byte indicates the length of the session key. The subsequent bytes make up the actual key to be used as part of the encryption process.

Total Length: 9 Bytes

8.2 Successful log in response – Message 1

The Successful log in message is returned to users when the user successfully authenticates to the system. This message indicates the Open and Close times of the on screen trading session and the time at which the Market will be offline.

Name	Length	Type	Description	Case	Example	Comment
Sequence Number	4	I	N	N/A	11	Returned sequence of log in message
Market Open Time	4	B	N	U	11, 56, 55, 0	Time Format: Hours, Minutes, Seconds, 0
Market Close Time	4	B	N	U	11, 56, 55, 0	Time Format: Hours, Minutes, Seconds, 0
Market Offline Time	4	B	N	U	11, 56, 55, 0	Time Format: Hours, Minutes, Seconds, 0
Unused	2	B	n/a	n/a		Not used
Today date	2	I	N	N/A	11234	Today's date in DOS date format
Country Code	4	P	A	U	ZA	Indicates the country code used for this exchange. (Can be reference for client loading to determine local clients vs foreign clients)
Unused	78	B	n/a	n/a		Not used
Previous Business	2	I	N	n/a	11234	Previous business day in DOS date format

Day						
Unused	162	B	n/a	n/a		Not used
Primary Dealer	1	B	N	n/a	0 = False 1 = True	Indicates if the logged in user is a Compliance officer
Unused	8	B	n/a	n/a		
Number of Unique Members	4	I	N	n/a	32	The number of member codes that is affiliated with this member
Pair Member codes with unique number	400 x Member Unique Numbers	B	n/a	n/a		See Structure below

The following is the structure for the Member Unique Numbers send with the login reply message.

Name	Length	Type	Description	Case	Example	Comment
Member Code	6	P	AN	U	LBTS	Member code of affiliated member
Unique Member Number	4	I	N	n/a	2141	Unique member number of affiliated member

Total Length: 275 + Number of Unique Members x 10 Bytes (Maximum size: 4279 Bytes)

8.3 Display/Price Update Message – Message Type 59

The Display Update Message is returned whenever on screen activity is recorded on a particular contract. Please note section 4.16 for anonymous contracts.

Name	Length	Type	Description	Case	Example	Comment
Last Chunk	1	B	N	n/a	1	Indicates if this 59 message contains the last chunk of compressed data. If false the next 59 message received contains the next set of compressed data before the entire buffer can be decompressed.
Display data	Display + (Number of Contracts * Depth Data)	B	AN	n/a		Compressed

Total Length: Compressed Length may vary

8.3.1 Display Update Message – Message Type 59 Display

Name	Length	Type	Description	Case	Example	Comment
Trading Anonymous	1	B	N	n/a	1	Indicates if the contract is anonymous or not. True –

						Anonymous False – Non-Anonymous
Contract	20	P	AN	U	FG603 ALSI	Contract Name for this entry
Mid Price	8	D	N	n/a	19500.00	Mid price for this contract
Last Dealt Price	8	D	N	n/a	19500.00	Last traded price for this contract
Last Dealt Time	4	B	N	n/a	10, 55, 59 ,0	Last time this contract traded
Deal Volume	4	I	N	n/a	10	Last volume traded on this contract
High Price	8	D	N	n/a	19500.00	The high for the day on this contract
Low Price	8	D	N	n/a	19400.00	The low for the day on this contract
Days Volume	4	I	N	n/a	100	Total volume traded on this contract
Last Order Qty	4	I	N	n/a	10	Last quantity bid on this contract
Last Order Buy Sell	1	C	A	U	B	Last action on this contract
Last Order Price	8	D	N	n/a	19500.00	Last price bid on this contract
Number of depth	1	B	N	n/a	5	Number of depth available on this contract
Open Interest	4	I	N	n/a	100	Amount of open interest on this contract
Change	8	D	N	n/a	10	The change in price from the last traded price.
Auction	1	B	N	n/a	1	Indicates if this contract is in auction
Contract status	1	B	N	U	1	Please see table below for descriptions
Odd Lot	1	B	N	n/a	1	Indicates if there is an odd lot depth available on this contract
Last Traded Quantity	4	I	N	n/a	43	Last traded quantity
Date Sequence	4	I	N	n/a	43	Date Sequence of contract
Secondary Contract Date	4	I	N	n/a	44	Secondary Date Sequence of contract if

Sequence						contract is spread or split
Strike Sequence	4	I	N	n/a	44	Strike Sequence of contract if contract is an option
Market Shard Global Sequence Number	4	I	N	n/a	44	Global sequence number for re-request message. Indicates the sequence number for all public data broadcasts on this market subset.
Stack Sequence Number	4	I	N	n/a	44	Sequence number of this message for a particular contract
Update Time	4	B	N	n/a	10, 59, 55, 0	Time the update was sent.

Total Length: 122 Bytes

Contract Status Value	Description
0	Bid or Offer activity with no change to best bid or offer
1	Bid activity which has changed the best bid on this contract
2	Offer activity which has changed the best offer on this contract
3	Bid or Offer activity which has changed both the best bid and offer on this contract
4	Trade activity has been recorded on this contract with no change to the best bid or offer
5	Trade activity which has changed the best bid on this contract
6	Trade activity which has changed the best offer on this contract
7	Trade activity which has changed the best bid and offer on this contract

8.3.2 Display Update Message – Message Type 59 Depth Data

Name	Length	Type	Description	Case	Example	Comment
Buy Side Phantom	1	B	N	N/A	True or false	Indicates if this buy element is a phantom
**Buy Who	6	P	A	U	AAAA	Member bidding
Buy Price	8	D	N	n/a	19500.00	Price of bid
Buy Quantity	4	I	N	n/a	10	Quantity of bid
Sell Quantity	4	I	N	n/a	10	Quantity of ask
Sell Price	8	D	N	n/a	19800.00	Price of ask
**Sell Who	6	P	A	U	BBBB	Member asking
Sell Side Phantom	1	B	N	N/A	True or false	Indicates if this sell element is a phantom

Total Length: 38 Bytes

****Please note that if the contract is Anonymous that the length byte will be 0 followed by 4 bytes indicating the Unique member number.**

Included in the message are a number of the above Depth Data messages where the number is “Number of depth” in the first part of the message.

A note on receiving Display Update Messages (Message Type 59):

- A display update message will be received with a unique global sequence number. If a 59 message is received as a result of a trade, then a further 59 message will be received as an update to a particular global sequence number. This update message will contain the latest open interest and volume figures for that contract. These are published as updates to a 59 message, and therefore may contain a global sequence number which you have already received. Any 59 messages received with a global sequence number which you have already processed should be treated as updates and processed as such. Multiple updates can be received for a particular global sequence number. For example if a trade is captured for 100 contracts, and this is made up of 5 legs of 20 contracts each, 5 updates will be received on the global sequence number for that trade. These updates are due to volume and open interest updates.
- The depth received on the display update message will display all orders on the order book. The top of the depth will indicate the order which is currently the best order on the market. There may however be orders at the same price going down the depth. The discretion is up to the user whether to cumulate the quantity on the top of the depth to indicate the total quantity available at that price.

Please note the following when handling display update messages on **Dividend Neutral** contracts:

1. When a trade occurs on a Dividend Neutral contract Display update messages will be sent for the Dividend Neutral Contract itself, the underlying Single Stock Future Contract, and the Dividend Future Contract.
    - The following should be noted for the Dividend Neutral Contract display update messages:
    - The High, Low, Last, Last Traded Time and Volume will be updated on this contract when a trade occurs.
    - No trades will however be recorded on this particular contract itself. The above field updates are purely to indicate the market statistics on the Dividend Neutral Contract.
2. The following should be noted for the underlying Single Stock Future display update messages:
    - The High, Low, Volume and Open Interest will be updated when a trade occurs on the Dividend Neutral Contract.
3. The following should be noted for the underlying Dividend Future display update messages:
    - The trade will be concluded at a 0 price, and would update the Low of the contract (if applicable) when a trade occurs on the Dividend Neutral Contract.
    - The volume and open interest will also update.

8.4 Info and Error Return Messages – Message 125

Please see section 11 for the details of the error messages. Please note that the Information and Error return message is a variable length message, which defines a variable length Message field with a maximum length of 251.

Name	Length	Type	Description	Case	Example	Comment
Error Number	4	I	N	n/a	12	This is the error

						number of the associated error message.
Information or error indicator	1	B	N	n/a	1 or 0	0 – information message 1 – error message
Message	251	P	AN	n/a	Fill or Kill order could not be filled	A Description of the error

Total Length: Variable length with maximum of 256 Bytes

8.5 Order Rejection Message – Message 126

Please see section 11 for the details of the error messages. This message is returned as a negative response to a Multi Bid message (message type 56). This indicates the order reference of the order in the multi bid message which has been rejected. Please note that the Information and Error return message is a variable length message, which defines a variable length Message field with a maximum length of 251.

Name	Length	Type	Description	Case	Example	Comment
Error Number	4	I	N	n/a	12	This is the error number of the associated error message.
Order Reference	10	P	AN	n/a	A1122322B	The order reference of the order which has been rejected.
Error Message	255	P	AN	n/a	Fill or Kill order could not be filled	A Description of the error

Total Length: Variable length with maximum of 269 Bytes

8.6 Daily Trend Reply – Message 61

The Daily Trend Reply indicates to users what on screen trade activity has been recorded on a particular contract. The response to this message is compressed. And the decompressed data will contain the following layout. The below structure allows for up to 1000 History Suffix items. If there are more than 1000 trades captured on a particular contract, multiple Message Type 61 messages will be sent in response to the request to cater for the full range of the days trades.

Name	Length	Type	Description	Case	Example	Comment
Contract	20	P	AN	U	FK721 ALSI	Contract code of requested history contract
History suffix	16*1000	History Suffix	n/a	n/a		Array of daily trend suffixes

Total Length: 16020 Bytes

History Suffix

Name	Length	Type	Description	Case	Example	Comment
Price	8	D	N	n/a	123.15	Price of contract at time
Quantity	4	I	N	n/a	45	Quantity of instrument at time
Time	4	B	N	n/a	10, 55, 59	Time of price and quantity in

					,0	Time Format Hours, Minutes, Seconds, 0

Total Length: 16 Bytes

8.7 Heart Beat – Message 10

A heartbeat message sent to the logged in member as simply a blank header.

8.8 Market Time Change – Message 140

This message indicates that a market time has changed. This message will be sent when a Market Open, Market Close Admin, and Market Offline change has occurred.

Name	Length	Type	Description	Case	Example	Comment
Event Number	4	I	N	n/a	7	Please see below table for event types
Event Time	4	B	N	n/a	10, 55, 59 ,0	Time of event in Time Format Hours, Minutes, Seconds, 0

Total Length: 8 Bytes

Event Number Descriptions

Event Number	Event Description
5	Market open for trading
7	Market closed (Admin period)
8	Market offline

8.9 Failure Messages

In the event that the exchange system fails the following message types should be noted, and the appropriate actions taken from the user.

8.9.1 Notification of failure (Message 127)

The following message will be sent on the event of a failure of the exchange trading system, or in the event of the recovery of the exchange trading system.

Name	Length	Type	Description	Case	Example	Comment
Failure Notice Identifier	4	I	N	n/a	1 – Market Shard has failed 2 – Market Shard has recovered	Identifier to identify if a market shard has failed or recovered.
Market Number	4	I	N	n/a	1 – EDM 2- APD 4 – Global	Indicates the market number on which a particular market shard has failed.
Market Shard Number	4	I	N	n/a	1	Indicates the market shard which has failed. This can be mapped to the Instrument Data Download to indicate which instruments are affected.
Unused	243	B	n/a	n/a		

Total Length: 255 Bytes

8.9.2 Failover recovery response (Message 37)

The failover recovery response message will be published automatically to all connected users to update their transactional data (Active Orders, Deals, Completed Orders, Positions and Unmatched) in the event of the recovery of a Market Shard, post a failure. This message can be used to update any transactional data which may have been affected by the recovery of a market shard.

The message definition is the same as the Download Data Response (Message 36), and should be processed the same. PLEASE NOTE: In the case of large data transmissions the flag “Another Set to Come” could be set to true. In this case the normal download data request message 37 should be sent by the user to retrieve the next set of data. E.g.

API Application		**Exchange System**
		Exchange systems send message type 37 with Another Set to Come set to True.
API system sends message type 37 with Re-Request flag set to True to request the next set.		
		Exchange system replies with message type 37 with the next set of data.

9. Download data structures

The following structures are received when downloading data. Example of this process can be found in Section 6

All these Messages are compressed

9.1 Request Data Header – Message Type 36 and 123

Please see Section 4.7 for the handling of this message.

The Request Data Header will be attached to all 36 and 123 message received by the user. This indicates the Data Type received. For 123 messages the Specific Record and Action fields are filled to indicate the specific record received and the action to be taken.

Name	Length	Type	Description	Case	Example	Comment
Data Type	2	I	N	n/a	5	When receiving a 36 type the Data Type field is identified by adding 256 to identifier. When receiving 123 the Data Type field is identified without the 256 addition. See table 4.1 for identifiers.
Last Piece of Chunk	1	B	N	n/a	1 – True 0 – False	Indicates if the data contained in download data is the last record, or if more to come.

Another set to come	1	B	N	n/a	0- True 0 – False	Indicates if there is another set of data to come. If this is true, a re-request should be issued to retrieve the next set.
Action	4	I	N	n/a	1	For 123 messages indicates if Delete – 1, Insert – 2, Update – 3, otherwise 0 for file download.
Specific Record	4	I	N	n/a	54522	Allows to download a specific record sequence number
Download Date	2	I	N	n/a	12634	Dos Date of days records which must be downloaded
Download Data	5000	B	AN	n/a		Compressed data returned.

Total Length: 5014 Bytes

9.2 Unmatched Deal Data – Number 10

The Unmatched Deal Data record defines the structure for deals awaiting match.

Name	Length	Type	Description	Case	Example	Comment
Unmatched Sequence Number	4	I	N	n/a	12	Sequence number of this row in data set
Message Sequence Number	4	I	N	n/a	13	Sequence number of message which created this message
Unused	4	B	n/a	n/a		
Enter Time	4	B	N	n/a	10, 59, 56, 0	The time of entry of unmatched order
User Member	6	P	AN	n/a	AAAA	Member Code of logged in member
User Dealer	4	P	A	n/a	XXZ	Dealer Code of logged in dealer.
Clearing Member	6	P	A	n/a	ABZAC	Clearing Member code of the reporting member
Deals Member	6	P	AN	n/a	AAAA	Member Code of unmatched deal
Deals Dealer	4	P	A	n/a	XXZ	Dealer Code of unmatched deal.
Deals Principal	8	P	AN	n/a	AAAA / ABC678	This field displays the code of the Principal to the deal.
Buy Or Sell	1	C	A	n/a	B, S, b, s, W, D	Buy/Sell field of the unmatched order. Lower case b and s can be used to mark this unmatched trade as unconfirmed. The Accept (40) message can be used

						to confirm the unmatched trade. Buy/Sell fields of W or D indicate that the deal can only be accepted by a clearing member user 'W' – Buy, 'D' – Sell
Unused	1	B	n/a	n/a		
Quantity	4	I	N	n/a	10	This field displays the number of contracts involved in the order
Contract	20	P	AN	n/a	R153 AUG04	Order Contract
Rate	8	D	N	n/a	12.00000	Rate at which the report only entry was done
User Reference	10	P	AN	n/a	My Code	User Reference code
Suffix Code	2	I	A	n/a	1	Suffix of entry
Portfolio	8	P	AN	n/a		Portfolio code to record the unmatched deal with
Profit Centre	6	P	AN	n/a		Profit centre code to record the unmatched deal with
Sub Account	6	P	AN	n/a	ABC01	Sub account code for the deal.
Counter Party	8	P	AN	n/a	SSQM	This field displays the code of the counterparty to the deal
Assign Sequence	4	I	N	n/a	12	For Assigning deals, this is the sequence number of the deal to

						be assigned.
Origin	1	C	A	U	A,F etc.	See table in section 6.10
Enter Date	2	I	N	n/a	11223	The date which the trade was entered
Trade Date	2	I	N	n/a	11425	The date which the trade was traded
Trade Time	4	B	N	n/a	10, 55, 59 ,0	The time the trade was done
Booking Fee Flag	1	C	A	U	'Z' – Zero Fees-	This flag indicates the fee status on the trade. NOTE: Only the exchange can set this value.
Reason	1	C	A	U	N, R etc,	See table in section 6.11
Unused	4	B	n/a	n/a		
Deal Price	8	D	N	n/a	124.001	The Price dealt at
Unused	58	B	n/a	n/a		
Price Reference	8	D	N	n/a	124.001	This field can be used as a reference field to indicate to the counterparty at what price the unmatched trade was booked against.
Unused	3	B	n/a	n/a		
Future Price	8	D	N	n/a	23560	The future price used when capturing report only option trades.
Unused	21	B	n/a	n/a		
Position Sequence to Roll Forward	4	I	N	n/a	14	Used for Roll forwards, contains the sequence number of position to roll forward

Roll Forward Price	8	D	N	n/a	118.2	Price at which the late leg of roll forward must be captured
Unused	16	B	n/a	n/a		
Additional User Reference	10	P	AN	n/a	My Code	Additional User Reference code
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Unused	10	B	n/a	n/a		

Total Length: 298 Bytes

9.3 Instruments data – Number 2

The Instruments Data record defines instruments traded on a market.

The Instrument Group Sequence indicates to which group this instrument belongs to in a Series Spread Margin grouping. The Group Margin field indicates the Series Spread Margin requirement for this instrument in the Series Spread Grouping. The other instruments in this group can be determined by going to the specified record in the Group Definition data to which this instrument points to in the Instrument Group Sequence field.

The Fee details applicable to this instrument for Futures, Options and Deliveries are defined by going to the appropriate record in the Fee Data record pointed to by the Future Fee Sequence, Option Fee Sequence and Delivery Fee Sequence fields of this structure.

The market shard number will identify the market sub set on which particular contracts can be found. PLEASE NOTE: The exchange may at any time change the market shard definition of an instrument, and it is the users responsibility to handle this change without prior notice by the exchange.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	3433	Sequence number of instrument record
Unused	4	B	n/a	n/a	n/a	
Instrument Group Sequence	4	I	N	n/a	23	Group Sequence Number to which this instrument belongs to. See 9.27 Group Definition.
Future Fee Sequence	4	I	N	n/a	65	Fee Sequence Number which defines the fee structure for future deals on this instrument. See 9.28 Fee Download
Option Fee Sequence	4	I	N	n/a	16	Fee Sequence Number which defines the fee structure for option deals on this

						instrument. See 9.28 Fee Download
Delivery Fee Sequence	4	I	N	n/a	23	Fee Sequence Number which defines the fee structure for deliveries on this instrument. See 9.28 Fee Download
Market Number	1	C	N	n/a	1	Market Number on which this instrument trades.
Market Shard Number	1	C	N	n/a	1	Indicates the market subset on which this instrument is listed.
Instrument Name	5	P	AN	U	ALSI	Name of the instrument
Instrument Type Number	1	C	A	n/a	2	Instrument type number which defines the class of instrument. Please see table below for instrument type definitions
ISIN Code	13	P	AN	U	ABD433-12	ISIN number of the instrument. If Applicable
Description	62	P	AN	n/a	All share index	A Description of the instrument
On Screen	1	B	N	n/a	1	Indicates if this instrument is tradable or not.
First Trade Reference	10	P	AN	n/a	01A00001A	Indicates the reference of the first trade for can do contracts
Minimum Initiation Fee	8	D	N	n/a	12.5	Indicates the minimum initiation fee for can do contracts
Display Name	30	P	AN	n/a	ABL CFD	Display name for the instrument being traded.
Unused	20	B	n/a	n/a		
Issue Date	2	I	N	n/a	12523	Dos Date at which instrument was issued.
ZeroFeeAuto CloseTrades	1	B	n/a	n/a	1 – True, 0 – False	Indicates whether an instrument is zero feed on auto close trades on expiry
Unused	1	B	n/a	n/a		
Apply MTM After Expiry	1	B	n/a	n/a	1 – True, 0 – False	Indicates if MTM will be calculated on positions after expiry of contract.
Dividend Paid	1	B	n/a	n/a	1 – True, 0	Indicates if dividends

					– False	are paid on this instrument
Underlying	4	I	N	n/a	43422	Instrument sequence of underlying instrument
Options Exercise Is Percentage	1	B	N	n/a	1	Indicates of this instrument uses a percentage based option exercise points system or not.
Options Exercise Cost	8	D	N	n/a	1500.00	Indicates either the percentage or amount which an option will be considered in the money
Group Margin	8	D	N	n/a	8.5	Indicates the group margin applicable for this instrument when part of a group.
VAT	1	B	N	N/a		Indicates if VAT is applicable on this instrument or not.
Settlement Margin	8	D	N	n/a	2560	The settlement margin used for agricultural derivative instruments.
Physical Settlement	1	B	N	n/a	1 – True 0 – False	Indicates if this instrument is physically settled, or not.
Group Description	60	P	AN	n/a	ALSI / INDI	Indicates the group make up for this instrument.
Top 40	1	B	N	n/a	1 – True 0 – False	Indicates if this instrument is part of the Top 40
Top 100	1	B	N	n/a	1 – True 0 – False	Indicates if this instrument is part of the Top 100

Total Length: 275 Bytes

Instrument Type Number	Instrument Type Code	Instrument Type Description
1	SSF	Single Stock Future
2	INDEX	Index Future
13	AGRIF	Agri Future
17	AGRIP	Agri Physicals
15	CANDO	Can-Do Future
19	HCOMM	Hard Commodity
18	DIVF	Dividend Future
22	CUSI	Custom Index
23	IDXFUT	International Derivative Futures
24	IDXDIV	International Derivative Dividend Futures
25	DIVNUT	Dividend Neutral Futures

26	VARFUT	Variance Future
27	COMM	Commodity Future
28	ADX	African Derivative Futures
29	ADXDIV	African Deriviative Dividend Futures
35	SPOTBASIS	Spot Basis Instrument
40	SAVI	Volatility Index
41	AFRCOMM	African Commodity Future
47	ECFD	Electronic Contracts for Difference

9.4 Contract Dates – Number 3

The Contract Dates Record defines the Expiry Dates for a particular Instrument Record.

The Spread Margin Requirement for this expiry is defined in the Spread Margin field. The Initial Margin Requirement is also defined in the Initial Margin field.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	3252	Instrument sequence number to which this expiry belongs to.
Contract Date Sequence	4	I	N	n/a		Contract Date Sequence Number.
Expiry Date	2	I	N	n/a	12644	Dos Date of the expiry date of the date record
Expiry (Months)	2	I	N	n/a	52	Number of months to expiry
Valuation Date	2	I	N	n/a		Dos Date of the valuation date of this contract date record.
Nominal	8	D	N	n/a	100	Nominal in which this instrument is issued
Strike Interval	8	D	N	n/a	10	Interval in which new strikes can be loaded
Strike Interval Off Screen	8	D	N	n/a	1	Interval in which new strikes can be loaded when reporting new report only option trades
Spread Margin	8	D	N	n/a	2	Indicates the spread margin applicable for this expiry in a group.
Lot size	4	I	N	n/a	1	Indicates if a full lot size is applicable to this contract, otherwise 1.
Option Lot size	4	I	N	n/a	1	Indicates if a full lot size is applicable to

						option contracts, otherwise 1
Big Depth	1	B	N	n/a	36	Indicates the maximum depth available to view on this contract
Price Rate	1	C	A	U	P	'P' for Price or 'R' for Rate
Max Change	8	D	N	n/a	10	Percentage of the maximum change from the last traded price allowed
Max Days Move	8	D	N	n/a	10	Rand value of the maximum change from the opening price allowed
Max Gap	8	D	N	n/a	12.0	Maximum gap between the current value and upper and lower bound as a percentage
Multiple Option Expiries allowed	1	B	N	n/a	1 = True, 0 = False	Indicates if multiple option expiries are allowed on this contract.
Unused	1	B	n/a	n/a		
Options Allowed	1	B	N	n/a	1	Indicates if options are traded on this contract or not.
Deltas Allowed	1	B	N	n/a	1	Indicates if delta options are traded on this contract or not.
Spreads Allowed	1	B	N	n/a	1	Indicates if spreads are traded on this contract or not.
~~Unused~~Dynamic Max Day Move	~~8~~16	~~D~~B	~~N~~n/a	n/a	105	Indicates the maximum allow price movement from the last traded price
Dynamic Max Day Move Percentage	8	B	N	n/a	2%	Indicates the maximum allow price movement from the last traded price as a percentage.
Max Day Move Percentage	8	D	N	n/a	2.5	Indicates the percentage move allowed on a contract during the day.
Initial Margin	8	D	N	n/a	1500	Indicates the initial margin

						requirement for this contract.
Quote Format	12	P	A	n/a	####.#####	Indicates the format of the prices quoted on screen for live trading.
Price Format	12	P	A	n/a	####.####	Indicates the format of the price at which deals are recorded at.
Unused	26	B	n/a	n/a		
Clearance Date	2	I	N	n/a	12453	Dos Date of the clearance date for this contract
VSR	8	D	N	n/a		Volatility Scanning Range for this contract.
RPVE	8	D	N	n/a		Range Price Volatility Effect for this contract
Options Tradable On Screen	1	B	N	n/a	1 – True, 0 - False	Indicates whether options on this contract can be traded onscreen
Options Tradable Report Only	1	B	N	n/a	1 – True, 0 - False	Indicates whether options on this contract can be traded via report only
Futures Tradable On Screen	1	B	N	n/a	1 – True, 0 - False	Indicates whether futures on this contract can be traded onscreen
Futures Tradable Report Only	1	B	N	n/a	1 – True, 0 - False	Indicates whether futures on this contract can be traded via report only
Unused	12	B	n/a	n/a		
Minimum Report Only Volume	4	I	N	n/a	100	Minimum volume for reported trades on this contract.
Price Interval	8	D	N	n/a		The price interval on the contract in which bids can be incremented in value.
All Or Nothing allowed	1	B	N	n/a	1	Indicates if all or nothing order type can be used on this contract
At Best Orders Allowed	1	B	N	n/a	1	Indicates if at best order type can be used on this contract
Stop Orders Allowed	1	B	N	n/a	1	Indicates if stop orders can be

						used on this contract
Ice Berg Orders Allowed	1	B	N	n/a	1	Indicates if ice berg orders can be used on this contract
Hold Over Orders Allowed	1	B	N	n/a	1	Indicates if hold over orders can be used on this contract
At Close Orders Allowed	1	B	N	n/a	1	Indicates if at close orders can be used on this contract
Unused	8	B	n/a	n/a		
Future Anonymous	1	B	N	n/a	1 = true, 0 = false	Indicates if the futures on this contract are anonymously traded.
Option Anonymous	1	B	N	n/a	1 = true, 0 = false	Indicates if the options on this contract are anonymously traded.
Silo Certificate Anonymous	1	B	N	n/a	1 = true, 0 = false	Indicates if the silo certificate bids are indicated anonymously.
Silo Certificate Auction Bid Interval	8	D	N	n/a	1.50	Interval in which silo certificate bids can be added.

Total Length: 238 Bytes

9.5 Strike data – Number 4

The Strike Data record defines a strike record for an option on a particular Contract Date. Delta option strikes are indicated by Deltas being set to true (1).

Name	Length	Type	Description	Case	Example	Comment
Strike Sequence Number	4	I	N	n/a	12342	The strike sequence number of this record
Contract Date Sequence	4	I	N	n/a	12522	The dates sequence number
Strike	8	D	N	n/a	19232.00	The strike price of this contract
Strike Expiry Date	2	I	N	n/a	12322	The exercise date of this strike.
Deltas	1	B	N	n/a	1 – True 0 – False	Indicates if this is a delta option strike
Call Or Put	1	C	A	n/a	C	Indicates if this is a Call or Put option strike
Unused	16	B	n/a	n/a		

Total Length: 36 Bytes

9.6 MTM Data – Number 16

The MTM Data record defines the end of day closing statistics for a particular contract.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	1225	Instrument sequence number
Date Sequence	4	I	N	n/a	1455	Dates sequence number
Strike Sequence	4	I	N	n/a	6442	Strike sequence number
Days Close	8	D	N	n/a	19500.00	Closing Mark-to-market price
Open Interest	8	D	N	n/a	12	Open interest on this contract
Date	2	I	N	n/a	12533	Date of the price
Spot Price	8	D	N	n/a	19500	Spot price for this contract
Volatility	8	D	N	n/a	45	Future or Option Volatility for this contract

Total Length: 46 Bytes

9.7 Holiday Data – Number 18

The Holiday Data record defines the holidays applicable for a specific centre. JHB is the standard centre to be used for holidays. The holiday data can be used to determine previous business day.

Name	Length	Type	Description	Case	Example	Comment
Holiday Sequence	4	I	N	n/a	1225	Holiday sequence number
Centre Code	6	P	AN	n/a	JHB	Indicates the centre for which this holiday applies.
Holiday Date	2	I	N	n/a	12533	DOS Date of the holiday

Total Length: 12 Bytes

9.8 Market Display data – Number 1

The Market Display Data record defines all available contracts in the days trading session. Only contracts specified in this download are available to be traded.

The Display field contained in this data contains the information for Last Traded Time, Last Traded Price, Day's High and Day's Low as at the time of download for every contract contained in the Market Display Data. This can be used as an initial indication of the market statistics for these contracts at the time of download.

Name	Length	Type	Description	Case	Example	Comment
Display Sequence	4	I	N	n/a	2333	Display sequence number of this record
Contract	20	P	AN	U	FG602	Contract name of

					ALSI	this record
Display	10*8 (10 arrays of P of length 8)	P	AN	n/a		Display data on the contract as a string field: Buy Qty Buy Price Sell Price Sell Qty Change Last Trade Time Last Trade Price High Low Volume
Open Price	8	D	N	n/a	19500.00	Days opening price of this contract
Instrument Sequence	4	I	N	n/a	1235	Instrument sequence number
Date Sequence	4	I	N	n/a	1522	Dates sequence number
Strike Sequence	4	I	N	n/a	333	Strike sequence number
Second Instrument Sequence	4	I	N	n/a	5122	Secondary instrument sequence number for split / switch instruments
Second Date Sequence	4	I	N	n/a	5631	Secondary dates sequence number for spread instruments
First Traded Price	8	D	N	n/a	12500	Indicates the price of the first traded of the day on this contract
Unused	42	B	n/a	n/a		

Total Length: 182 Bytes

9.9 Active Orders data – Number 5

The Active Orders Data indicates the active on screen orders for a user currently on the system.

Name	Length	Type	Description	Case	Example	Comment
Sequence Number	4	I	N	n/a		Active Order Sequence number of this record
Unused	8	B	n/a	n/a		
Enter Time	4	B	N	n/a	10, 55, 59 ,0	Time the order was placed
User Code	6	P	A	U	AABB	Member code of logged in dealer.
User Dealer	4	P	A	U	ABC	Dealer code of logged in dealer.
Clearing Member	6	P	A	U	AABBC	Clearing member of the member.
Member	6	P	A	U	AABB	Member code of the member who the order was placed for.

Dealer	4	P	A	U	ABC	Dealer code of the dealer who the order was placed for.
Principal	8	P	A	U	ABC123	This displays the code of the Principal to the order.
Buy Or Sell	1	C	A	U	B	This displays whether the order is a Buy (B) or Sell(S).
State	1	C	A	U	A	Active or suspended
Quantity	4	I	N	n/a	12	This displays the number of contracts involved in the order.
Contract	20	P	AN	U	FG603 ALSI	This displays the name of the contract being bought or sold.
Rate	8	D	N	n/a	19503.00	Price or rate of the order placed
User Reference	10	P	AN	U	AFFS322	Reference code issued by the dealer
Suffix Code	2	B	AN	n/a		Suffix of the current deal.
Unused	8	B	n/a	n/a		
Profit Centre	6	P	AN	U	SDF22	Profit centre code to record the active order with
Sub Account	6	P	AN	U	ABC12	Sub account used for the order
Unused	4	B	n/a	n/a		
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Hold Over Date	3*4	I	N	n/a	2012,5,20	Indicates the date on which this order will expire if it was captured as a hold over order.
Additional User Reference	10	P	AN	n/a	ABC123456	The additional user reference captured on the insert order.
Gash	78	P				

Total Length: 221 Bytes

9.10 Completed Orders data - Number 7

The Completed Order Data indicates all orders which have been satisfied for a particular user. The Exchange Reference number of the deal which resulted is given. The quantity and price which was dealt is also given in the Quantity, Dealt Price and Dealt Rate fields. The Original Quantity field indicates the quantity of the order submitted.

Name	Length	Type	Description	Case	Example	Comments
Completed Order Sequence Number	4	I	N	n/a	12422	Sequence number of this completed order record
Unused	8	B	n/a	n/a		
Enter Time	4	B	N	n/a	10, 55, 59 ,0	Time of the

						completed order creation
User Member	6	P	A	U	AABB	Member code of the logged in member
User Dealer	4	P	A	U	ABC	Dealer code of the logged in dealer
Clearing Member	6	P	A	U	AABBC	Clearing member code of the member
Member	6	P	A	U	AABB	The member code of the completed order
Dealer	4	P	A	U	ABC	The dealer code of the completed order
Principal	8	P	A	U	ABC123	This displays the code of the Principal to the completed order.
Buy Or Sell	1	C	A	U	B	Buy/Sell field of the order
State	1	C	A	U	C	C- completed
Quantity	4	I	N	n/a	10	This displays the number of contracts involved in the order.
Contract	20	P	AN	U	FG603 ALSI	This displays the name of the contract being bought or sold.
Rate	8	D	N	n/a	8.5	Price or rate of the completed order
User Reference	10	P	AN	U	AFDD233	Reference Code from the active order which made this completed order
Suffix Code	2	B	AN	n/a	0	Suffix of the current deal.
Unused	8	B	n/a	n/a		
Profit Centre	6	P	A	U	ASDD2	Profit Centre used from the active order which made this completed order
Sub Account	6	P	A	U	ABC12	User Sub Account for this completed order
Original Quantity	4	I	N	n/a	10	This displays the number of contracts involved in the order.
Dealt Rate	8	D	N	n/a	8.5	The rate at which the deal was actually done. This is different from the bid rate.
Dealt Price	8	D	N	n/a	19500.00	The price at which the deal was done.
Unused	8	B	n/a	n/a		
Exchange Reference	10	P	AN	U	A000232A	Exchange reference from the deal which created the completed order.
Additional User Reference	10	P	AN	n/a	ABC123456	Additional user reference captured on the active order.
Unused	2	B	n/a	n/a		

Trade Date	2	I	N	n/a	12522	Dos Date of the date on which this order traded.
Trade Time	4	B	N	n/a	10, 55, 59 ,0	Dos Time of the time at which this order traded
Unused	46	B	n/a	n/a		
Match Date	2	I	N	n/a	12523	Dos Date of the date on which this order was matched
Match Time	4	B	N	n/a	10, 55, 59 ,0	Time at which the order was matched
Unused	18	n/a	n/a	n/a		
Price	8	D	N	n/a	19500.00	Price of the order submitted.
Unused	90	B	n/a	n/a		
Origin	1	C	A	U	Y	See 6.10 for Origin Descriptions
Reason	1	C	A	U	N	See 6.11 For reason Descriptions
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Spot Price	8	D	N	n/a	152.00	Mid price of contract at time of entry.
Hitter	1	B	A	U	0	Indicates a true or false value if this order was placed by the aggressor or a market maker.
Booking Fee Flag	1	C	A	U	' ' – Fees Applied 'Z' – Fees zeroed	Indicates if a fee has been charged on this completed order.
Fee	8	D	N	n/a	12.5	Indicates the fee applied to this completed order.
Fee Delta	8	D	N	n/a	0.506	For option completed orders indicates the delta of the option to be used for fee purposes.

Total Length: 369 Bytes

9.11 Deals data – Number 8

The Deals Data defines what deals have been done for a particular user. When receiving a deal entry each entry will contain an Exchange Reference Number. This identifies the deal as recorded by the exchange. This Exchange Reference number will be accompanied with an Exchange Suffix field. This Exchange Suffix field is the version of the particular exchange reference number. When the deal is initially entered the Exchange Suffix will be 0, when further deal management activity is performed on this deal, the Exchange Suffix will be incremented. The uniqueness of an Exchange reference is therefore determined by both the Exchange Reference and Exchange Suffix on the deal.

Deals created as a result of end of day operations are identified by the Exchange Reference indicator of "DELIVERY", "AUTOCLOSE", "AUTOCLOSF" or "CORPORATE". "DELIVERY" indicates a deal used to indicate a physical position on an agricultural product. These are

generated during the processing of physical deliveries. “AUTOCLOSE” or “AUTOCLOSF” indicates a deal used to close out a position on a contract on future’s expiry. These deals are generated during the end of day process on a futures close out day. “CORPORATE” indicates a deal used to effect a corporate action. These deals are generated during the end of day process when a corporate action is scheduled.

Name	Length	Type	Description	Case	Example	Comment
Sequence Number	4	I	N	n/a		Sequence number of the deal record
Unused	12	B	n/a	n/a		
Deal Time	4	B	N	n/a	10, 55, 59, 0	The time at which the deal was done
Clearing Member	6	P	A	U	AAAAC	Data copied from orders
Member	6	P	A	U	AAAA	Member code of logged in user
Dealer	4	P	A	U	BAB	Dealer code of logged in user
Principal	8	P	A	U	AAAA	Code of principal to the deal.
Buy Or Sell	1	C	A	U	B / S	Buy/Sell field of the order
Origin	1	C	AN	n/a		See 6.10 for Origin field Descriptions
Quantity	4	I	N	n/a	10	Number of contracts involved in the deal
Contract	20	P	AN	n/a		Name of the contract on which the deal is done
Dealt Rate	8	D	N	n/a		The rate at which the deal was done
User Reference	10	P	AN	n/a		Reference number to appear on deal.
Exchange Suffix	2	B	AN	n/a		Set to 0 on first inc for div/split
Portfolio	8	P	N	n/a		Portfolio code for the deal
Profit Centre	6	P	A	n/a		Profit centre code for the deal
Sub Account	6	P	A	n/a		Sub account code for the deal
Exchange Ref	10	P	AN	n/a	A000025	Exchange reference number
Dealt Price	8	D	N	n/a		The price at which the deal was done
Unused	8	B	n/a	n/a		
Trade Date	2	B	N	12672		Trade Date of the deal as a DOS Date
Booking Fee Flag	1	C	N	U		Will contain Z if zero fee
Reason	1	C	N	U		See 6.11 For reason Descriptions
Unused	77	B	n/a	n/a		
Entered Time	4	B	N	n/a	10, 55, 59, 0	The time at which the deal was first entered.
Allocation Time	4	B	N	n/a	10, 55, 59, 0	The time at which the latest action was taken on this deal (e.g. deal

						allocation)
Additional User Reference	10	P	AN	n/a	ABC123456	Additional user reference captured on the active order.
Unused	1	B	n/a	n/a		
Original Quantity	4	I	N	n/a	10	Indicates the original quantity on the trade before deal management action was taken.
SelfTraded	1	B	A	U	0 – False 1 - True	Indicates true or false if this deal was traded with the dealer or client themselves. This field is only used for 123 updates and not 36 file downloads
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Fee Delta	8	D	N	n/a	0.506	For option deals indicates the delta to be used for fee purposes.
Maker Quantity	8	D	N	n/a	10	Indicates the number of contracts which were traded as a maker. (NOTE: This could include decimals if a consolidated deal is allocated to a client)
Report Only Quantity	8	D	N	n/a	25.666	Indicates the number of contracts which were traded via a report only trade. (NOTE: This could include decimals if a consolidated deal is allocated to a client)

Total Length: 266 Bytes

9.12 Positions data – Number 9

The Positions Data indicates the day's position for a user. This includes a physical and delivered position for Agricultural Products.

Name	Length	Type	Description	Case	Example	Comment
Position Sequence Number	4	I	N	n/a	2342	Position Sequence number
Clearing Member	6	P	N	U	AAAAC	Clearing Member code for the position
Member	6	P	A	U	AAAA	Member code of the logged in user
Dealer	4	P	A	U	BAB	Dealer code of the

						logged in user
Principal	8	P	A	U	AAAA	Principal for the position
Contract Name	20	P	AN	U	FG503 ALSI	Contract name for this position record
Start Position	8	D	N	n/a	10	This field displays the member's starting position before the markets open for the day.
Bought	8	D	N	n/a	10	This field displays the number of contracts bought during the day.
Sold	8	D	N	n/a	10	This field displays the number of contracts sold during the day.
Close Position	8	D	N	n/a	10	This field shows the principles current position.
Unused	120	B	n/a	n/a		
Physical Position	4	I	N	n/a	140	Total Physical Position
Physical Deliveries	4	I	N	n/a	140	Total Physical Delivered Position
Position Date	2	I	N	n/a		Date of the Position Record
Physical Buys	4	I	N	n/a	10	Number of contracts bought on spot-basis traded commodities
Physical Sells	4	I	N	n/a	10	Number of contracts sold on spot-basis traded commodities

Total Length: 218 Bytes

9.13 Dealer data – Number 14

The Dealer Data indicates the dealers in the user's member firm.

Name	Length	Type	Description	Case	Example	Comment
Dealer Sequence	4	I	N	n/a	124	Dealer sequence number of this record
Unused	4	B	n/a	n/a		
Member Sequence	4	I	N	n/a	2523	Member sequence number
Dealer Code	4	P	N	n/a	ABC	Dealer Code for this dealer
Full Name	32	P	A	n/a	Joe Soap	Name of the dealer
Position	50	P	A	n/a	Trader	Position of this dealer
Telephone Number	24	P	AN	n/a	(011)342-7856	Telephone number of this dealer
Fax Number	24	P	AN	n/a	(011)363-4522	Fax Number of this dealer
Email	50	P	AN	n/a	joesoap@jse.com	Email address of

						this dealer
Unused	77	B	n/a	n/a		

Total Length: 273 Bytes

9.14 Client data - Number 12

The Client Data indicates the clients for a particular user's member firm. The Verified status field indicates if a client is available to trade or not.

Name	Length	Type	Description	Case	Example	Comment
Client Sequence	4	I	N	n/a	23542	Client Sequence Number of this record
Master Client Sequence Number	4	I	N	n/a	2343	Client sequence number of the master client
Member Sequence Number	4	I	N	n/a	2342	Member sequence number of the member
Client Code	7	P	AN	U	ABC123	Client code for this client
Name	50	P	AN	n/a	Joe Soap	Name of this client
Verified	1	B	N	n/a	True = 1, False = 0	Indicates if this client has been verified by a compliance officer
Country Sequence	4	I	N	n/a	1	Sequence number of the country record to which the client belongs
Multiplication Factor	4	I	N	n/a	100	Multiplication factor for foreign clients
Can Trade African Commodity	1	B	N	n/a	1 – True 0 - False	Indicates if this client is allowed to trade on African Commodity products

Total Length: 79 Bytes

9.15 Member data – Number 15

The Member Data indicates all available members on the market.

Name	Length	Type	Description	Case	Example	Comment
Member	4	I	N	n/a	2355	Member sequence of

Sequence						this record
Master Member Sequence	4	I	N	n/a	2123	Member sequence of the master member
Clearing Member Sequence	4	I	N	n/a	1612	Clearing member sequence of this members clearing member
Member Code	5	P	A	U	AAAA	Member code for this member
Description	50	P	AN	n/a	AAAA Brokers	Name or Description of this member
Mutual Market Settlement	4	I	N	n/a	1 – Equity Derivatives 2 – Commodity Derivatives	Indicates on which market the member has elected to settle trades done on the mutual market.

Total Length: 71 Bytes

9.16 Skew data – Number 19

The Skew Data indicates the skews applied to particular contracts.

Name	Length	Type	Description	Case	Example	Comment
Skew Sequence	4	I	N	n/a	2355	Skew sequence of this record
Instrument Sequence	4	I	N	n/a	1225	Instrument sequence number
Date Sequence	4	I	N	n/a	1455	Dates sequence number
Entry Date	2	I	N	n/a	13425	Dos Date of date of entry
At the Money	8	D	N	n/a	1245.00	The At-the-Money price or rate
MTM Volatility	8	D	N	n/a	24.09	MTM Volatility at the strike
Volatility Weight	8	D	N	n/a	45.22	Vol Weight at the strike price
Maximum Skew	8	D	N	n/a	20	Maximum skew value
Minimum Skew	8	D	N	n/a	10	Minimum skew value
Moneydness	9*8	D	N	n/a	45.88	Array of nine Doubles Moneyed-ness of strike
Skew	9*8	D	N	n/a	222.44	Array of Nine Doubles representing Skews
Weights	9*8	D	N	n/a	222.44	Array of Nine Doubles representing Skews

Total Length: 270 Bytes

9.17 Dealer Risk Value Limits data – Number 24

The Dealer Risk Value Limits Data indicates the current limits applied for dealers of the user's member firm.

Name	Length	Type	Description	Case	Example	Comment

Sequence number of Risk value limits	4	I	N	n/a	12	Sequence number of Risk value limits
Member	6	P	AN	U	AAAA	Member code of logged in user.
Dealer	4	P	A	U	ABC	Dealer code of logged in user.
Instrument Type Code	10	P	A	n/a	“AGRIF”	The instrument type to which this limit applies.
Instrument Short Name	5	P	A	n/a	“WMAZ”	The instrument name to which this limit applies.
Limits On-Screen	8	D	N	n/a	32.00	Limit for on screen transactions
Limits Options	8	D	N	n/a	15.00	Limit for option transactions both on screen and off screen.
Limits Report Only	8	D	N	n/a	74.00	Limit for Report Only transactions

Total Length: 53 Bytes

9.18 Daily Rates – Number 25

The Daily Rates download indicates the daily interest and other rates used by the exchange.

Name	Length	Type	Description	Case	Example	Comment
Daily Rate Sequence	4	I	N	n/a	2355	Daily Rate sequence of this record
Effective Date	2	I	N	n/a		Date of the Daily Rate Record
Rate	8	D	N	n/a		
RODI	8	D	N	n/a		Rand Overnight Deposit Rate
JRODI	8	D	N	n/a		
JRODI Factor	8	D	N	n/a		
JIBAR	8	D	N	n/a		
JIBAR 3 Month	8	D	N	n/a		3 Month JIBAR Rate
JIBAR 6 Month	8	D	N	n/a		6 Month JIBAR Rate
JIBAR 9 Month	8	D	N	n/a		9 Month JIBAR Rate
JIBAR 12 Month	8	D	N	n/a		12 Month JIBAR Rate
Prime	8	D	N	n/a		Prime Rate
Discount Rate 3 Month	8	D	N	n/a		
SARB Call Rate	8	D	N	n/a		
USD Rate	8	D	N	n/a		US Dollar / Rand Exchange Rate
EUR Rate	8	D	N	n/a		Euro / Rand Exchange Rate
GBP Rate	8	D	N	n/a		British Pound / Rand Exchange Rate
OCAD	8	D	N	n/a		

NCD 3 Month	8	D	N	n/a		
NCD 6 Month	8	D	N	n/a		
NCD 12 Month	8	D	N	n/a		
STEFI	8	D	N	n/a/		Short Term Fixed Interest Rate
Foreign Currency Interest	8	D	N	n/a	10.5	Interest rate applicable for foreign currencies.

Total Length: 174 Bytes

9.19 Message Type data – Number 38

The Message Type Data indicates what message types are available on the market. This can be used in conjunction with setting message subscription for particular messages.

Name	Length	Type	Description	Case	Example	Comment
Sequence of Message Type	4	I	N	n/a	1	Sequence number of Message Type
Message Type Number	4	I	N	n/a	36	This field represents the number of the message type for Example a 36 would be a File Download
Message Type Code	10	P	AN	U	LDD	This is the Code name of the message type. For Example 36's Code is LDD
Message Type Name	25	P	AN	UL	File Download	This represents the name of the message type. For example 36 LDD is a File Download

Total Length: 43 Bytes

9.20 Tripartite Setup data – Number 61

The Tripartite Setup Data will indicate what tripartite agreements have been setup that involve the user's member firm.

Name	Length	Type	Description	Case	Example	Comment
Clients member	6	P	AN	U	LJBM	The member code of the tripartite client
Client Code	8	P	AN	U	ABC123	The code of the tripartite client
Clearing member	6	P	AN	U	LJBCC	The Clearing member code of the member
Tripartite Member	6	P	AN	U	GHTM	The member code of the tripartite member
Gash	128	C	AN	n/a	n/a	n/a

Total Length: 154 Bytes

9.21 Custom Future data – Number 63

The Custom Future Data indicates the make up of instruments of type Custom Future. This data will display the breakdown of what contracts make up a particular custom future contract, and the weighting of the underlying contracts.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	83	The is the instrument sequence if the custom future
Contract Date sequence	4	I	N	n/a	774	This is the sequence of the date record
Underlying Instrument Sequence	4	I	N	n/a	343	This is the Sequence of the underlying instrument
Underlying Contract Date Sequence	4	I	N	n/a	332	This is the sequence of the underlying date
Weight	8	D	N	n/a	242	This is the weight the underlying hold of the custom future

Total Length: 24 Bytes

9.22 Trace deal data – Number 64

The Trace Deal Data indicates additional detail regarding the capturing and updating of deals. Post Deal activity such as accumulations and allocations are recorded here, with the Trace Action field indicating the resultant state of a particular deal record.

Name	Length	Type	Description	Case	Example	Comment
Audit Sequence number	4	I	N	n/a	12	The sequence number of the audit deal
Order Sequence	4	I	N	n/a		Sequence of order creating deal
Unused	8	B	n/a	n/a		
Deal Time	4	B	N	n/a	10, 55, 59 ,0	The time at which the deal was done
Clearing Member	6	P	A	U	AAAAC	Data copied from orders
Member	6	P	A	U	AAAA	Member code of logged in user
Dealer	4	P	A	U	BAB	Dealer code of logged in user
Principal	8	P	A	U	AAAA	Code of principal to the deal.
Buy Or Sell	1	C	A	U	B / S	Buy/Sell field of the order
Origin	1	C	AN	n/a		See 6.10 for Origin field Descriptions
Quantity	4	I	N	n/a	10	Number of contracts involved in the deal
Contract	20	P	AN	n/a		Name of the contract on which the deal is done
Dealt Rate	8	D	N	n/a		The rate at which the deal was done
User Reference	10	P	AN	n/a		Reference number to appear on deal.

Exchange Suffix	2	I	N	n/a		Set to 0 on first inc for div/split
Portfolio	8	P	N	n/a		Portfolio code for the deal
Profit Centre	6	P	A	n/a		Profit centre code for the deal
Sub Account	6	P	A	n/a		Sub account code for the deal
Exchange Ref	10	P	AN	n/a	A000025	Exchange reference number
Dealt Price	8	D	N	n/a		The price at which the deal was done
Deal Consideration	8	D	N	n/a		Consideration on current deal.
Settlement Date	2	B	N	n/a		Settlement date of this leg
Booking Fee Flag	1	C	N	U		Will contain Z if zero fee
Reason	1	C	N	U		See 6.11 for Reason Descriptions
Unused	101	B	n/a	n/a		
Trace Action	1	C	N	U	U, I, D	U – Update I – Insert D – Delete This is an indication if the record was deleted or not
Action Time	4	B	N	n/a	10, 55, 59 ,0	Time that action took place
Original Sequence	4	I	N	n/a	27	If the deal is created from an action on another deal then this is the sequence of the original
Original Reference Number	10	P	N	AN	A0002314	This is the reference number of the original deal
Original Suffix	4	I	N	n/a	1	This is the suffix of the original deal
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator

Total Length: 265 Bytes

9.23 Clearing member data – Number 65

The Clearing Member Data displays all Clearing Members available on the market.

Name	Length	Type	Description	Case	Example	Comment
Clearing member Sequence	4	I	N	n/a	23	This is the Clearing member sequence
Clearing member code	6	P	NA	U	LJBCC	This is the code used for the clearing member
Clearing member	50	P	NA	U	LJB Clearing	This is the Description of the

Description					house	clearing member

Total Length: 60 Bytes

9.24 Message Subscription data – Number 67

The Message Subscription Data indicates the message subscription details for dealers of a member firm. This indicates if a particular dealer has subscribed to a particular message.

Name	Length	Type	Description	Case	Example	Comment
Message Subscription sequence	4	I	N	n/a	12	The is the sequence of the message subscription
Member	6	P	AN	U	LJBM	This is the member code for the subscription details
Dealer	4	P	AN	U	DJW	This is the dealer code for which these message subscriptions apply
Message subscription message number	4	I	N	n/a	32	This is the message number for which this subscription applies
Is Subscribed	1	B	n/a	n/a	1 – True 0 – False	This indicates if the dealer is subscribed to the message
Can Change	1	B	n/a	n/a	1 – True 0 – False	The indicates if the dealer has rights to change his subscription to the message
Group Rights	1	B	n/a	n/a	1 – True 0 – False	This indicates if the group to which this dealer belongs has rights to the message.

Total Length: 21 Bytes

9.25 Group Definition data – Number 78

The Group Definition Data defines the group setup for instruments. The Next Group Sequence points to the next level in this group. The instrument which then links to that group sequence is defined as being part of the group setup. The Next margin field indicates the margin amount applicable to the next level of grouping. For example ALSI (Instrument Seq 1 may point to Group Sequence 2, Group Sequence 2 may have a Next Group Sequence of 3, INDI Instrument Sequence 5 may point to Group Sequence 3, thus ALSI (1) and INDI (5) belong to the same group.

Name	Length	Type	Description	Case	Example	Comment
Group Sequence	4	I	N	n/a	2355	Group Definition sequence of this record
Next Group Sequence	4	I	N	n/a	1225	The sequence number of the group following this Group Definition sequence number
Unused	4	B	n/a	n/a		
Group Code	4	I	N	n/a	21	Code representing this

						group
Next Margin	8	D	N	n/a	1245.00	The next margin value on this group
Group Description	60	P	AN	n/a	MAR JUN FBWC	The string Description of this group

Total Length: 84 Bytes

9.26 Fee data – Number 79

The Fee Data indicates the fee structure for a particular scenario. The additional sequence numbers mentioned here (Assigned, Early Leg etc) indicate further breakdown of fee amounts applicable to those further scenarios. The Fee Sequence is reference by Instruments and thus instruments have fee amounts as per the structure defined in this layout.

Name	Length	Type	Description	Case	Example	Comment
Fee Sequence	4	I	N	n/a	2355	Fee sequence number of this record
Fee Calculation Sequence	4	I	N	n/a	1225	The sequence number of the fee calculation data sequence
Aggressed Sequence	4	I	N	n/a	1287	Fee Data Sequence which defines fee breakdown for aggressed transactions.
Assigned sequence	4	I	N	n/a	2211	Fee Data Sequence which defines fee breakdown for assignment transactions.
Equal and opposite sequence	4	I	N	n/a	2548	Fee Data Sequence which defines fee breakdown for equal and opposite transactions.
Early leg sequence number	4	I	N	n/a	2345	Fee Data Sequence which defines fee breakdown for early leg transactions.
Option Abandon Sequence number	4	I	N	n/a	457	Fee Data Sequence which defines fee breakdown for option abandon transactions.
Option Exercise Sequence number	4	I	N	n/a	457	Fee Data Sequence which defines fee breakdown for option exercise transactions.
Late leg sequence	4	I	N	n/a	456	Fee Data Sequence which defines fee breakdown for late leg transactions.
Report Only sequence number	4	I	N	n/a	5644	Fee Data Sequence which defines fee breakdown for report only transactions.
Roll forward sequence number	4	I	N	n/a	5644	Fee Data Sequence which defines fee breakdown for roll

						forward transactions.
Tripartite sequence number	4	I	N	n/a	5644	Fee Data Sequence which defines fee breakdown for tripartite transactions.
Fee scale number	4	I	N	n/a	5	The record in the fee scale data set that indicates the scale of this fee
Nominal	4	I	N	n/a	20000	This is the nominal of the contract that this fee scale applies to
Fee	8	D	N	n/a	12.50	The fee value
Fee Minimum	8	D	N	n/a	10.50	The Min fee value
Fee Maximum	8	D	N	n/a	15.50	The Max fee value
Fee Description	50	P	AN	n/a	Fee for…	Fee Description
~~Future Use~~Contract Minimum Fee	~~8~~4	~~D~~I	N	n/a	10.2	~~For Future Use~~Indicates the minimum fee per contract
~~Future Use~~	~~4~~	~~I~~	~~N~~	~~n/a~~		~~For Future Use~~
Is Discount	1	B	N	n/a	0 – False 1 - True	Indicates if this fee is a discount fee or not.
Contract Maximum Fee	8	D	N	n/a	20.2	Indicates the maximum fee per contract

Total Length: ~~139~~ 147 Bytes

9.27 Fee scale data – Number 80

Fee Scales are to be implemented in future, and as a result the description will be updated when the scaling of fees becomes necessary.

Name	Length	Type	Description	Case	Example	Comment
Fee Scale Sequence	4	I	N	n/a	2355	Fee Scale sequence number of this record
Fee Scale Number	4	I	N	n/a	1225	The sequence number of the fee calculation date sequence
Scale	4	I	N	n/a	1287	number of this fee scale
Scale Value	8	D	N	n/a	48.00	Scale value in decimals

Total Length: 20 Bytes

9.28 Fee Calculation data – Number 81

Fee Calculations provide a description for the Fee Data. This description provides additional information for the calculation of fees.

Name	Length	Type	Description	Case	Example	Comment
Fee Calculation Sequence	4	I	N	n/a	2355	Fee Calculation sequence number of this record
Fee Calculation Number	4	I	N	n/a	1225	The sequence number of the fee calculation date sequence
Fee	100	P	AN	n/a	Fee for	Fee calculation

calculation Description					WMAZ	Description

Total Length: 108 Bytes

9.29 Transfer Client Member data – Number 83

The Transfer Client Member Data indicates the transfers of clients to other members. Included in this definition is the date the transfer is to be effected, and the new member sequence to which the client is to be transferred to.

Name	Length	Type	Description	Case	Example	Comment
Transfer Client Member sequence	4	I	N	n/a	12	Sequence number of the transfer client member
Client Code	7	P	AN	U	ABC123	The client code to be transferred
Dealer Code Responsible	4	P	A	U	ABC	The dealer code of the responsible dealer
Member Code Original	5	P	AN	U	AAAA	Member code of the original member
New Member Code	5	P	AN	U	BBBB	Member code of the new member
Processed	1	B	N	n/a	1 – True 0 – False	This Boolean value indicates if the transfer has been done yet.
Transfer date	2	I	N	n/a	18543	Date on which the transfer will take place.
Transfer Margin	8	D	N	n/a	1250.00	Margin transferred with processing of transfer

Total Length: 36 Bytes

9.30 Transfer Client data – Number 82

The Transfer Client Data indicates the transfer of client accounts to new client accounts. Included in this layout is the date the transfer is to be effected, and the new Client Sequence, to which this client is to be transferred to.

Name	Length	Type	Description	Case	Example	Comment
Transfer Client sequence	4	I	N	n/a	12	Sequence number of the transfer client
New Client Sequence	4	I	N	n/a	1225	The sequence number of the new client in the client data retrieval
Original Client Sequence	4	I	N	n/a	546	The sequence number of the original client in the client data retrieval
Transfer Client	4	I	N	n/a	5465	The sequence number of the Transfer client in the client data retrieval
Transfer date	2	I	N	n/a	18432	Date on which the transfer will take place.

Total Length: 18 Bytes

9.31 Transfer Member data – Number 84

The Transfer Member Data indicates the transfer of Member accounts to new Member accounts. Included in this layout is the date on which this transfer is to be effected, and the new Member Sequence to which the member is transferred to.

Name	Length	Type	Description	Case	Example	Comment
Transfer Member sequence	4	I	N	n/a	12	Sequence number of the transfer Member
New Member Sequence	4	I	N	n/a	1225	The sequence number of the new member in the member data retrieval
Original Member Sequence	4	I	N	n/a	546	The sequence number of the original member in the member data retrieval
Transfer member	4	I	N	n/a	5465	The sequence number of the Transfer member in the member data retrieval
Transfer date	2	I	N	n/a	18543	Date on which the transfer will take place.

Total Length: 18 Bytes

9.32 Transfer Member Clearing member data – Number 85

The Transfer Member Clearing Member Data indicates the transfer of Member accounts to new Clearing Members. Included in this layout is the date the transfer is to be effected, and the New Clearing Member Sequence of the member.

Name	Length	Type	Description	Case	Example	Comment
Transfer Clearing Member sequence	4	I	N	n/a	12	Sequence number of the transfer Clearing Member
Member Code	4	P	AN	U	AAAA	Member code to be transferred
Original Clearing Member Code	6	P	A	U	AAAAC	Clearing member code of the original clearing member.
New Clearing Member Code	6	P	A	U	BBBBC	Clearing member code of the new clearing member
Processed	1	B	N	n/a	1 – True 0 – False	Transaction processed
Transfer date	2	I	N	n/a	18764	Date on which the transfer will take place.
Transfer Margin	8	D	N	n/a	1250.00	Margin transferred when processing the transfer

Total Length: 31 Bytes

9.33 Physical Grade data – Number 73

The Physical Grade Data indicates the Grades applicable to Agricultural Product Instruments. These grades are used in the delivery and capturing of silo certificates.

Name	Length	Type	Description	Case	Example	Comment
Grade Sequence	4	I	N	n/a	1	Grade Sequence
Instrument Sequence	4	I	N	n/a	45	Instrument sequence of grade
Grade Code	5	P	AN	U	WEAT	Code of grade
Grade Description	100	P	AN	n/a	Grade of wheat	Grade Description of this sequence

Total Length: 113 Bytes

9.34 Silo Owner data – Number 72

The Silo Owner Data indicates the details for Silo Owners. These Silo Owners are used in the capturing of silo certificates and delivery.

Name	Length	Type	Description	Case	Example	Comment
Silo Owner Sequence	4	I	N	n/a	2342	Sequence of owner
Certificate Start Range	4	I	N	n/a	9996245	This is the starting range of this set of certificates
Certificate End Range	4	I	N	n/a	9999999	This is the ending range of this set of certificates
`Silo Owner Code	10	P	AN	n/a	EMPANGENI	This the code of the owner
Silo Owner Name	52	P	AN	n/a	Empangeni Silo	This is the name of the owner

Total Length: 74 Bytes

9.35 Silo Location data – Number 71

The Silo Location Data indicates the details of Silo Locations. A Silo Location is reference by a Silo Owner. These Silo Locations are used in the capturing of silo certificates and delivery.

Name	Length	Type	Description	Case	Example	Comment
Silo Location Sequence	4	I	N	n/a	3241	Silo Location Sequence
Silo Owner Sequence	4	I	N	n/a	525	Silo owner Sequence
Silo Location Code	11	P	N	n/a	VRYHEID	Code of silo location
Silo Location Name	52	P	N	n/a	Vryheid Silo	Name of silo Location

Total Length: 71 Bytes

9.36 Delivery Notices Report (Number 87) and Allocation Notices Report (Number 86) data

The Delivery Notice Report and Allocation Notice Report provide a summary of deliveries and allocations done for a particular delivery or allocation date respectively.

Name	Length	Type	Description	Case	Example	Comment
Delivery Notice reference number	20	P	AN	U	AD456473	Delivery notice reference number
Client Code	7	P	AN	U	ABC123	Client Code on Delivery or Allocation Notice
Member Code	6	P	AN	U	ABCD	Member Code on Delivery or Allocation Notice
Clearing Member Code	6	P	AN	U	ABCDC	Clearing Member Code on Delivery or Allocation Notice
Delivery Date	3*4	I	N	n/a	2006,6,23	Delivery Date
Notice Date	3*4	I	N	n/a	2006,6,24	Notice Date
Instrument	5	P	A	U	SOYA	Instrument Delivered
Expiry Date	3*4	I	N	n/a	2006,6,20	Contract Expiry Date
Nominal	4	I	N	n/a	54	Nominal of delivery
Quantity	4	I	N	n/a	54	Quantity of delivery
Certificate Number	4	I	N	n/a	456473	Certificate Number to be delivered or allocated
Electronic	1	B	N	n/a	1 – True 0 – False	Boolean value indicating if receipt is electronic or paper
Certificate Quantity	4	I	N	n/a	21	Quantity of silo certificate
Silo Owner Code	11	P	AN	n/a	EMPANGENI	This the code of the owner
Silo Location Name	53	P	AN	n/a	Vryheid Silo	Name of silo Location
Storage Paid Date	3*4	I	N	n/a	2006, 6, 12	Date up until which storage was paid.
Storage Discount	8	D	N	n/a		Storage discount applicable
Location Discount	8	D	N	n/a		Location discount applicable
Grade Discount	8	D	N	n/a		Grade discount applicable
Origin Discount	8	D	N	n/a		Origin discount applicable
VAT	8	D	N	n/a		VAT amount applicable
Total Discount	8	D	N	n/a		Total discount applicable
Closing Price	8	D	N	n/a		Closing price on contract delivered
Basis Premium	8	D	N	n/a	25.25	Indicates the premium at which

						Silo Auction closed at.

Total Length: 237 Bytes

Note: Allocation Notice Reports are referenced by the Notice Date Parameter, Delivery Notice Reports are referenced by the Delivery Date Parameter.

9.37 Certificate Origin data – Number 75

The Certificate Origin Data indicates the origin of agricultural products. This information is used in the capturing of silo certificates and deliveries.

Name	Length	Type	Description	Case	Example	Comment
Sequence of Origin	4	I	N	n/a	21347	Origin sequence
Instrument Sequence	4	I	N	n/a	243	Sequence of instrument
Country Name	50	P	N	n/a	SWAZILAND	Name of origin country
Country Code	4	P	N	n/a	ZA	Code of origin country

Total Length: 62 Bytes

9.38 Silo Certificates – Number 69

The Silo Certificates Data indicates the silo certificates loaded by a user.

Name	Length	Type	Description	Case	Example	Comment
Sequence of Silo Certificate	4	I	N	n/a	223	When editing a silo certificate this should be the sequence of the certificate
Certificate number	4	I	N	n/a	12348	Silo Certificate number
Silo Owner Sequence	4	I	N	n/a	123457	Silo Certificate owner number
Silo Location Sequence	4	I	N	n/a	54546	Silo Certificate location number
Delivery Notice Sequence	4	I	N	n/a	5645	Delivery Notice Number
Instrument Sequence	4	I	N	n/a	4564	Instrument table sequence of this certificate
Grade Sequence	4	I	N	n/a	544546	Grade sequence number
Origin Sequence	4	I	N	n/a	1346	Sequence of Origin
Member Sequence	4	I	N	n/a	64	Sequence number of certificate member from member data
Client Sequence	4	I	N	n/a	100	Indicates the client sequence number if

						applicable
Status	1	C	A	U	R – Ready for delivery V – Verified D – Delivered E – Error Blank – unknown N - Not Verified	Status of certificate
Quantity	4	I	N	n/a	45	Quantity on certificate
Storage Paid Date	3*4	I	N	n/a	2006,6,23	Date up until which storage has been paid.
Electronic paper	1	B	N	n/a	1-True 0-False	Is the certificate paper based
Issued Date	3*4	I	N	n/a	2006,6,23	Date the certificate was issued.
Original Depositor	50	P	AN	U		Name of original depositor
Contract Name	20*	P	AN	U	FG503 WMAZ	Contract name for this silo certificate entry
DeliveryToday	1	B	N	n/a	1-True 0-False	Is the certificate due for delivery today
QuantityRemaining	4	I	N	n/a	12	The number of contracts remaining for spot trading
DateValidUntil	3*4	I	N	n/a	2012,5,31	User-specified value to indicate the last date this certificate is valid

Total Length: 157 Bytes

9.39 Daily Account Summary – Number 70

The Daily Account Summary is available to Clearing Member users only. This data gives a breakdown of the margin and fee calculated by the exchange at the end of day.

Name	Length	Type	Description	Case	Example	Comment
Client Code	7	P	AN	U	XYZ123	Client Code
Nightly Run Date	2	I	N	n/a	11245	Dos date of Nightly Run
Fee	8	D	N	n/a	14.00	Fee Charged
Supplementary Fee	8	D	N	n/a	122.00	Supplementary Fee Charged
Discount	8	D	N	n/a	12.00	Discount charged
Margin	8	D	N	n/a	1100000.00	Margin amount
Previous Margin	8	D	N	n/a	11.0	Previous Margin

						amount
Mark To Market	8	D	N	n/a	25600.00	MTM amount
Rate	8	D	N	n/a	11.25	Rate changed
Clearing member	6	P	AN	U	LOUIC	Clearing member name
Clearing member name	52	P	AN	U/L	Bank of South Africa	Clearing member Description
Clearing member second name	52	P	AN	U/L	Bank of South Africa LT	Second Clearing member Description
Member Code	6	P	AN	U	LOUI	Member code
Member name	52	P	AN	U/L	Loui member	Member Name Description
Client name	52	P	AN	U/L	Koos Visagie Client	Client Description
VAT Registration Number	20	P	N	n/a	12345678	VAT Registration Number
TelephoneNumber 1	24	P	N	n/a	0114552948	Primary Contact number
Fax Number	24	P	N	n/a	0114552866	Fax number
Physical Address	50	P	AN	U/L	10 Boom St	Address field 1
Physical Address1	50	P	AN	U/L	Empangeni	Address field 2
Physical Suburb	50	P	N	n/a	Nyala	Suburb on address
Physical City	50	P	N	n/a	Johannesburg	City in address
Postal Code1	15	P	N	n/a	1068	Postal code
Client second name	52	P	AN	U/L	Buuren	Client Second Name
Transfer Margin	8	D	N	n/a		Transfer margin
Net Payment	8	D	N	n/a		Net Payment
Journal TransactionPayment	8	D	N	n/a	10.50	Indicates the Journal Transactionamount which was paid.
Currency Code	4	P	A	U	ZAR	Indicates the currency in which these payments are due

Total Length: 648 Bytes

9.40 Client Detail – Number 66

The Client Detail Data provides additional detail for clients. This information includes contract, and address information for a particular Client Sequence.

Name	Length	Type	Description	Case	Example	Comment
Client Sequence	4	I	N	n/a	2422	For Updates the sequence number of the client is required
Master Client Sequence	4	I	N	n/a	6223	If this client is a sub account for another client, that client's sequence number is required.
Member Sequence	4	I	N	n/a	267	The sequence number of the member.
Member Code	6	P	AN	U	ABMN	The member code of the member to which this client is registered
Country Sequence	4	I	N	n/a	1	Country sequence of the country record to which the client belongs
Client Code	7	P	AN	U	ABC123	Client code for this client
Unused	8	n/a	n/a	n/a		Not used in request
ID Number	15	P	AN	n/a	5504122775089	The ID Number of the client, if this client is an individual.
Passport Number	15	P	AN	n/a	1441267	Passport Number for foreign client
VAT Registration Number	51	P	AN	n/a	23-555531-232	VAT Registration number for non-individuals, example companies.
Client Name	51	P	A	n/a	Joe Soap	Name of client.
Client Second Name	53	P	A	n/a	Private Investment Services	Second name of client.
Postal Address Postal Code	11	P	N	n/a	2411	Postal Code of the address supplied for postal address
Physical Address	11	P	AN	n/a	4162	Postal Code of the address

Postal Code						supplied for physical address
Telephone Number	25	P	AN	n/a	(011)222-3341	Telephone number at which the client can be contacted
Alternate Telephone Number	25	P	AN	n/a	(011)335-6331	An alternate telephone number at which the client can be contacted.
Fax Number	25	P	AN	n/a	(011)452-2221	Fax number at which the client can be contacted.
Physical Address	51	P	AN	n/a	4 Exchange Square	First line of physical address
Physical Address Line 2	51	P	AN	n/a	Gwen Lane	Second line of physical address
Physical Address Suburb	21	P	AN	n/a	Sandton	Suburb of physical address
Physical Address City	31	P	AN	n/a	Johannesburg	City of physical address
Postal Address	51	P	AN	n/a	4 Exchange Square	First line of postal address
Postal Address Line 2	51	P	AN	n/a	Gwen Lane	Second line of postal address
Postal Address Suburb	21	P	AN	n/a	Sandton	Suburb of postal address
Postal Address City	31	P	AN	n/a	Johannesburg	City of postal address
Id Client Global Market	4	I	N	n/a	1	Market on which the client clears global market trades on.
Email Address	47	P	AN	n/a	joesoap@jse.com	Email address at which client can be contacted
Compliance Officer Name	51	P	A	n/a	Joe Soap	Name of the compliance officer for the member firm.
Discretionary Managed	1	B	N	n/a	1 – True 0 – False	Indicates if this client is discretionarily managed or not.
Date Of Birth	3*4	I	N	n/a	2006,8,24	Date of birth in format: 2006, 8,

						24
Client's Bank Account Number	19	P	AN	n/a	241122	Bank account number for client
Multiplication Factor	4	I	N	n/a	100	Multiplication factor for foreign clients
Swift Code	13	P	AN	n/a	2411-23	Swift code used by client. BIC Code
Registration Number	21	P	AN	n/a	34223-443	Registration number for non-individuals e.g. CCs
Income TAX Number	21	P	AN	n/a	42551-533	Income tax number of client
Is an Update	1	B	N	n/a	1 – True 0 – False	Indicates if this record is an update, or not.
Is an Individual	1	B	N	n/a	1 – True 0 – False	Indicates if this client is an individual or not.
Electronic Account Number	30	P	AN	n/a	4224666	Electronic account number used on delivery notice system for agricultural deliveries.
Is Electronic	1	B	N	n/a	1 – True 0 – False	Indicates if this client can receive electronic delivery notices or not.
Proof of Residence Supplied	1	B	N	n/a	1 – True 0 – False	Indicates if proof of residence has been supplied by client, or not.
Proof of Registration Supplied	1	B	N	n/a	1 – True 0 – False	Indicates if proof of registration has been supplied by client.
Date Client Loaded	3*4	I	N	n/a	2007,5,15	Date the client was loaded
Date Client Verified	3*4	I	N	n/a	2007,5,16	Date the client was verified
Is Staff Account	1	B	N	n/a	1 – True 0 – False	Indicates true or false if this client is a staff account
Clearing Member can change margin	1	B	N	n/a	1 – True 0 – False	Indicates if a client can change margin multiplier

multiplier						
Is Beneficial Interest Account	1	B	N	n/a	1 – True 0 – False	Indicates if this client is a beneficial interest account

Total Length: 882 Bytes

9.41 Exchange Announcements – Number 89

The Exchange Announcement data provides a list of announcements which were sent by the exchange for a particular trading day.

Name	Length	Type	Description	Case	Example	Comment
Announcement Sequence	4	I	N	n/a	2422	Sequence number of the exchange announcement record
Announcement Date	3*4	I	N	n/a	2007,6,18	Date of the exchange announcement
Announcement Time	4	B	N	n/a	10, 54, 55, 0	Time of the exchange announcement
Announcement	255	P	AN	n/a	“Market times have been extended”	Announcement as sent by the exchange

Total Length: 275 Bytes

9.42 Delivery Allocation data – Number 91

This data can be downloaded to reflect the position make up of a delivery notice.

Name	Length	Type	Description	Case	Example	Comment
Delivery Notice Sequence Number*	4	I	N	n/a	5353	The Delivery Notice Sequence Number of the delivery notice.
Delivery Notice Allocation Sequence Number*	4	I	N	n/a	5353	The Delivery Notice Sequence Number of the delivery notice which was allocated to.
Member Sequence*	4	I	N	n/a	434	The Member Sequence of the member which holds the position. This can be the Branch Member Sequence number if the position is on the branch member account.
Client Sequence	4	I	N	n/a	1242	The Client Sequence of the client which holds the position, This can be 0, if not applicable.
Position	4	I	N	n/a	53	The quantity of the

Quantity*						position allocated to this principle on the delivery notice.
Sub Account	6	P	AN	U	12, 13, 14	The sub account which holds the position. This can be empty, if not applicable.
Delivery Notice reference number	20	P	AN	U	AD456473	Delivery notice reference number

Total Length: 26 Bytes

9.43 Delivery No Physical (Exchange for Physical) data – Number 90

This data can be downloaded to reflect the deliveries processed as exchange for physical.

Name	Length	Type	Description	Case	Example	Comment
Delivery No Physical Sequence Number	4	I	N	n/a	5353	The Sequence Number of the delivery record.
Client Sequence	4	I	N	n/a	1242	The Client Sequence of the client which holds the position, This can be 0, if not applicable.
Member Sequence	4	I	N	n/a	434	The Member Sequence of the member which holds the position. This can be the Branch Member Sequence number if the position is on the branch member account.
Contract Date Sequence	4	I	N	n/a	1242	The contract date sequence number of the contract which was delivered.
Position Quantity	4	I	N	n/a	53	The quantity of the position delivered to this principle on the delivery
Sub Account	6	P	AN	U	12, 13, 14	The sub account which holds the position. This can be empty, if not applicable.
Trade Date	3*4	I	N	n/a	2007, 08, 20	The date on which this delivery was processed.

Total Length: 38 Bytes

9.44 Options Traded data – Number 94

PLEASE NOTE: This data is on available on the Equity Derivatives Market

The Options Traded data shows a list of all option trades done on the market.

Name	Length	Type	Description	Case	Example	Comment
Trade Date	2	I	N	n/a	5353	Date of the trade

Trade Time	4	B	N	n/a	10, 54, 55, 0	Time of the trade
Contract Name	20	P	AN	U	YK503 ALSI28000 C	Contract Name for the option trade
Number of Contracts	4	I	N	n/a	1242	Quantity traded
Volatility	8	D	N	n/a	30.5	The volatility traded
Premium	8	D	N	n/a	2540.45	The premium traded
Origin	1	B	A	U	O or P	Indicates Origin of the trade, either 'O' for onscreen or 'P' for report only
Spot Price	8	D	N	n/a	29500	Indicates the spot price at the time of the option trade

Total Length: 55 Bytes

9.45 Instrument Silo Accreditation data – Number 95

PLEASE NOTE: This data is on available on the Commodity Derivatives Market

This shows instruments and the accredited silo locations for these instruments..

Name	Length	Type	Description	Case	Example	Comment
Instrument Silo Accreditation Sequence	4	I	N	n/a	5353	Sequence number for this record
Silo Location Sequence	4	I	N	n/a	10	Sequence number for the Silo Location
Instrument Sequence	4	I	N	n/a	12	Sequence number for the Instrument.
Application Date	4*3	I	N	n/a	2015,3,15	Date of the start of the accreditation
Expiry Date	4*3	I	N	n/a	2016,3,15	Date of the end of the accreditation
Discount	8	D	N	n/a	2.45	The discount for this accreditation.

Total Length: 55 Bytes

9.46 Early Valuations Data – Number 100

PLEASE NOTE: This message is used as follows on the markets:

EDM – Early valuations published at approximately 15h00 every trading day

APD - Early valuations published approximately 12h00 every trading day for the Grain instruments.

The early valuations data indicates the mark-to-market valuations of all contracts at a time before the official closing prices are made available.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	1225	Instrument sequence number

Date Sequence	4	I	N	n/a	1455	Dates sequence number
Strike Sequence	4	I	N	n/a	6442	Strike sequence number
Days Close	8	D	N	n/a	19500.00	Early Mark-to-market price
Date	2	I	N	n/a	12533	Date of the price
Volatility	8	D	N	n/a	45	Future or Option Volatility for this contract

Total Length: 30 Bytes

9.47 Journal Transaction Payments Data – Number 101

The Journal TransactionPayments Data indicates the Journal Transactions paid for a particular instrument.

Name	Length	Type	Description	Case	Example	Comment
Journal TransactionPayment Sequence	4	I	N	n/a	1225	Sequence Number for this record
Contract Date Sequence	4	I	N	n/a	254	Sequence Number for the contract date on which Journal Transactions were paid.
Journal TransactionPayment Date	2	I	N	n/a	12235	DOS Date of the date on which the Journal Transactionwill be paid.
Journal TransactionDeclaration Date	2	I	N	n/a	12354	DOS Date on which the Journal Transactionwas declared
EX Date	2	I	N	n/a	15455	DOS Date of the ex date of the Journal Transaction
Journal Transaction	8	D	N	n/a	1.50	Amount of the Journal Transactionpaid
Dividend Declared	1	B	N	n/a	1- True, 0 - False	Indicates if the dividend was declared or not
Effective Date	2	I	N	n/a	15455	DOS Date of the date on which the Journal Transaction payment was effected at the

						JSE
Apply on Opening Position	1	B	N	n/a	1 – True, 0 - False	Indicates if the payment should be effected on the opening position when true, or applied on the closing position when false.

Total Length: 25 Bytes

9.48 Client Member Margin Multiplier Data – Number 102

Name	Length	Type	Description	Case	Example	Comment
Member Sequence*	4	I	N	n/a	267	The sequence number of the member
Client Sequence	4	I	N	n/a	1242	The Client Sequence of the client which the additional Margin is set.
Instrument Sequence*	4	I	N	n/a	2523	Instrument Sequence of instrument for which the Additional Margin is set.
Multiplication Factor	8	D	N	n/a	150.00	Multiplication Factor to use for the client.

Total Length: 20 Bytes

9.49 First Trade of the day – Number 103

This download will return the first trade of the day for each contract traded on the specified trade date.

Name	Length	Type	Description	Case	Example	Comment
Contract Code	20	P	AN	n/a	FK921 ALSI	The contract code of the contract traded.
Traded Price	8	D	N	n/a	22350	The price at which the trade was done.
Traded Rate	8	D	N	n/a	12.5	The rate at which the trade was done. Applicable for option trades
Traded Time	4	B	N	n/a	10, 54, 55, 0	Time at which the trade occurred.

Total Length: 40 Bytes

9.50 Options Concentration Risk – Number 107

This download will return the data for all the options on the market on which there is open interest.

Name	Length	Type	Description	Case	Example	Comment
Instrument Sequence	4	I	N	n/a	5	Indicates the Instrument sequence number of this contract

Contract Date Sequence	4	I	N	n/a	12	Indicates the sequence number of the contract date
Strike Sequence	4	I	N	n/a	12	Indicates the sequence number of the strike
Open Interest	4	I	N	n/a	16	Indicates the number of open positions on this contract.

Total Length: 16 Bytes

9.51 Silo Certificate Spot Contract – Number 120

Name	Length	Type	Description	Case	Example	Comment
Spot Contract Sequence Number	4	I	N	n/a	355	Sequence number of the spot contract
Contract Name*	20	P	AN	U	B0133WMAZ	Name of contract
Instrument ShortName	20	P	AN	U	WMAZ	Shortname of the underlying future contract
LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	3	P	AN	U	ZA	Code of the country of origin of the grain

Total size: 63 Bytes

9.52 Silo Certificate Active Spot Order - Number 121

Name	Length	Type	Description	Case	Example	Comment
Sequence Number	4	I	N	n/a	20	Sequence number of the spot contract active order
Contract Name	20	P	AN	U	B0133WMAZ	Name of contract on which the order will be inserted
SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Quantity	4	I	N	n/a	5	Order quantity
Buy Or Sell	1	C	A	U	B	This displays whether the order is a Buy (B) or Sell(S).
Instrument Short name	20	P	AN	U	WMAZ, CORN	Short name of product on future contract
Silo	11	P	AN	n/a	VNCHU34728	Location code

LocationCode						of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	3	P	AN	U	ZA	Code of the country of origin of the grain
Premium	8	D	N	n/a	19503.00	Premium amount per ton
Master Member	6	P	A	U	AABBC	Master member of the member.
Member	6	P	A	U	AABB	Member code of the member who the order was placed for.
Clearing Member	6	P	A	U	AABBC	Clearing member of the member.
Sub Account	6	P	AN	U	ABC12	Sub account used for the order
Principal	8	P	A	U	ABC123	This displays the code of the Principal to the order.
State	1	C	A	U	A	Active or suspended
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
User Dealer	4	P	A	U	ABC	Dealer code of logged in dealer.
Dealer	4	P	A	U	ABC	Dealer code of the dealer who the order was placed for.
Enter Time	4	B	N	n/a	10, 55, 59 ,0	Time the order was placed
Order timeout	4	I	N	n/a	45	This field displays the number of seconds until the order expires
User Reference	10	P	AN	U	AFFS322	Reference code issued by the dealer
Additional User Reference	10	P	AN	n/a	ABCD123	Additional user reference field for users to place an order
Must Deliver Today	1	B	N	n/a	1- True, 0 - False	Whether the certificate must be completely delivered today
Hold Over Date	3*4	I	N	n/a	2013,5,12	Indicates the date to which

						orders are held over to.

Total Size: 163 bytes
* SiloReceiptNo : Only populated on Sell orders

9.53 Silo Certificate Completed Spot Order – Number 122

The Spot Completed Order Data indicates all orders which have been satisfied for a particular user. The Exchange Reference number of the deal which resulted is given. The quantity and premium which was dealt is also given in the Quantity and Dealt Premium fields. The Original Quantity field indicates the quantity of the order submitted.

Name	Length	Type	Description	Case	Example	Comments
Completed Order Sequence Number	4	I	N	n/a	12422	Sequence number of this completed order record
Spot Contract Name	20	P	AN	U	B0133WMAZ	Name of contract on which the order will be inserted
SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Quantity	4	I	N	n/a	10	This displays the number of contracts involved in the order.
Bid Quantity	4	I	N	n/a	10	This displays the number of contracts involved in this original order
Buy Or Sell	1	C	A	U	B	Buy/Sell field of the order
Instrument Short name	20	P	AN	U	WMAZ, CORN	Short name of product on future contract
Silo LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	3	P	AN	U	ZA	Code of the country of origin of the grain
Premium	8	D	N	n/a	19503.00	Premium amount per ton
DealtPremium	8	D	N	n/a	19503.00	The rate at which the deal was actually done. This is different from the bid rate
Principal	8	P	A	U	ABC123	This displays the code of the Principal to the completed order.
User Member	6	P	A	U	AABB	Member code of the logged in member
Member	6	P	A	U	AABB	The member code of the completed order
User Dealer	4	P	A	U	ABC	Dealer code of the logged in dealer

Dealer	4	P	A	U	ABC	The dealer code of the completed order
Clearing Member	6	P	A	U	AABBC	Clearing member code of the member
Sub Account	6	P	A	U	ABC12	User Sub Account for this completed order
State	1	C	A	U	C	C- completed
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Enter Time	4	B	N	n/a	10, 55, 59 ,0	Time of the completed order creation
Trade Date	2	I	N	n/a	12522	Dos Date of the date on which this order traded.
Trade Time	4	B	N	n/a	10, 55, 59 ,0	Dos Time of the time at which this order traded
Match Date	2	I	N	n/a	12523	Dos Date of the date on which this order was matched
Match Time	4	B	N	n/a	10, 55, 59 ,0	Time at which the order was matched
User Reference	10	P	AN	U	AFDD233	Reference Code from the active order which made this completed order
Additional User Reference	10	P	AN	U	AFDD233	Reference Code from the active order which made this completed order
Exchange Reference	10	P	AN	U	A000232A	Exchange reference from the deal which created the completed order.
Origin	1	C	A	U	Y	See 6.10 for Origin Descriptions

Total Size: 181 Bytes

9.54 Silo Certificate Spot Deals – Number 123

The Silo Certificate Deals Data defines what deals have been done for a particular user. When receiving a deal entry each entry will contain an Exchange Reference Number. This identifies the deal as recorded by the exchange.
Deals created as a result of end of day operations are identified by the Exchange Reference indicator of "DELIVERY", "AUTOCLOSE", "AUTOCLOSF" or "CORPORATE". "DELIVERY" indicates a deal used to indicate a physical position on an agricultural product. These are generated during the processing of physical deliveries. "AUTOCLOSE" or "AUTOCLOSF" indicates a deal used to close out a position on a contract on future's expiry. These deals are generated during the end of day process on a futures close out day. "CORPORATE" indicates a deal used to effect a corporate action. These deals are generated during the end of day process when a corporate action is scheduled.

Name	Length	Type	Description	Case	Example	Comment
Sequence	4	I	N	n/a		Sequence

Number						number of the spot deal record
SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Quantity	4	I	N	n/a	10	This displays the number of contracts involved in the order.
Buy Or Sell	1	C	A	U	B	Buy/Sell field of the order
Spot Contract Name	20	P	AN	U	B0133WMAZ	Name of contract on which the order will be inserted
Silo LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	4	P	AN	U	ZA	Code of the country of origin of the grain
Instrument Short name	20	P	AN	U	WMAZ, CORN	Short name of product on future contract
PartialFill	1	B	N	n/a	True = 1, False = 0	Indicates whether this order partially fills the quantity on the silo receipt or not.
Dealt Premium	8	D	N	n/a	210.00	The premium per ton at which the deal was done
Principal	8	P	A	U	AAAA	Code of principal to the deal.
Unused	1					
Member	6	P	A	U	AAAA	Member code of logged in user
Clearing Member	6	P	A	U	AAAAC	Data copied from orders
Sub Account	6	P	A	n/a		Sub account code for the deal
Exchange Ref	10	P	AN	n/a	A000025	Exchange reference number
Principle Agency	1	C	A	U	‘P’ or ‘A’	Principle Agency indicator
Dealer	4	P	A	U	BAB	Dealer code of logged in user
Deal Time	4	B	N	n/a	10, 55, 59, 0	The time at which the deal

						was done
Trade Date	2	B	N	12672		Trade Date of the deal as a DOS Date
Entered Time	4	B	N	n/a	10, 55, 59, 0	The time at which the deal was first entered.
Allocation Time	4	B	N	n/a	10, 55, 59, 0	The time at which the latest action was taken on this deal (e.g. deal allocation)
User Reference	10	P	AN	n/a		Reference number to appear on deal.
Additional User Reference	10	P	AN	n/a		Additional Reference number to appear on deal.
Reason	1	C	N	U		See 6.11 For reason Descriptions
Origin	1	C	AN	n/a		See 6.10 for Origin field Descriptions

Total Size: 160 Bytes

9.55 Silo Certificate Spot Unmatched Deals – Number 124

The Unmatched Deal Data record defines the structure for deals awaiting match.

Name	Length	Type	Description	Case	Example	Comment
Unmatched Sequence Number	4	I	N	n/a	12	Sequence number of this row in data set
SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Spot Contract Name	20	P	AN	U	B0133WMAZ	Name of contract on which the order will be inserted
Silo LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	4	P	AN	U	ZA	Code of the country of origin of the grain
Instrument Short name	20	P	AN	U	WMAZ, CORN	Short name of product on future contract
Enter Time	4	B	N	n/a	10, 59, 56, 0	The time of entry of unmatched order
User Member	6	P	AN	n/a	AAAA	Member Code of

						logged in member
User Dealer	4	P	A	n/a	XXZ	Dealer Code of logged in dealer.
Clearing Member	6	P	A	n/a	ABZAC	Clearing Member code of the reporting member
Deals Member	6	P	AN	n/a	AAAA	Member Code of unmatched deal
Deals Dealer	4	P	A	n/a	XXZ	Dealer Code of unmatched deal.
Deals Principal	8	P	AN	n/a	AAAA / ABC678	This field displays the code of the Principal to the deal.
Buy Or Sell	1	C	A	n/a	B, S, b, s, W, D	Buy/Sell field of the unmatched order. Lower case b and s can be used to mark this unmatched trade as unconfirmed. The Accept (40) message can be used to confirm the unmatched trade. Buy/Sell fields of W or D indicate that the deal can only be accepted by a clearing member user 'W' – Buy, 'D' - Sell
Quantity	4	I	N	n/a	10	This field displays the number of contracts involved in the order
Premium	8	D	N	n/a	12.00000	Premium at which the report only entry was done
User Reference	10	P	AN	n/a	My Code	User Reference code
Sub Account	6	P	AN	n/a	ABC1	Sub account code for the deal.
Counter Party	8	P	AN	n/a	SSQM	This field displays the code of the counterparty to the deal
Assign Sequence	4	I	N	n/a	12	For Assigning deals, this is the sequence number of the

						deal to be assigned.
Origin	1	C	A	U	A,F etc.	See table in section 6.10
Enter Date	2	I	N	n/a	11223	The date which the trade was entered
Trade Date	2	I	N	n/a	11425	The date which the trade was traded
Trade Time	4	B	N	n/a	10, 55, 59 ,0	The time the trade was done
Booking Fee Flag	1	C	A	U	'Z' – Zero Fees-	This flag indicates the fee status on the trade. NOTE: Only the exchange can set this value.
Reason	1	C	A	U	N, R etc,	See table in section 6.11
Dealt Premium	8	D	N	n/a	124.001	The Price dealt at
Price Reference	8	D	N	n/a	124.001	This field can be used as a reference field to indicate to the counterparty at what price the unmatched trade was booked against.
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
Single Leg	1	B	N	n/a	1 – True 0 – False	If this field is true, the opposite leg will NOT be sent to the counterparty
Additional Reference	10	P	AN	n/a	My Code	Additional user Reference code
PrepaidStorage	2	I	N	n/a	11223	Date until which storage is paid for on the si

Total Size: 188 Bytes.

9.56 Post-Delivery Run Deals – Number 126

The Post-Delivery Run Deal Data record defines the structure for deals including Rates and Fees allocated to the deal during the delivery run.

Name	Length	Type	Description	Case	Example	Comment
Deal Sequence	4	I	N	n/a	12	Sequence number of this row in data set
Spot Contract Name	20	P	AN	U	B0133WMAZ	Name of contract on which the order will be inserted

SiloReceiptNo*	4	I	N	n/a	234987	Sequence no of the silo certificate
Quantity	4	I	N	n/a	10	This field displays the number of contracts involved in the deal
Buy Or Sell	1	C	A	n/a	B, S, b, s, W, D	Buy/Sell field of the Deal
Silo LocationCode	11	P	AN	n/a	VNCHU34728	Location code of the Silo
GradeCode	5	P	AN	U	WM1	Code of the Grade of the grain
CountryOfOrigin	3	P	AN	U	ZA	Code of the country of origin of the grain
Instrument Short name	5	P	AN	U	WMAZ, CORN	Short name of product on future contract
Must Deliver Today	1	B	N	n/a	1 – True 0 – False	If this field is true, if the order is not matched by the end of the day, the stock will be allocated during the end of day process.
Premium	8	D	N	n/a	12.00000	Premium at which the report only entry was done
User Member	6	P	AN	n/a	AAAA	Member Code of logged in member
Clearing Member	6	P	A	n/a	ABZAC	Clearing Member code of the reporting member
Deals Principal	8	P	AN	n/a	AAAA / ABC678	This field displays the code of the Principal to the deal.
Exchange Ref	10	P	AN	n/a	A000025	Exchange reference number
Principle Agency	1	C	A	U	'P' or 'A'	Principle Agency indicator
User Dealer	4	P	A	n/a	XXZ	Dealer Code of logged in dealer.
Report Date	2	I	N	n/a	11223	The date which the trade was entered
Trade Date	2	I	N	n/a	11223	The date which the trade was matched

User Reference	10	P	AN	n/a	My Code	User Reference code
Reason	1	C	A	U	N, R etc,	See table in section 6.11
Counter Party Member	6	P	AN	n/a	SSQM	This field displays the code of the counterparty member to the deal
Origin	1	C	A	U	A,F etc.	See table in section 6.10
Location Discount	8	D	N	n/a	12.00000	Location Discount
Storage Rate	8	D	N	n/a	12.00000	Storage Rate
Grade Discount	8	D	N	n/a	12.00000	Grade discount
Origin Discount	8	D	N	n/a	12.00000	Origin discount
VAT	8	D	N	n/a	12.00000	VAT
Closing Price	8	D	N	n/a	12.00000	Closing Price
Total Premium	8	D	N	n/a	12.00000	Total Premium
Delivery Notice Reference number	20	P	AN	n/a	My Code	Delivery Notice Reference number
Fee	8	D	N	n/a	12.00000	Fee
Market Number*	4	I	N	n/a	3	See Table 1.3
Currency Code	4	P	AN	U	ZAR	Currency of the deal

Total Size: 215 Bytes.

9.57 Country – Number 22

This download will return country codes. This information is required for client information to indicate what country the client is a resident of.

Name	Length	Type	Description	Case	Example	Comment
Country Sequence	4	I	N	n/a	5	Indicates the sequence number of this country record.
Country Code	4	P	A	U	ZA	Indicates the country code for this country. ZA for local (South Africa)
Country Name	51	P	A	n/a	South Africa	Indicates the name of the country for this country record.
VAT Amount	8	D	N	n/a	0.14	Indicates the VAT amount applicable for this country

Total Length: 67 Bytes

9.58 Silo Certificate Split Data – Number 127

This download will additional information to trace the splitting of silo certificates as they are split during the spot basis trading/end of day run.

Name	Length	Type	Description	Case	Example	Comment

Silo Certificate Split Sequence	4	I	N	n/a	5	Indicates the sequence number of this record.
Original Receipt Number	4	I	N	n/a	12345	Indicates the receipt number of the original silo receipt.
Original Quantity	4	I	N	n/a	100	Indicates the original quantity on the silo receipt.
New receipt number	4	I	N	n/a	67890	Indicates the new receipt number after the split.
New Quantity	4	I	N	m/a	50	Indicates the quantity of the silo receipt after the split.

Total Length: 20 Bytes

9.59 Silo Position Data – Number 125

This data type will provide spot positions for the current day only to track the bids/offers as well as the number of contracts bought and sold on a spot basis contract.

Name	Length	Type	Description	Case	Example	Comment
Member Code	6	P	AN	U	AAAA	Indicates the member code on the spot position.
Principle	8	P	AN	U	ABC123	Indicates the principle on the position.
Instrument Short Name	20	P	AN	U	WMAZ	Indicates the short name of the instrument.
Location Code	11	P	AN	U	ABC123EFG	Indicates the location code of the silo location
Grade Code	5	P	AN	U	WM1	Indicates the grade code of the product grade
Origin Code	4	P	AN	U	ZA	Indicates the origin code for the product origin
Unused	4	B				
Bought	4	I	N	n/a	10	Indicates the number of contracts bought
Remaining Bids	4	I	N	n/a	5	Indicates the number of active orders or unmatched trades still to be matched on this position
Quantity Remaining	4	I	N	n/a	1	Indicates the number of contracts still available on this position.
Sold	4	I	N	n/a	5	Indicates the number of contracts sold
Remaining Offers	4	I	N	n/a	4	Indicates the number of active orders or unmatched trades still to be matched on this position

Total Length: 78 Bytes

9.60 Base Rates – Number 130

This data contains the base rates available for CFD contracts.

Name	Length	Type	Description	Case	Example	Comment
Base Rate Sequence	4	I	N	n/a	1	Indicates the sequence number for this base rate record
Base Rate Name	50	P	AN	n/a	SABOR	Indicates the name for this base rate
Base Rate Value	8	D	N	n/a	12.5	Indicates the value for this base rate

Total Length: 62 Bytes

9.61 CFD Unmatched Trades – Number 131

This data downloads the current unmatched CFD trades.

Name	Length	Type	Description	Case	Example	Comment
CFD Unmatched Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD Unmatched record
Enter Time	4	B	N	n/a	10, 5, 20, 0	Indicates the time this unmatched trade was entered.
Enter Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this unmatched trade was entered
Expiry Date	3 * 4	I	N	n/a	2013,12,20	Indicates the expiry date for the CFD
Clearing Member code	6	P	AN	U	AAAAC	Clearing member for this unmatched trade.
Member Code	6	P	AN	U	AAAA	Member code for this unmatched trade
Dealer Code	4	P	AN	U	AAA	Dealer code for this unmatched trade
Principle Code	8	P	AN	U	ABC123	Principle code for this unmatched trade
Buy Sell	1	C	A	U	B – Buy, S - Sell	Indicates if this is a buy or sell unmatched trade.
Quantity	4	I	N	n/a	10	Indicates the quantity for the unmatched trade
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD
Base Rate Code	30	P	AN	n/a	SABOR	Indicates the base rate specified for the CFD
Interest Spread	8	D	N	n/a	-2.5	Indicates the interest spread to be added to the base rate.

Price	8	D	N	n/a	152.45	Indicates the price of the CFD trade.
Reference Number	10	P	AN	n/a	ABC12345	Indicates the user reference for the unmatched trade.
Sub Account	6	P	AN	n/a	AAAAA	Indicates the sub account for the unmatched trade.
Counter Party	8	P	AN	n/a	BBBB	Indicates the counterparty to the unmatched trade
Assign Sequence	4	I	N	n/a	1	Indicates the CFD deal sequence from which this unmatched trade was created from when assigning the trade.
Origin	1	C	AN	n/a	N	Indicates the origin of the unmatched trade
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date of the CFD unmatched trade.
Trade Time	4	B	N	n/a	10,52,20,0	Indicates the trade time of the unmatched trade
Reason	1	C	AN	n/a	N	Indicates the reason for the unmatched trade
Price Reference	8	D	N	n/a	145.00	Indicates the reference price that the initiating member used to create the unmatched trade.
Additional reference	10	P	AN	n/a	ABCD1234	Indicates an additional reference for the unmatched trade
Principal Agency	1	C	A	n/a	P – Principle, A – Agency, N - None	Indicates the principle/agency indicator for the unmatched trade.
Is Accepted	1	B	N	n/a	1 – True, 0 - False	Indicates if this unmatched trade has been accepted.

Total Length: 203 Bytes

9.62 CFD Trades – Number 132

This data downloads the current CFD trades.

Name	Length	Type	Description	Case	Example	Comment
CFD Deal Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD deal record
Buy Sell	1	C	A	U	B – Buy, S - Sell	Indicates if this is a buy or sell

						trade.
Origin	1	C	AN	n/a	N	Indicates the origin of the trade
Identifier Prefix	1	C	A	n/a	C - CFD	Indicates the identifier prefix for this contract.
Booking Fee Flag	1	B	N	n/a	1 – True, 0 - False	Indicates if this trade is incurs a booking fee
Principal Agency	1	C	A	n/a	P – Principle, A – Agency, N - None	Indicates the principle/agency indicator for the trade.
Reason	1	C	AN	n/a	N	Indicates the reason for the trade
Dealer Code	4	P	AN	U	AAA	Dealer code for this trade
Report Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this trade was created
Exchange suffix	1	C	A	n/a	0	Indicates the version of the exchange reference
Quantity	4	I	N	n/a	10	Indicates the quantity for the trade
Original Quantity	4	I	N	n/a	10	Indicates the original quantity for the trade before deal management took place
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD
Master Member Code	6	P	AN	U	AAAA	Master Member code for this trade
Member Code	6	P	AN	U	AAAA	Member code for this trade
Clearing Member code	6	P	AN	U	AAAAC	Clearing member for this trade.
Enter Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this trade was entered
Enter Time	4	B	N	n/a	10,52,20,0	Indicates the time when this trade was entered
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date of the CFD trade
Trade Time	4	B	N	n/a	10,52,20,0	Indicates the time of the CFD trade

Expiry Date	3 * 4	I	N	n/a	2013,12,20	Indicates the expiry date for the CFD
Reference Number	10	P	AN	n/a	ABC12345	Indicates the user reference for the unmatched trade.
JSE Reference	10	P	AN	n/a	01A00001A	Indicates the JSE reference for the trade.
Price	8	D	N	n/a	152.45	Indicates the price of the CFD trade.
Base Rate Code	30	P	AN	n/a	SABOR	Indicates the base rate specified for the CFD
Interest Spread	8	D	N	n/a	-2.5	Indicates the interest spread to be added to the base rate.
Sub Account	6	P	AN	n/a	AAAAA	Indicates the sub account for the unmatched trade.
Master Client Code	7	P	AN	U	ABC123	Master Client code for this trade
Client Code	7	P	AN	U	ABC123	Client code for this trade
Additional reference	10	P	AN	n/a	ABCD1234	Indicates an additional reference for the unmatched trade

Total Length: 223 Bytes

9.63 CFD Exposure – Number 133

This data downloads the current CFD exposure.

Name	Length	Type	Description	Case	Example	Comment
CFD Exposure Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD exposure record
Identifier Prefix	1	C	A	n/a	C - CFD	Indicates the identifier prefix for this contract.
Dealer Code	4	P	AN	U	AAA	Dealer code for this record
Report Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this record was created

Expiry Date	3 * 4	I	N	n/a	2013,12,20	Indicates the expiry date for the CFD
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD
Base Rate Code	30	P	AN	n/a	SABOR	Indicates the base rate specified for the CFD
Interest Spread	8	D	N	n/a	-2.5	Indicates the interest spread to be added to the base rate.
Current Exposure	8	D	N	n/a	245 128.00	Indicates the current exposure on this CFD
Master Member Code	6	P	AN	U	AAAA	Master Member code for this record
Member Code	6	P	AN	U	AAAA	Member code for this record
Clearing Member code	6	P	AN	U	AAAAC	Clearing member for this record.
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date of the record.
Sub Account	6	P	AN	n/a	AAAAA	Indicates the sub account for the record.
Client Code	7	P	AN	U	ABC123	Client code for this record
Master Client Code	7	P	AN	U	ABC123	Master Client code for this record

Total Length: 159 bytes

9.64 CFD Audit Deals – Number 134

The download includes all of the CFD audit deals.

Name	Length	Type	Description	Case	Example	Comment
CFD Deal Sequence	4	I	N	n/a	1	Indicates the sequence number for this CFD deal record
Action Taken	1	C	A	U	I – Insert, U – Update, D – Delete	Indicates the action performed on the record
Action Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date on which the action was performed
Action Time	4	B	N	n/a	10,52,20,0	Indicates the time at when the action was performed
Buy Sell	1	C	A	U	B – Buy, S - Sell	Indicates if this is a buy or sell trade
Origin	1	C	AN	n/a	N	Indicates the origin of the trade
Identifier Prefix	1	C	A	n/a	C - CFD	Indicates the identifier prefix for this contract
Booking Fee Flag	1	B	N	n/a	1 – True, 0 - False	Indicates if this trade is incurs a booking fee
Principal Agency	1	C	A	n/a	P – Principle, A – Agency, N - None	Indicates the principle/agency indicator for the trade.
Reason	1	C	AN	n/a	N	Indicates the reason for the trade
Dealer Code	4	P	AN	U	AAA	Dealer code for this trade
Report Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this trade was created
Exchange suffix	1	C	A	n/a	0	Indicates the version of the exchange reference
Quantity	4	I	N	n/a	10	Indicates the quantity for the trade
Original Quantity	4	I	N	n/a	10	Indicates the original quantity for the trade before deal management

						took place
CFD Name	30	P	AN	U	ABL	Indicates the name of the CFD
Master Member Code	6	P	AN	U	AAAA	Master Member code for this trade
Member Code	6	P	AN	U	AAAA	Member code for this trade
Clearing Member code	6	P	AN	U	AAAAC	Clearing member for this trade.
Enter Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date this trade was entered
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date of the CFD trade.
Expiry Date	3 * 4	I	N	n/a	2013,12,20	Indicates the expiry date for the CFD
Reference Number	10	P	AN	n/a	ABC12345	Indicates the user reference for the unmatched trade.
JSE Reference	10	P	AN	n/a	01A00001A	Indicates the JSE reference for the trade.
Price	8	D	N	n/a	152.45	Indicates the price of the CFD trade.
Base Rate Code	30	P	AN	n/a	SABOR	Indicates the base rate specified for the CFD
Interest Spread	8	D	N	n/a	-2.5	Indicates the interest spread to be added to the base rate.
Sub Account	6	P	AN	n/a	AAAAA	Indicates the sub account for the unmatched trade.
Master Client Code	7	P	AN	U	ABC123	Master Client code for this trade
Client Code	7	P	AN	U	ABC123	Client code for this trade
Additional reference	10	P	AN	n/a	ABCD1234	Indicates an additional reference for the unmatched trade

Total Length: 232 bytes

9.65 Additional Margin – Number 136

The additional margin download, returns all records for the user where the exchange has called for additional margin.

Name	Length	Type	Description	Case	Example	Comment
Margin Additional Sequence	4	I	N	n/a	1	Indicates the sequence number for this Additional Margin record
Trade Date	3 * 4	I	N	n/a	2013,6,20	Indicates the date
Clearing Member ID	4	I	A	n/a	9	Indicated the Clearing Member ID for the Additional Margin
Member ID	4	I	AN	n/a	515	Indicated the Member ID for the Margin Additional
Previous Additional Margin	8	C	A	n/a	150000.00	Indicates the Previous Additional Margin
Additional Margin	8	B	N	n/a	150000.00	Indicates the Current Additional Margin
Market ID	4	C	A	n/a	2	Indicates the Market Number for Member/Clearing Member and Dealers Additional Margin
Client ID	4	C	AN	n/a	2145	Indicates Client ID

Total Length: 48 bytes

9.66 Intraday Margin MTM – Number 112

The intraday margin MTM download will return MTM rates specifically for an intraday margin call. This should only be requested when the exchange does an intraday margin call. The structure for this message is the same as the standard MTM download (File Type 16)

9.67 Intraday Margin Deals – Number 111

The intraday margin deals download will return deals specifically for an intraday margin call. This should only be requested when the exchange does an intraday margin call. The structure for this message is the same as the standard deals download (File Type 8)

10. SSF Auto Quote

10.1 Auto Quote Message – Message type 121

In essence, the Auto Quote component is responsible for submitting a Bid message (message type 56) on behalf of a Trader. The parameters of this Bid message are calculated by using the current Buy and Sell quantities and prices (as received via JSESETS) and the parameters provided by the Trader (see table below).

To Start Quoting on a particular contract, the user would send this message with the Buy or Sell or Double parameter indicting the users quote option. To stop quoting on a particular contract this message can be used with a Buy or Sell or Double field with N (None).
Auto Quote Trading (Private) Message

Name	Length	Type	Description	Case	Example	Comment
Contract Name*	20	P	AN	U	FG503 ALSI	Indicates which instrument the user would like to auto-quote on.
(B)uy Or (S)ell Or (D)ouble Or (N)one*	1	C	A	UL	B	Indicates what type of order should be submitted by the auto-quote engine. N will stop quoting on a contract.
Deals Principal*	8	P	A	U	ABC678	Indicates what principle should be used for orders submitted by the auto-quote engine.
User Reference*	10	P	AN	UL	MYREF001	Indicates what reference number should be used for orders submitted by the auto-quote engine
User Dealer*	4	P	A	U	XXZ	Indicates what dealer code should be used for orders submitted by the auto quote engine.
User Member*	6	P	A	U	AAAA	Indicates what member code should be used for orders submitted by the auto quote engine.
Buy Interest Rate	8	D	N	n/a	2	Indicates what interest should be added for buy orders submitted by the auto quote engine
Sell Interest Rate	8	D	N	n/a	2	Indicates what interest should be added for sell orders submitted by the auto quote engine.
Dividend*	8	D	N	n/a	1	The dividend portion of the price to subtract.
Trade Fee*	8	D	N	n/a	1	Fee portion per trade to be added to price calculated by auto quote engine as a rand

						amount.
Percent*	8	D	N	n/a	1	Fee portion to be added to the price as a percentage of price.
Quantity Factor*	8	D	N	n/a	50	Percentage of the underlying quantity to be quoted.
Contract Fee*	8	D	N	n/a	1	Fee portion per contract to be added to price calculated by auto quote engine as a rand amount.
Maximum Contracts*	8	D	N	n/a	20	This field displays the Maximum number of contracts that the user wants to trade.
Minimum Contracts*	8	D	N	n/a	2	This field displays the Minimum number of contracts that the user wants to trade.
Rebid Factor*	2	I	N	n/a	20	Amount which should be added or subtracted, depending on buy or sell, to the price one the first level has been traded.
Rebid Counts*	2	I	N	n/a	20	Number of times the auto quote engine should rebid on your behalf before stopping.
Total Contracts*	2	I	N	n/a	30	This field displays the total number of contracts that will be automatically dealt on behalf of the user.

Total Length: 127 Bytes

10.2 Subscription

10.2.1 Data Download of available Equity Contracts (File Type 29)

Please note that 29 is the identifier you need specify in the Request Data Header Message Type 36.

The Available Equity Instruments Data indicates what equity contracts are currently setup for auto quote.

Name	Length	Type	Description	Case	Example	Comment
Sequence of Equity	4	I	N	n/a	1	Sequence number of Equity instrument
SETS Code	4	P	AN	U	DBR ,ABL etc,	This is the 3 long instrument code from the equities market

Total Length: 8 Bytes

11. Futures Close Out Iteration Minute by Minute

11.0 Overview

The functionality provided by the exchange provides for the publishing of minute by minute prices of the index and the index constituents, as they are calculated during the futures close out iteration period.

These prices, together with a rolling average will then be published to users who have subscribed to receive this information. The user can select to start or stop receiving prices at any time during the futures close out iteration. The prices published will be from that minute onwards, and the average price published will be inclusive of the period already covered during the futures close out iteration, and will be up to date.

11.1 Subscription – Message Type 142

Users will be able to select to subscribe to the Index prices, or both the Index prices and the prices of each of the Index Constituents.

The subscription message can be used to subscribe or unsubscribe to receive futures close out prices. If the user would only like to see the values for the Index contracts they should only set the “Index Prices Subscription” field to True, and the “Index Constituent Prices Subscription” to False. At any time the user can select to stop or start receiving this information. The subscription message will be formatted as follows:

Name	Length	Type	Description	Case	Example	Comment
Index Prices Subscription	1	B	N	n/a	1 – True 0 - False	Indicates if you would like to subscribe to the Index values
Index Constituent Prices Subscription	1	B	N	n/a	1 – True 0 - False	Indicates if you would like to subscribe to the Index Constituent values

11.2 Futures Close Out Prices

Prices will be published in 2 formats, Index Prices and Index Constituent Prices. These are received independently of one another.

11.2.1 Index Price Item – Message Type 143

Name	Length	Type	Description	Case	Example	Comment
Index Code	10	P	AN	U	J200	Code of the Index Contract
Time Interval	4	B	N	n/a	10, 54, 55, 0	Time of the index price
Index Value	8	D	N	n/a	20150.00	Value of this minutes index price
Index Rolling Average	8	D	N	n/a	21510.00	Latest average of the index contract

Total Length: 30 Bytes

11.2.2 Index Constituent Price Item – Message Type 144

Name	Length	Type	Description	Case	Example	Comment
Instrument Alpha Code	10	P	AN	U	AGL	Alpha Code of the instrument

Time Interval	4	B	N	n/a	10, 54, 55, 0	Time of the constituent price
Constituent Value	8	D	N	n/a	20150.00	Value of this minutes constituent price
Constituent Rolling Average	8	D	N	n/a	21510.00	Latest average of the constituent contract

Total Length: 30 Bytes

12. Error and Information Messages

12.0 Information Message

Number	Message	Why	When Sent	To Who
100	*Password changed successfully*	When changing the password, indicates that the password was changed successfully.	After sending a message type 88	The user on the socket connection
102	*Market Announcement*	The exchange can broadcast an announcement	At the exchange's discretion	All connected socket connections
108	*Generic Market Interaction message*	Notifications to members about deals assigned to them and other deal messages		Appropriate users
116	*Successful Client Loaded*	Client successfully loaded	When adding a new client (message type 102)	The user on the socket connection
120	*Your password expires in x days.*	Message to indicate when your password expires.	When validating your login message (0)	The user on the socket connection
123	*Mark to Market Rates is ready for download.*	The mark to market rates have been added for today and are ready for download.	After the end of day procedures have been completed	To all connected users.
124	*Daily Rates is ready for download.*	The daily SAFEX rates have been added for today and ready for download.	After the daily rates have been inserted by the exchange.	To all connected users
126	*The Re-Request service is currently un-available.*	The current volume of re-requests being dealt with by the exchange	After sending message type 3	The user on the socket connection

	Please try again later.	has exceeded the allowed limit, and the users request can only be dealt with when that volume has been reduced to below the limit.		
127	*Early Valuations are ready for download.*	Indicates that the early valuation data is ready to download.	After the early valuation procedure is completed by the exchange.	Users on the EDM market.
129	*Intraday Call Mark to Market Rates is ready for download*	Indicates that an intraday call has been completed and the market rates can be downloaded.	After an intraday call has been processed by the exchange	All connected users
130	*Shard x is currently unavailable.*	Indicates that the market shard for the destination of the message is currently unavailable.		The user which submitted the message.

12.1 Error Messages

Number	Message	Why	When Sent	To Who
2	*Order quantity below minimum*	The contract has been setup with a lotsize, and the bid quantity is below this	After sending a bid (message type 56)	The dealer who sent the bid message.
3	*Bid on contract was not a multiple of the lotsize*	The bid was entered for a contract which was setup with a lotsize, and the quantity was not a multiple of this.	After sending a bid (message type 56)	The dealer who sent the bid message.
7	*Trading on this contract is only allowed between x and x*	Order was placed on a contract which has not opened for trading.	After sending a bid (message type 56)	The dealer who sent the bid message.
8	*Your bid initial margin exceeds your limit*	The bid is for an order which exceeds the dealer's margin limit for this contract. This is determined by multiplying the	This message is sent when a bid message is received. If the dealer's margin limit for this contract has been exceeded, this error message is	The dealer who sent the bid message.

		initial margin of the contract by the quantity of the bid, and checking that against the dealer's limit.	returned immediately.	
12	*Invalid data in bid message: number of orders exceeds limit*	This message is sent when a user tries to send a bid message with the number of orders field which is greater than 10, or less than 0.	This message is sent when a bid message is received. If the number of orders is invalid, this error message is returned immediately.	The dealer who sent the bid message.
13	*Invalid data in bid message: Incorrect contract name or contract doesn't exist*	This message is sent when a user tries to send a bid message in which any one of the orders contains an invalid contract name.	This message is sent when a bid message is received. If the contract name in any of the orders is invalid, this error is returned immediately.	The dealer who sent the bid message.
18	*Could not find index for contract x*	Contract name specified is not in a valid format.		The dealer who sent the message.
19	*Could not create strike*	Contract name specified for the option contract was not valid.	After entering a bid on a new strike (message type 56)	The dealer who sent the bid message.
20	*Not a buy sell order*	The buy sell indicator specified was not valid, must be either B or S		The dealer who sent the bid message.
21	*Invalid Order type*	Order type parameter in the bid message was incorrect.	After sending a bid message (type 56)	The dealer who sent the bid message.
22	*Bid outside market limits*	The bid placed was outside the market limits for this contract	After sending a bid message (type 56)	The dealer who sent the bid message.
24	*Member does not exist*	Member code specified does not exist.		The dealer who sent the bid message.
25	*Order type not allowed*	Order type parameter in the bid message is not allowed on this particular contract	After sending a bid message (type 56)	The dealer who sent the bid message.
26	*Invalid client code*	Client code specified does not		The dealer who sent the

		exist		message.
27	*Not a valid member code*	Member code specified is not valid, must be 4 characters long		The dealer who sent the message.
28	*Not a valid clearing member code*	Clearing Member code specified is not valid, must be 5 characters and end with a C		The dealer who sent the message.
29, 30	*Invalid front end version*	The version specified in the login message is not supported by the exchange	After sending a login message	The dealer who sent the message.
31	*Dealer does not belong to member*	Dealer code specified is not a dealer for this member		The dealer who sent the message.
32	*Cannot book deals for other members*	The member code specified is not the same member as the logged in connection.		The dealer who sent the message.
33	*Invalid Principal*	Principle code supplied is not valid		The dealer who sent the message.
34	*Member does not belong to clearing member*	Member code specified is not a member of the clearing member		The dealer who sent the message.
35	*Cannot book deals for other clearing members*	The clearing member code specified is not the same clearing member as the logged in connection.		The dealer who sent the message.
36	*X is not a client of member*	Client code specified does not belong to logged in member		The dealer who sent the message.
37	*Invalid counterparty*	Counterparty specified is invalid, or does not exist		The dealer who sent the message.
39	*Dealer not found*	Dealer specified is not a dealer of the member		The dealer who sent the message.
40	*Invalid cancel*	Cancel flag		The dealer who

	flag	specified is not valid, must be 0 - 5		sent the message.
41	*Invalid reference number*	Reference number specified was invalid, must be 9 characters		The dealer who sent the message.
42	*Instrument not found*	Instrument specified does not exist		The dealer who sent the message.
43	*Contract Date not found*	Contract date specified does not exist		The dealer who sent the message.
44	*Strike not found*	Strike specified does not exist		The dealer who sent the message.
46	*Dealer not a master dealer*	The action specified can only be done by master dealers		The dealer who sent the message.
47	*FOK/TOK order cannot be satisfied*	This message indicates that a Fill or Kill, or Take or Kill order could not be satisfied, since the quantity available on the opposite side of the stack is not sufficient to satisfy the FOK or TOK execution constraint.	When a bid message is received with the FOK, or TOK flag set. The bid is validated, and if unsuccessful, the error will be returned.	The dealer who sent the bid message.
48	*All or nothing not allowed*	An all or nothing order was entered for a contract which does not allow all or nothing order	After sending a bid message (message type 56)	The dealer who sent the bid message.
49	*Trading on this contract is closed*	Each contract has an open time and a close time associated with it. If the time at which a bid or suspend message is received is before the open time, or after the close time, this message will be sent.	When a bid message or suspend/cancel message is received and the current time is outside contract open/close, then this message will be returned immediately.	The dealer who sent the bid or suspend/cancel message.
50	*Order quantity below minimum*	The contract has been setup with a lotsize, and the bid quantity is below this	After sending a bid (message type 56)	The dealer who sent the bid message.
51	*Bid on contract*	The bid was	After sending a bid	The dealer who

	was not a multiple of the lotsize	entered for a contract which was setup with a lotsize, and the quantity was not a multiple of this.	(message type 56)	sent the bid message.
52	*Invalid spread*	Price of the spread or split order would create orders on the underlying which is invalid	After sending a bid message on a spread or split contract	The dealer who sent the bid message.
53	*Odd Lots not allowed when underlying in auction*	This message is sent when a bid message is received for an odd lot order, and that contract is in auction.	This message is sent when a bid message is received for an odd lot order and the contract is in auction. This error message is then returned immediately.	The dealer who sent the bid message.
54	*Not allowed to change subscription*	This dealer is not authorised to change subscription policy		The dealer who sent the message.
60	*Limits specified must be positive*	When setting limits for a dealer, the values specified can only be positive		The dealer who sent the message.
62	*Principle Agency indicator is invalid*	Principle Agency indicator entered was invalid. Must be either P or A		The dealer who sent the message.
63	*Cannot suspend an order 1 minute before the end of Open Order Period*	Cannot suspend an order after 1 minute before the end of the Open Order Period		The dealer who sent the message.
64	*Spreads not allowed with underlying in auction*	This message is sent when a user tries to put up a bid on a spread, or split contract, and either one of the contracts which make up the spread or split contract are in auction.	This message is sent when a bid message is received, and the underlying contract of a spread or split contract is in auction. This message is then sent immediately.	The dealer who sent the bid message.
66	*Contract is suspended*	The contract specified is currently suspended from trading	After sending a bid message	The dealer who sent the message.
67	*Dealer code is empty*	The dealer code specified was not filled in		The dealer who sent the message.
68	*Incorrect price format*	The price format specified is incorrect		The dealer who sent the message.
69	*Strike cannot be*	The creation of the		The dealer who

	loaded	strike was unable to be completed		sent the message.
70	*Price cannot be less than zero*	Price specified on this contract cannot be less than 0		The dealer who sent the message.
71	*Quantity cannot be less or equal to zero*	Quantity specified on this contract cannot be less than or equal to 0		The dealer who sent the message.
72	*Must be a master dealer to perform this action*	Action specified to be performed can only be completed by master dealers		The dealer who sent the message.
73	*Contract not a valid contract*	This message is sent when the contract name in a message is not one which the system recognizes.	This message is sent if the contract name is invalid in any of the following message type: Display Update Request, Option Display Update Request, Bid Message, Suspend Message	The dealer who sent the message.
74	The active order selected cannot be found	The active order selected cannot be found in database	After sending a reduce message (message type 104)	The dealer who sent the message.
76	*Cannot reduce an order 1 minute before end of Open Order Period*	Orders submitted during Open Order period cannot be reduced, 1 minute before the end pf the Open Order Period	After sending a reduce message (message type 104)	The dealer who sent the message
77	*Cannot resubmit an order 1 minute before end of Open Order Period*	Orders suspended during Open Order Period cannot be resubmitted 1 minute before the end of Open Order Period	After sending a resubmit message (message type 27)	The dealer who sent the message
78	*Cannot suspend this order until market opens.*	Orders suspended during Open Order Period cannot be suspended until market open, if market open order period has closed	After sending a suspend message (message type 8)	The dealer who sent the message
80	*This order type has not been enabled on this contract.*	Order type specified has not been enabled.	After submitting multi bid message (message type 56)	The dealer who sent the message
81	*Order quantity x is less than 1 on contract x*	Order quantity submitted is less than 1	After submitting multi bid message (message type 56)	The dealer who sent the message
82	*Price cannot be less than or equal to 0.*	Order price submitted is less than 0 or equal to 0	After submitting multi bid message (message type 56)	The dealer who sent the message

83	*This order cannot be deleted as it is currently active. Please use message 8.*	You cannot use message type 15 to delete an active order.	After submitting cancel order (message type 15)	The dealer who sent the message
84	*The From Sequence cannot be larger than the To Sequence.*	You cannot specify an from sequence greater than the to sequence.	After submitting re-request message (message type 13)	The dealer who sent the message
87	*Order sequence x cannot be found.*	The order sequence number supplied could not be found in the database,	After cancelling a suspended order (message type 15)	The dealer who sent the message
101	*Invalid Password or Incorrect Date*	Password supplied is incorrect, or date used as not correct	After logging in (message type 0)	The user on the socket connection
103	*Invalid Old Password*	Password change contained the incorrect old password	After sending a message type 88	The user on the socket connection
104	*Submitted on screen limit invalid*	Submitted onscreen limits exceed existing limit	After sending limit change message (message type 6)	The user on the socket connection
105	*Submitted option limit invalid*	Submitted option limits exceed existing limit	After sending limit change message (message type 6)	The user on the socket connection
106	*Submitted report only limit invalid*	Submitted report only limits exceed existing limit	After sending limit change message (message type 6)	The user on the socket connection
109	*Member does not have position on this contract*	Giving notice for delivery on a contract on which you do not have a position	When doing a physical delivery (message type 128)	The user on the socket connection
110	*Can only give notice for delivery on a short position*	Giving notice for delivery on a long position.	When doing a physical delivery (message type 128)	The user on the socket connection
111	*Cannot give notice on certificate, because the certificate is not the same instrument as the delivery notice*	Cannot give notice on certificate, because the certificate is not the same instrument as the delivery notice	When doing a physical delivery (message type 128)	The user on the socket connection
112	*Number of contracts in notice exceeds total position*	Giving notice of delivery for more than your position allows	When doing a physical delivery (message type 128)	The user on the socket connection
113	*Silo Certificate Number is not within the valid range for this silo*	Silo Certificate Number is not within the valid range for this silo	When adding a new silo certificate (message type 129)	The user on the socket connection
114	*Invalid*	When loading a	When adding a new	The user on the

	multiplication factor	client, the multiplication factor must be either 100, 125, 150, or 170	client (message type 102)	socket connection
115	*Contact Details error*	Contact details supplied are invalid	When adding a new client (message type 102)	The user on the socket connection
117	*Market Period Rule error*	The current market period does not allow for the sent message type		The user on the socket connection
118	*You have no rights to perform this operation*	Indicates you do not have sufficient rights setup to send this message		All connected sockets
119	*Auction Notifications: "Contract xxx is entering an auction period." "Auction on contract xxx has been extended for 2 minutes." "Auction on contract xxx has been extended for 5 minutes." "Auction on contract xxx has closed."*	Indicates the begin and end of an auction period		All connected sockets
121	*Cannot delete a certificate which is ready for delivery or delivered.*	The certificate which you are trying to delete has already been delivered or is ready for delivery.	After send a delete silo certificate message (136)	The user on the socket connection
122	*Client doesn't belong to the member*	The member-client combination for which the margin multiplier is set is not correct	When sending a 150 message	To the dealer
123	*A Member must specify a multiplication factor for a client.*	The client sequence field is 0 and a member is sending the message	When sending a 150 message	To the dealer
124	*Members cant set the multiplication factor higher than what the clearing member specified*	The multiplication factor for the client is higher than what was specified.	When sending a 150 message	To the dealer
125	*Member Sequence must be filled in.*	The member sequence is not sent with the	When sending a 150 message	To the dealer

		message		
126	*Multiplication factor cant be less than 1*	The users is trying to set a multiplication factor that is less than 1	When sending a 150 message	To the dealer
1000	*Generic Exception*			

12.2 Market Period Announcements

Number	Message	Reason
102	Market online in 5 minutes	
102	Market online in 2 minutes	
102	Market online in 1 minute	
102	**Market online (Download only)**	Market has moved into a session where no trading is possible only, file downloads.
102	Market opens in 5 minutes	
102	Market opens in 2 minutes	
102	Market opens in 1 minute	
102	**Market open for trading**	Market has moved into a session where trading is allowed.
102	Market closes in 5 minutes	
102	Market closes in 2 minutes	
102	Market closes in 1 minute	
102	**Market closed (Admin period)**	Market has moved into a session where no on-screen trading is possible only report only activity and deal management activities.
102	Market offline in 5 minutes	
102	Market offline in 2 minutes	
102	Market offline in 1 minute	
102	**Market offline**	Market has moved into a session where no system interaction is possible.
102	Market Open Order period in 5 minutes	
102	Market Open Order period in 2 minutes	
102	Market Open Order period in 1 minute	
102	**Start of Market Open Order period**	Market has moved into a session where pre-open trading is possible. During this period orders can be placed on the order book in preparation for market open

13. Appendix A: Links to algorithms

13.1 Encryption URL

http://www.schneier.com/blowfish-download.html

13.2 Compression URL

http://www.programmersheaven.com/download/2215/download.aspx

14. Distribution

List the names and divisions/departments of the persons to whom this document will be distributed. It is not necessary to include designations.

Name	Department
M. Janke	STT
Glenda De Wet	JSE
Arlette Macfarlane	JSE
Matthias Kempgen	JSE

15. Glossary

Term	Definition
A	Alpha only
ACK	Acknowledgement
AN	Alpha numeric
B	The field is made up of 1 or more bytes of type U
C	Single character ASCII equivalent
D	Intel/IEEE floating point 8 byte format
FF	Hex for 255
FOK	Fill or Kill
I	Intel Integer format; the length is defined
LZH	Compressed file format
JSE DERIVATIVES MARKETS TRADING SYSTEM REPLACEMENT	Multiple Instrument Trading System
MTM	Market to Market
N	Numeric only - Default for types I.U.D
NACK	Negative Acknowledgement
NOB	Number of bids
P	Pascal type string with leading length byte, maximum length is the defined length – 1. All strings in JSE DERIVATIVES MARKETS TRADING SYSTEM REPLACEMENT are represented in this manner
TCP / IP	Transmission Control Protocol / Internet Protocol
TOK	Take or Kill
U	Intel unsigned integer; the length is defined
URL	Uniform Resource Locator
XOR	Mathematical term for exclusive disjunction
Information Subscriber	Those entities which will be subscribing to the public data for their own use, and onward redistribution to their external clients.

16. Sign-Off

All parties signing this document acknowledge that they have read, understood and are committed to this document, including all attached schedules and diagrams.

Name:		**Name:**	
Designation:		**Designation:**	
Project Role:	Project Sponsor	**Project Role:**	Project Owner
Signature:		**Signature:**	
Date:		**Date:**	
Name:		**Name:**	
Designation:		**Designation:**	
Project Role:	A. N. Other	**Project Role:**	A. N. Other
Signature:		**Signature:**	
Date:		**Date:**	