ASX Signal B

FIX Specification Manual

December 2022

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1 Signal B Introduction

Signal B is a progressive intra-day electronic signal which disseminates details of an ASX Trading Participant's trade as soon as technically possible after they are executed on ASX. Signal B provides subscribers with trade data for all instruments listed on the ASX Trade Platform.

Only Trading Participants or a service bureau designated by a member organisation may gain access to Signal B. Trading Participants are only entitled to receive their own trades (i.e. any trade in which they are the buy or sell broker).

The Signal B feed distributes real-time trade confirmations to ASX Trading Participants in the industry standard Financial Information eXchange (FIX) format.

1.1 FIX Introduction

The Financial Information Exchange (FIX) Protocol is a message standard developed to facilitate the electronic exchange of information related to securities transactions. It is intended for use between trading partners wishing to automate communications.

The Signal B FIX Gateway supports FIX version 5.0 SP2.

A detailed description of FIX is available from the **FIX Trading Community** and includes all the technical specifications. Unless specifically stated, field numbers, names, and data types are as published by the FIX specification. A full explanation of the FIX protocol is out of scope for this document and customers should refer to the **FIX Trading Community** for a full understanding of the protocol prior to using this guide.

1.2 Signal B Availability

Signal B is available from 07:00 to 20:30 AEST/AEDT on trading days. Signal B will not be available on non-trading days.

In production, when Signal B participants require additional time past the standard closing time of 20:30 AEST/AEDT to complete receiving messages from a **ResendRequest** (2) from Signal B, participants may request for an extension of the closing time by contacting the ASX Information Services team (Information.Services@asx.com.au or +61 2 9227 0422). A time extension must be requested at least 30 minutes prior to the standard closing time (i.e. by 20:00 AEST/AEDT) and ASX reserves the right to refuse the request.

It is not possible to extend the closing time of the Industry Test Environment (ITE).

2 Document Information

This document describes:

- FIX overview to support Signal B capabilities
- Recovery and failover processes
- Rejection scenarios
- Signal B FIX messages including:
  - Common message structures, including standard header and standard trailer definitions
  - FIX session layer - the structure of the **Logon** (A), **Heartbeat** (0), **TestRequest** (1), **ResendRequest** (2), **Reject** (3), **SequenceReset** (4) and **Logout** (5) messages
  - Trade Capture Report messages (AD, AQ, AE)
  - Supported general messages

This document is written from ASX's perspective so inbound messages refers to messages that ASX receives, and outbound messages refers to messages sent from ASX.

2.1 Version History

This document has been revised according to the table below:

Version	Date	Comment
1.0	Jul 2021	Initial release of specification.
1.1	Aug 2021	• Updated document template • Updated tag 20003 description in TradeCaptureReport (AE) • Updated tag 54 values in TradeCaptureReport (AE) • Updated tag 1 description in TradeCaptureReport (AE) • Updated sample message example in 6.3.3 TradeCaptureReport (AE) Example for Cross Short • Updated Appendix – Trade Condition Codes section
1.2	Nov 2021	• Updated document structure and section arrangements • Updated the content in Signal B Availability (section 1.2) • Updated the content in Document Information (section 2) • Updated the Glossary table (section 2.2) • Updated Section 3 and added content • Added Recovery section (section 4) • Moved Failover section to section 5 and updated content • Added Rejection Scenarios in section 6 • Added Messages section (section 7) and moved all message types under this section • Added examples across most message types • In Section 7 – Messages, several updates to tag descriptions and other columns • Updated and moved Trade Condition Codes Table in the Appendix to 8.2 • Renamed “Basis of Quotation Table” to “Corporate Action (Basis of Quotation) Table” in the Appendix and moved to section 8.3 • Moved Security Type Table in the Appendix to 8.4
1.3	Feb 2022	• Added a Logout message will be sent if authentication fails for username, password and IP address (section 3.10) • Added a rejection scenario if authentication fails for an invalid IP source address (section 6) • Updated the number of times a client can attempt to log on from 3 to 6 times (section 7.2.1) • Added example when ASX may initiate a Logout to include incorrect IP addresses (section 7.2.13)

Version	Date	Comment
		• Updated that tags 20003 and 20007 are an extension of the FIX tags (section 7.3.5) • Updated Trade Capture Report (AE) to indicate that Tag 20003 is Conditional and not Mandatory and that Trade Condition Code is a two-character code indicating the condition(s) under which the sale was affected except where null value indicates a normal trade (section 7.3.5) • Included Exercise Price (Strike Price) in Discontinued Signal B fields (Appendix 8.1) • Included Number of Contracts in Discontinued Signal B fields (Appendix 8.1) • Included Reversal Reason Code in Discontinued Signal B fields (Appendix 8.1)
1.4		• Corrected description for Tag 31 (section 7.3.5) • Corrected description for Tag 381 (section 7.3.5) • Included legacy message types in Security Type table (section 8.4)
1.5		• Updated order of FIX tags (section 3.1) • Updated FIX Message samples (section 3.7) • Updated Rejection Scenario (section 6) • Added a possible value for Tag 749 (section 7.3.3) • Changed Signal B requirement for Tag 106(section 7.3.5) • Included masking information in the security type table (section 8.4)
1.6		• Updated Trade Condition Codes (section 8.2)
1.7		• Change Signal B requirement for Tag 1409 (section 7.2.13)
1.8		• Added new Possible values Tag 577 (section 7.3.5) • Update to the description for Tag 1125 and Tag 1015 (section 7.3.5)

2.2 Glossary

Glossary	Description
ACK	Acknowledge. Response to an ENQ (enquiry) or an indication of successful receipt of a message.
ALC	Australian Liquidity Centre.
AMO	Approved Market Operator. A company that is an approved trading venue in Australia.
ASCII	American Standard Code for Information Interchange. This is a character encoding standard for electronic communication.
CFI	Classification of Financial Instruments.
Cross	Client sends Broker a buy or sell order. Broker wishes to take the other side and cross with the client. Broker sends an order with *TrdConditionCode* (20003) = XT (Cross Trade) to an exchange.
FIX	Financial Information eXchange Protocol.
ISIN	International Securities Identification Number. Unique identifier issued to identify each financial instrument.
OTC	Over-the-Counter.
SDC	Secondary Data Centre.
SOH	Start of Heading. In message transmission, delimits the start of a message header.
TLS	Transport Level Security. This is the encryption method that is supported by Signal B.
TMC	Tailor-Made Combination. Tailor-Made Combinations provide the flexibility to execute trading strategies with particular single series components.
TSN	Trade Slip Number. This term is used interchangeably as the *TradeID* (1003). This is assigned to the trade entity once it is received or matched by the exchange or central counterparty.
UTC	Coordinated Universal Time is the primary 24-hour time standard that the world regulates time.
>	This symbol indicates that the tag/field is repeatable once.
>>	This symbol indicates that the tag/field can be repeated within a repeatable group.

3 FIX Overview to Support Signal B Capabilities

3.1 Formatting

A FIX message is composed of a collection of "(Field tag) = (Field value)" format. Every FIX field has an associated data type that limits the possible values for the characters used to fill this field.

The order of the tags must follow the header, body and trailer format with all messages having the first tag as *BeginString* (8), the second tag as *BodyLength* (9), the third tag as *MsgType* (35) and the final tag must be *CheckSum* (10). In this document, FIX messages are indicated in **bold** and FIX tags are indicated in *italics*.

3.2 Definition of Required Column Values

The 'Signal B Requirement' column in the Messages section of this document has been revised according to the table below.

Values	Comment
Mandatory	Defined as required in FIX 5.0 SP2 or by ASX to implement functionality
Conditional	Conditionally required by either FIX protocol or by ASX to implement functionality
Optional	Tag may be omitted by either ASX or the client or both

3.3 Data Types

The table below provides the definition of the FIX data types mentioned in this document.

Data Type	Description
String	Alpha-numeric free format strings which can include any character or punctuation except for the delimiter. All string fields are case sensitive.
Float	Sequence of digits with optional decimal point and sign character (ASCII characters "-", "0" - "9" and "."); the absence of the decimal point within the string will be interpreted as the float representation of an integer value. Note that float values may contain leading zeros (e.g. "00023.23" = "23.23") and may contain or omit trailing zeros after the decimal point (e.g. "23.0" = "23.0000" = "23" = "23."). Note that fields which are derived from float may contain negative values unless explicitly specified.
Int	Sequence of digits without commas or decimals and optional sign character (ASCII characters "-" and "0" - "9"). The sign character utilises one byte (i.e. positive int is "99999" while negative int is "-99999"). Note that int values may contain leading zeros (e.g. "00023" = "23").
Boolean	This is a character field containing one of two values: • Y = True/Yes • N = False/No

Length: when there is a limit in the length, a value is provided in the Data Type column within []. For example, String [19] indicates that 19 characters is the maximum number of characters that ASX will send or process on incoming messages.

3.4 Date and Timestamp

Signal B supports the UTC Timestamp second (YYYYMMDD-HH:MM:SS) and milliseconds (YYYYMMDD-HH:MM:SS.sss) formats. Time conventions that do not meet these formats will be rejected.

3.5 Handling of Unsupported Messages and Tags

- Any message that is not listed in this specification will be rejected with a **BusinessMessageReject** (j) message.
- When a message is rejected at a session level, a **Reject** (3) message will be sent from Signal B.
- Unless otherwise specified, if a message listed in this specification is received with a tag that is not in this specification, then the message will be rejected with a **Reject** (3) message.
- Fields or tags that are indicated as "Mandatory" or "Conditional" under the 'Signal B Requirement' column, can lead to a rejection if not provided.
- All fields or tags can lead to a rejection if the format is different from the format required as indicated in this specifications document or by the standard FIX version 5.0 SP2.
- Fields with a null value are considered as not provided.

Please refer to Section 6 Rejection Scenarios for further details. For the fields that have been discontinued from the legacy Signal B service, please refer to Section 8.1 Discontinued Signal B Fields.

3.6 Duplicated Tags

ASX will ignore duplicate tags that contain the same value. However, when tags are duplicated but have unique values, ASX will process the last tag and ignore the first instance of the tag.

3.7 Message Examples

The message examples provided in this document are for guidance only.

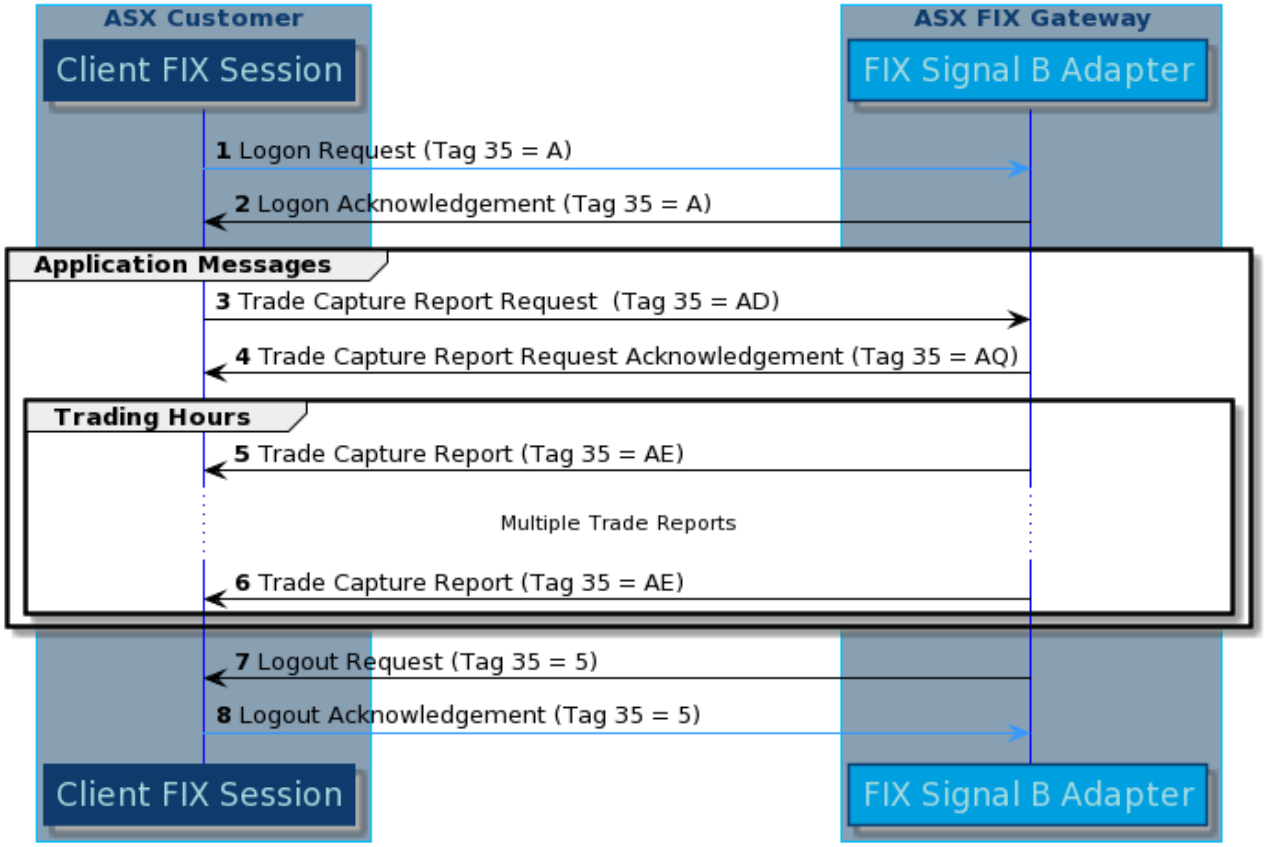
Message Examples	Section Number
Logon (A)	7.2.2
Heartbeat (0)	7.2.4
TestRequest (1)	7.2.6
ResendRequest (2)	7.2.8
Reject (3)	7.2.10
SequenceReset (4)	7.2.12
Logout (5)	7.2.14
TradeCaptureReportRequest (AD)	7.3.2
TradeCaptureReportRequestAck (AQ)	7.3.4
TradeCaptureReport (AE)	7.3.6
BusinessMessageReject (j)	7.4.2

3.8 Encryption

Signal B supports Transport Level Security (TLS) version 1.2 encryption; it does not rely on native FIX encryption. Signal B participants will be required to trust the certificate issued from the ASX.

3.9 Overall FIX Communication Workflow

The high-level process from logging onto the Signal B FIX Gateway to generating the Trade Capture Reports to logging out are illustrated in the diagram below.



Note: this diagram does not include **Heartbeat** (0), **TestRequest** (1), **ResendRequest** (2), **Reject** (3), **SequenceReset** (4) and **BusinessMessageReject** (j).

3.10 Process in Connecting to the FIX Server

The Signal B FIX gateway will only allow client FIX sessions to connect from an ASX Net site or from a cabinet in the ALC. Existing VPN connections will cease to exist once the legacy Signal B platform is decommissioned.

The first Logon (A) message of the day must contain *ResetSeqNumFlag* (141) = Y. This is to ensure both the client FIX session and the Signal B FIX Gateway resets its *MsgSeqNum* (34) at the start of the day. The FIX gateway will authenticate the username, password (specified in the FIX tags) and source IP address (detected by the FIX gateway).

3.11 Sequence Number Gap Management

ASX uses message sequence numbers to maintain an orderly exchange of messages between the exchange and the client. ASX and the client will each maintain its own set of inbound and outbound message sequence numbers. Sequence numbers should reset at the start of the day and increment throughout the session. Any message sent by one side of a FIX session will increment the sequence number. A FIX session will not continue to the next trading day so both sides are expected to initialise the sequence numbers at the start of each trading day.

A gap between the message sequence numbers may indicate the possibility of missed messages which usually implies the need for re-synchronisation of message sequence numbers between the Exchange and the client. Re-

synchronisation needs to be done to ensure an orderly state of information in each party's systems and the exchange during day-to-day runs, as well as in cases of recovery after disruptive incidents.

This section describes various cases and associated behaviour when gap of sequence numbers is detected by the exchange as well as how to fill the gap via retransmission.

3.11.1 Upon a Logon Request

Both the *MsgSeqNum* (34) and *NextExpectedMsgSeqNum* (789) are mandatory in the Logon (A) message to assist with identifying any sequence number gaps.

Clients must use the *NextExpectedMsgSeqNum* (789) tag in the **Logon** (A) message to indicate the sequence number that was last received from the Exchange incremented by one (+1). This must be set to 1 in the first Logon of the day. If the *NextExpectedMsgSeqNum* (789) value is higher than expected, ASX will increment its *MsgSeqNum* (34) to match the client's *NextExpectedMsgSeqNum* (789) value to avoid closing the session. If the *NextExpectedMsgSeqNum* (789) is lower than expected, the **Logon** (A) request sent by the client will still proceed and client will need to send a **ResendRequest** (2) message to fill in the gap.

The session initiator must wait until the **Logon** (A) acknowledgement from counterparty is received before sending other messages. Once the **Logon** (A) acknowledgement is received, the session initiator must validate that the *MsgSeqNum* (34) and *NextExpectedMsgSeqNum* (789) does not represent a gap.

The table in the following page presents the scenarios when a gap is detected upon Logon and the expected behaviours. This is from the Exchange's perspective.

MsgSeqNum (34)	NextExpectedMsgSeqNum (789)	Behaviour
Value received is expected.	Value received is expected.	Normal message transmission.
Value received is expected.	Value received is lower than expected.	• ASX will acknowledge the logon request and respond with a **Logon** (A). However, the outgoing *MsgSeqNum* (34) value will be higher than the client's expected value. • Client will detect the gap and send a **ResendRequest** (2) with *BeginSeqNo* (7) = the last sequence number it expected to receive, and *EndSeqNo* (16) = the Exchange's last *MsgSeqNum* (34) sent. • ASX will resend the missing messages. Other message transmissions will pause until retransmissions are completed.
Value received is expected.	Value received is higher than expected.	ASX will override its outbound message sequence number to synchronise with the client's value and continue message transmission as normal.
Value received is higher than expected.	Value received is expected.	ASX will send a **ResendRequest** (2) message to request for the missing messages.
Value received is higher than expected.	Value received is lower than expected	• ASX will send a **ResendRequest** (2) message to request for the missing messages. • After retransmission is complete, ASX will proceed with normal transmission but once ASX sends *MsgSeqNum* (34) = value higher than client's expected *MsgSeqNum* (34), client will send a **ResendRequest** (2). • ASX will then resend the missing messages. Other message transmissions will pause until retransmissions are completed.
Value received is higher than expected.	Value received is higher than expected.	• ASX will send client a **ResendRequest** (2) message to request for the missing messages. • After retransmission is complete, client's next **Logon** (A) will contain a higher 789 value. ASX will then override its outbound *MsgSeqNum* (34) to synchronise with

MsgSeqNum (34)	NextExpectedMsgSeqNum (789)	Behaviour
		client's *NextExpectedMsgSeqNum* (789) value and continue message transmission as normal.
Value received is lower than expected	Value received is expected.	• ASX will send **Logout** (5) with *SessionStatus* (1409) = 9 (sequence number too low) with reason in *Text* (58) as "Sequence number too low. Expected sequence number is <expected inbound sequence number>. Received <actual sequence number> instead". • *LastMsgSeqNumProcessed* (369) in the **Logout** (5) will indicate the last message sequence number received from the client. Client can use this number to modify its *MsgSeqNum* (34) value in the next **Logon** (A) message to re-establish connection.
Value received is lower than expected	Value received is lower than expected	• ASX will send **Logout** (5) with *SessionStatus* (1409) = 9 (sequence number too low) with reason in *Text* (58) as "Sequence number too low. Expected sequence number is <expected inbound sequence number>. Received <actual sequence number> instead". • *LastMsgSeqNumProcessed* (369) in the **Logout** (5) will indicate the last message sequence number received from the client. Client can use this number to modify its *MsgSeqNum* (34) value in the next **Logon** (A) message to re-establish connection. • When the **Logon** (A) message 789 value is lower than expected, ASX will wait until client sends a **ResendRequest** (2) before retransmitting the client's missed messages.
Value received is lower than expected	Value received is higher than expected.	• ASX will send **Logout** (5) with *SessionStatus* (1409) = 9 (sequence number too low) with reason in *Text* (58) as "Sequence number too low. Expected sequence number is <expected inbound sequence number>. Received <actual sequence number> instead". • *LastMsgSeqNumProcessed* (369) in the **Logout** (5) will indicate the last message sequence number received from the client. Client can use this number to modify its *MsgSeqNum* (34) value in the next **Logon** (A) message to re-establish connection.

MsgSeqNum (34)	NextExpectedMsgSeqNum (789)	Behaviour
		• The client's **Logon** (A) will contain a higher 789 value. ASX will then override its outbound *MsgSeqNum* (34) to synchronise with client's *NextExpectedMsgSeqNum* (789) value and continue message transmission as normal.

3.11.2 During the Trading Session

During a trading session, the *MsgSeqNum* (34) tag in the message header must be checked to determine if the value provided in this tag aligns to the expected value. If the value does not align, then this indicates that there is a gap.

Once a gap is detected, clients have the option to perform one of the following message retransmissions:

- Request for a retransmission of a specific range of messages – by sending a **ResendRequest** (2) message with *BeginSeqNo* (7) = sequence number of the first message in range to be resent and *EndSeqNo* (16) = sequence number of the last message to be resent. The Signal B FIX Gateway will pause the stream of messages and retransmit **TradeConfirmationReport** (AE) messages that are from the *BeginSeqNo* (7) until the *EndSeqNo* (16) values.
- Request for a retransmission of all messages sent starting from a specific message sequence number – by sending a **ResendRequest** (2) message with *BeginSeqNo* (7) = sequence number of the first message in range to be resent and *EndSeqNo* (16) = 0. The Signal B FIX Gateway will pause the stream of messages and retransmit all **TradeConfirmationReport** (AE) messages. The value "0" in the *EndSeqNo* (16) indicates a request for all messages from *BeginSeqNo* (7) until the last *MsgSeqNum* (34) that was sent.

During a retransmission, the Signal B FIX Gateway will resend the application messages [i.e., **TradeCaptureReport** (AE), **TradeCaptureReport** (AQ)] and **SequenceReset** (4) messages will be sent as a gap fill to replace the administration messages [i.e., **Logon** (A), **Logout** (5), **Heartbeat** (0), **TestRequest** (1), **ResendRequest** (2), **Reject** (3), **SequenceReset** (4), **BusinessMessageReject** (j)]. All retransmitted messages will contain *PossDupFlag* (43) = Y.

3.11.3 Upon a Logout Request

3.11.3.1 End of Day Logout

At closing time of the trade day, ASX will send a **Logout** (5) and close the FIX session regardless of any sequence number gaps or retransmissions that are in progress. If the client requires any retransmissions that are missed or incomplete after the closing time or from previous dates, the client will need to contact Customer Technical Support (cts@asx.com.au) to request a manual retransmission.

If the client can foresee that messages received from a **ResendRequest** (2) may exceed the Signal B closing time of 20:30 AEST/AEDT, the client should follow the procedure in Section 1.2 Signal B Availability for instructions on requesting an extension.

3.11.3.2 Intraday Logout

If either party sends a **Logout** (5) during trading hours, it indicates that there has been a disruption in the connection and the logout request will proceed without filling in the gap.

Please refer to Section 5. Failover for details on recovering from an interrupted session.

4 Recovery

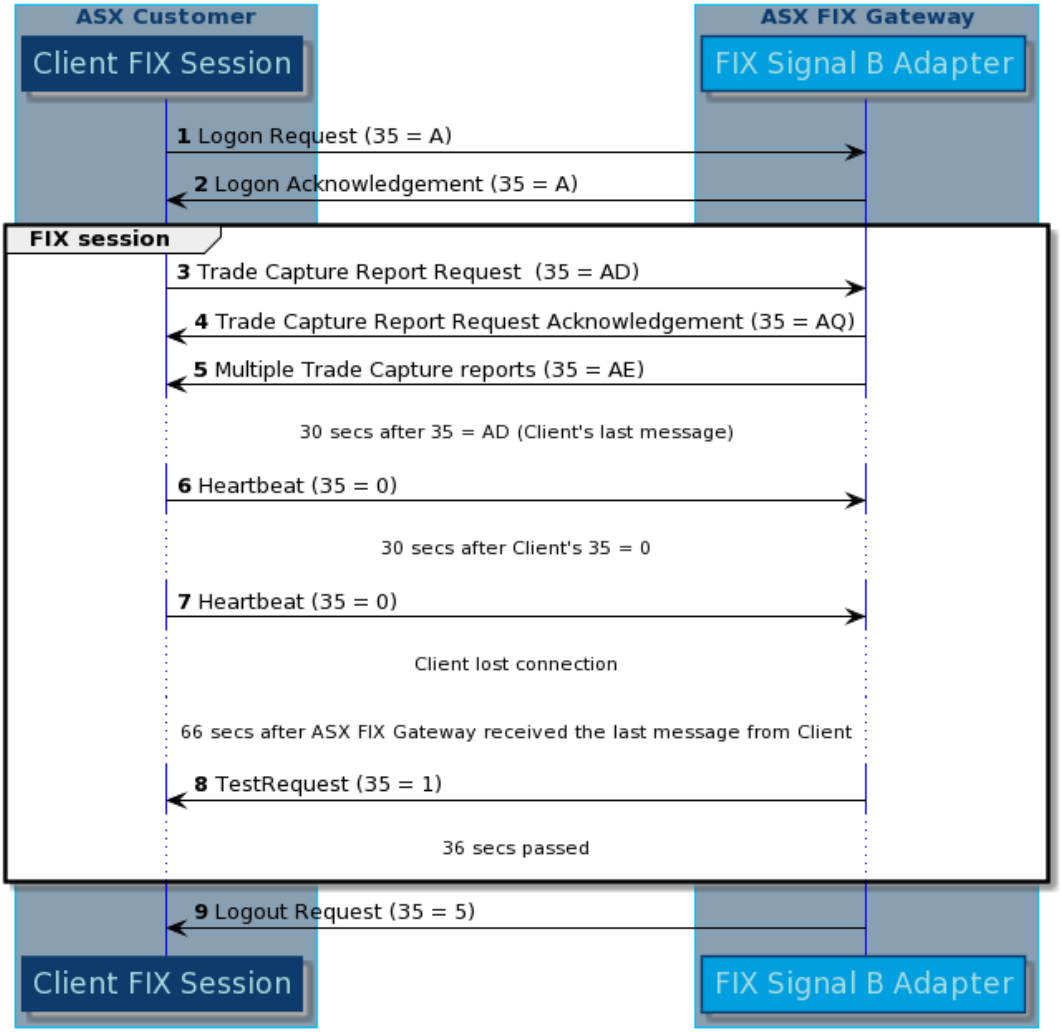
Signal B has been designed with fault tolerance and disaster recovery technology that ensures message transmission resumes in the event of loss of connection or server outage. This section, along with Section 5 Failover, details the process to recover from an outage or failover.

4.1 Lost Connection and Recovery

ASX requires heartbeat intervals to be 30 seconds for both incoming and outgoing messages (as specified in the *HeartBtInt* (108) tag of the **Logon** (A) message). When the connection on both sides are active, each party will send a **Heartbeat** (0) message after 30 seconds from its previous message sent (if there are no other messages to send) to indicate to the counterparty that its connection is still active.

When either side of the connection has not received any message for 66 seconds (i.e. no **Heartbeat** (0) after 30 seconds + 36 seconds of reasonable heartbeat transmission time) after receiving the counterparty's last message, a **TestRequest** (1) message will be sent to the counterparty to validate if the counterparty is still active. The counterparty then has 36 seconds to respond with a **Heartbeat** (0) message. A failure to respond to the **TestRequest** (1) message indicates a network issue or the counterparty (either the client FIX session or the Signal B FIX Gateway) is no longer available. The sender of the **TestRequest** (1) will then disconnect by sending a **Logout** (5) message.

The workflow diagram below illustrates the **Heartbeat** (0) and **TestRequest** (1) messages behaviour when the connection in the Client FIX Session is lost.



If the disconnection originates from the Signal B FIX Gateway, clients will need to disconnect by sending a **Logout** (5) message and then contact CTS. CTS will distribute the communication of when the Signal B FIX Gateway is reconnected. While the gateway is unavailable, the client FIX session should continue to attempt logon by sending the **Logon** (A) message every 30 seconds no more than 3 times.

If the disconnection originates from the client FIX session, the gateway will stop sending trade confirmations (**TradeCaptureReport** (AE) messages), initiate a **Logout** (5) message, and any queued messages will be available to send upon reconnection.

Once connection is re-established, the client FIX session will need to reinitiate a logon by sending a **Logon** (A) message. If the *MsgSeqNum* (34) is the correct client outbound (ASX's inbound) sequence number (i.e. the last message sequence number value +1) in the **Logon** (A) message header, the client can continue sending and receiving messages from where it left off. Otherwise, the **Logon** (A) message will be rejected with a **Logout** (5) message (refer to Section 6 for Rejection Scenarios).

The client application must follow the processes detailed in Section 3.11 Sequence Number Gap Management to identify lost messages and manage the message sequence number gaps.

If a **TradeCaptureReportRequest** (AD) message has been sent prior to the disconnection event and a **TradeCaptureReportRequestAck** (AQ) message has been received, another **TradeCaptureReportRequest** (AD) message will not be required after reconnecting.

The Signal B FIX Gateway does not support the reset of sequence numbers after a lost connection (*ResetSeqNumFlag* (141) must be "N" intraday). The reset of sequence numbers (*ResetSeqNumFlag* (141) = Y) must only be done on the first **Logon** (A) message of the day.

The table below describes this recovery process.

Step Number	Process
1	Client/Signal B FIX Gateway disconnects during the day. The process of acknowledging that there is a disconnection event is as follows: a. If no messages are received from the counterparty after 66 seconds (i.e. no **Heartbeat** (0) message after 30 seconds + 36 seconds of reasonable heartbeat transmission time), a **TestRequest** (1) message will be sent to ensure that the counterparty is still active. b. The counterparty has 36 seconds to respond with a **Heartbeat** (0) message. c. A failure to respond to the **TestRequest** (1), which will be a total of 102 seconds from the last message sent by the counterparty, indicates a possible network issue or the counterparty (either the client FIX session or Signal B FIX Gateway) is no longer available. The sender of the **TestRequest** (1) message will disconnect by sending a **Logout** (5) message.
2	The connection is re-established.
3	Client sends a valid **Logon** (A) Request. For the **Logon** (A) message to be accepted without a rejection, it must satisfy the below requirements: a. If the **Logon** (A) message is intraday (i.e., after the first **Logon** (A) message of the day), *ResetSeqNumFlag* (141) must be "N" (or not included in the message). b. *MsgSeqNum* (34) must be the correct outbound message sequence number. c. *NextExpectedMsgSeqNum* (789) must be indicated to be the next expected sequence number that client will receive from ASX Once the gateway receives a valid **Logon** (A) request, the logic proceeds to step 4.
3a	If client sends a **Logon** (A) message with *ResetSeqNumFlag* (141) = Y, ASX will reject by sending a **Logout** (5) message with *Text* (58) = Reset flag cannot be enabled. The connection is not established and client needs to re-attempt to logon satisfying the requirements in step 3.

Step Number	Process
3b	If client sends a **Logon** (A) message with a *MsgSeqNum* (34) that is lower than the expected message sequence number, ASX will reject the message by sending a **Logout** (5) message with *LastMsgSeqNumProcessed* (369) = the last message sequence number ASX received from the client (i.e., client's last outbound message sequence number). Client can then send a **Logon** (A) message with the correct *MsgSeqNum* (34) (i.e., *LastMsgSeqNumProcessed* (369) value +1) to connect to the Signal B FIX Gateway. ASX will then acknowledge the logon request by responding with a **Logon** (A) message.
3c	If client sends a **Logon** (A) message with a *NextExpectedMsgSeqNum* (789) that is higher than the ASX's record of the next expected sequence number, the Signal B FIX Gateway will override its next outbound *MsgSeqNum* (34) to match the client's *NextExpectedMsgSeqNum* (789) value and proceed to send a **Logon** (A) acknowledgement message. If client sends a **Logon** (A) message with a *NextExpectedMsgSeqNum* (789) that is lower than the next expected sequence number that ASX will send, the gateway will still proceed to send a **Logon** (A) acknowledgement message. Client will need to handle the sequence number gap and send a **ResendRequest** (2) message to receive the missing messages.
4	ASX sends **Logon** (A) message acknowledging the client's **Logon** (A).
5	If client has already sent a **TradeCaptureReportRequest** (AD) message and a **TradeCaptureReportRequestAck** (AQ) message has been received prior to the disconnection event, the Signal B FIX Gateway will proceed to continue sending the **TradeCaptureReport** (AE) messages from where it left off. Client is not required to send another **TradeCaptureReportRequest** (AD) message after reconnecting.

4.2 Possible Resends and Duplicated Messages

There may be instances when the Signal B FIX Gateway sends duplicated messages without indication of a possible duplication in the *PossResend* (97) tag.

When the gateway transmits messages, it creates logs in the ASX database that the message(s) has been transmitted. If the gateway experiences a disruption and the logging of messages is interrupted, it may result in a discrepancy between the message(s) that the ASX database logged as sent and the actual messages that the client has received.

Once the system is restored, there will be a discrepancy between the client's next expected inbound sequence number (from ASX) and ASX's next outbound message sequence number. To mitigate this gap and avoid closing the session, when client sends a **Logon** (A) message with *NextExpectedMsgSeqNum* (789) = a value higher than ASX's outbound *MsgSeqNum* (34), ASX will overwrite its *MsgSeqNum* (34) value to match the client's expected number. However, as the ASX database was not able to log the messages that were sent during the disruption, ASX will resume sending messages preceeding the last message that was logged and label it as the client's *NextExpectedSeqNum* (789) value. This will result in a duplication with the client's message(s) previously received before the crash. Clients will need to manage any potential duplicated messages.

In the event the gateway is disrupted before the client message(s) is stored in the database, the client's next *MsgSeqNum* (34) may become greater than the ASX's expected inbound message sequence number from the client. To fill this gap, ASX will send a **ResendRequest** (2) to the client.

In the event the client's FIX session is interrupted before receiving ASX's message(s), ASX's next *MsgSeqNum* (34) will become greater than the client's expected inbound message sequence number from ASX. To fill this gap, client will need to send a **ResendRequest** (2) to ASX.

The sender of the **ResendRequest** (2) must use the *PossDupFlag* (43) when retransmitting messages from the **ResendRequest** (2) to indicate the message(s) has been transmitted previously.

5 Failover

Connectivity to the Signal B FIX service is provided by a primary gateway instance in the ALC and the secondary instance in the SDC. The ASX Net service exposes one IP address and port for client connections. This single IP address and port will transfer clients from the ASX ALC to SDC when the connection to the primary gateway is lost. Signal B clients do not require any reconfiguration to failover to the secondary site or failback to the primary site. In case of data centre failover, CTS will manage the communication with clients to ensure that FIX sessions can reconnect to the Signal B FIX service.

In the event of an interruption during a failover, clients should attempt to reconnect to the Signal B FIX Gateway following the process detailed in Section 4.1 Lost Connection and Recovery.

Upon reconnecting to the gateway, both the *MsgSeqNum* (34) and *NextExpectedMsgSeqNum* (789) are mandatory in the Logon (A) message to assist with identifying any sequence number gaps. Clients can use the **ResendRequest** (2) message to recover any lost messages on the same trading day. However, the administration messages [i.e., **Logon** (A), **Logout** (5), **Heartbeat** (0), **TestRequest** (1), **ResendRequest** (2), **Reject** (3), **SequenceReset** (4), **BusinessMessageReject** (j)] will be replaced by a **SequenceReset-GapFill** (4) message. The process of identifying and managing the possible message sequence number gaps are detailed in Section 3.11 Sequence Number Gap Management.

There may be instances where the gateway sends duplicated messages as a result of a failover event. Please refer to Section 4.2 Possible Resends and Duplicated Messages.

6 Rejection Scenarios

As mentioned in Section 3.5 – Handling of Unsupported Message and Tags, the Signal B FIX Gateway will reject any inbound message that are not supported or are formatted incorrectly e.g. missing a mandatory field, if the provided tag values are outside of the range of the possible values, or the mandatory or conditional (where applicable) tags are missing.

The rejection levels are:

- FIX session level rejection: the reasons that results in this type of rejection are related to the way a client's FIX session is communicating with the gateway
- FIX application-level rejection (business rejection): the reasons that results in this type of rejection are related to the data contained in the requests sent by the client's FIX session

The table below identifies specific cases when tags or values provided can result in either a rejection or disconnection from the gateway.

Rejection Scenario	Signal B FIX Gateway Behaviour
Client sends a message type that is unsupported by the Signal B FIX Gateway. E.g. 35=D.	ASX sends a **BusinessMessageReject** (j) message with *BusinessRejectReason* (380) = 3 (unsupported message type).
Client sends a **TradeCaptureReportRequest** (AD) message after the first **TradeCaptureReportRequest** (AD) message.	ASX sends a **TradeCaptureReportAck** (AQ) message with *TradeRequestStatus* (750) = 2 (rejected).
Client sends a message that contains an invalid tag number.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 0 (invalid tag number).
Client sends a message where a mandatory tag or an applicable conditional tag is missing.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 1 (required tag missing).
Client sends a message where a tag is not defined for the message type.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 2 (tag not defined for this message type).
Client sends a message where a tag specified is missing a value.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 4 (tag specified without a value).
Client sends a **ResendRequest** (2) message with *BeginSeqNo* (7) or *EndSeqNo* (16) = a number that is out of range.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 5 (value is incorrect (out of range) for this tag).

Rejection Scenario	Signal B FIX Gateway Behaviour
Client sends a **ResendRequest** (2) message with *BeginSeqNo* (7) or *EndSeqNo* (16) is an invalid format such as an alphabet (e.g. “a”).	ASX first sends a **Reject** (3) with *SessionRejectReason* (373) = 6 (incorrect data format for value). Then, sends a **Logout** (5) with *Text* (58) = “Long value is expected: Actual value of tag # is ‘<insert value>’”.
Client sends a message with incorrect trade date format (75 ≠ DDMMYYYY).	ASX sends a **TradeCaptureReportRequestAck** (AQ) with *TradeRequestResult* (749) = 8 (Trade request type not supported) and *Text* (58) = TradeDate not as expected.
Client sends a **ResendRequest** (2) message with *PossDupFlag* (43) = Y, *OrigSendingTime* (122) is greater than *SendingTime* (52), and *MsgSeqNum* (34) is as expected.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 10 (*SendingTime* (52) accuracy problem).
Client sends a message with a message header with tags 8, 9 and 35 not in its respective order at the start of the message and/or a message trailer without tag 10 as the last tag in the message.	ASX sends a **Reject** (3) with *SessionRejectReason* (373) = 14 (tag specified out of required order).
Client sends a **Logon** (A) message with incorrect *SenderCompID* (49).	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 4 (session logout complete) with reason in *Text* (58) = “Incorrect Comp ID when Logon”.
For the first **Logon** (A) message of the day, client sends a **Logon** (A) message with the *ResetSeqNumFlag* disabled (141=N).	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 4 (session logout complete) with reason in *Text* (58) as “Logout complete – Reset flag need to be enabled for the first logon request”.
Client sends a **Logon** (A) message with *ResetSeqNumFlag* enabled (141=Y) after the reset sequence flag has been initiated in the first **Logon** (A) message.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 4 (session logout complete) with reason in *Text* (58) as “Logout complete – Reset flag cannot be enabled”.
Client sends a **Logon** (A) message with invalid username or password.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 5 (invalid username or password).
Client sends a **Logon** (A) message with incorrect password for more than the maximum number of times allowed.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 6 (account locked).
Client sends a **Logon** (A) message outside of the Signal B available time.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 7 (logons are not allowed at this time).

Rejection Scenario	Signal B FIX Gateway Behaviour
Client sends a **Logon** (A) message when ForgeRock is not available for authentication regardless of whether the Signal B FIX Gateway is available or not.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 7 (logons are not allowed at this time).
Client sends a **Logon** (A) message with an expired password.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 8 (password expired).
Client sends a **Logon** (A) message with a sequence number that is lower than the expected sequence number.	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 9 (sequence number too low) with reason in *Text* (58) = "Sequence number too low. Expected sequence number is <expected inbound sequence number>. Received <actual sequence number> instead".
Client sends a **Logon** (A) message with a *HeartBtInt* (108) value that is not equal to 30 (seconds).	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 104 (*HeartBtInt* (108) must be equal to 30) with reason in *Text* (58) = "Invalid Heartbeat interval. Expected value is 30 (s)".
Client sends **Logon** (A) message that could not be recognised (containing missing or invalid values).	ASX sends a **Logout** (5) with *SessionStatus* (1409) = 106 (**Logon** (A) message could not be recognised) with reason in *Text* (58) = "Logon message invalid".
FIX gateway detects an invalid source IP address and authentication fails	ASX sends a **Logout** (5) message with *SessionStatus* (1409) = 7 (Logons are not allowed at this time) with reason in *Text* (58) as "Invalid source IP address" and the client will not be connected to the FIX gateway.

7 Messages

7.1 Common Message Structures

7.1.1 Standard Header

All FIX messages described in this document must contain a standard header. The relevant tags that are replacing the existing Signal B format are defined below.

Other FIX Standard Header tags that are not listed are also accepted if they follow the standard FIX protocol.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
8	BeginString	String	Mandatory	FIXT.1.1	FIXT.1.1	Identifies beginning of new message. Must be first field in message. Always unencrypted.
9	BodyLength	Int	Mandatory		Integer	Message length including header, body and trailer. Message length in bytes, forward to the *CheckSum* (10) field (see Standard Trailer). Must be second field in message. Always unencrypted.
35	MsgType	String [2]	Mandatory		0 = **Heartbeat** 1 = **TestRequest** 2 = **ResendRequest** 3 = **Reject** 4 = **SequenceReset** 5 = **Logout** A = **Logon** AD = **TradeCaptureReportRequest** AE = **TradeCaptureReport** AQ = **TradeCaptureReportRequestAck** j = **BusinessMessageReject**	Specifies the Message type. Must be third field in message. Always unencrypted.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
					See the following sections for the details on these values.	
49	SenderCompID	String [64]	Mandatory		Inbound: Firm ID (must be the same as the *Username* (553) in the **Logon** (A) message) Outbound: ASX	Identifies the sender of the message.
56	TargetCompID	String [64]	Mandatory		Inbound: ASX Outbound: Firm ID	Identifies the receiver of the message.
34	MsgSeqNum	Int	Mandatory			Integer message sequence number.
52	SendingTime	String	Mandatory		YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss (YYYY = 0000-9999, MM = 01-12, DD = 01-31, HH = 00-23, MM = 00-59, SS = 00-59, sss = 000-999)	Time of message transmission. Always expressed in UTCTimestamp format: YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss (milliseconds) - colons, dash, and period required.
43	PossDupFlag	Boolean	Conditional		N = original transaction Y = possible duplicate	Identifies if a message is a retransmission. Always required for message retransmissions, whether prompted by the sending system or as the result of a resend request.
97	PossResend	Boolean	Optional		Inbound: not supported Outbound: Y = Possible resend N = Original transmission	Indicates if the message contains information that has been sent under a different sequence number.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
122	OrigSendingTime	String	Conditional		YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss (YYYY = 0000-9999, MM = 01-12, DD = 01-31, HH = 00-23, MM = 00-59, SS = 00-59, sss = 000-999)	Required for messages sent as a result of a ResendRequest. Original time of message transmission in UTCTimestamp format: YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss (milliseconds) - colons, dash, and period are required.
369	LastMsgSeqNumProcessed	Int	Optional			The last *MsgSeqNum* (34) value received by the FIX engine and processed by downstream applications, such as trading engine or order routing system. Can be specified on every message sent. Useful for detecting a backlog with a counterparty.
1128	ApplVerID	String	Optional	9	9 = FIX50SP2	Specifies the service pack release being applied at message level. This will default as 9 as Signal B uses FIX version 5.0 SP2.

7.1.2 Standard Trailer

All FIX messages in this document contain a standard trailer, which is defined below.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
10	CheckSum	String	Mandatory		Numerical	Simple checksum. Always last field in message. It serves, with the trailing (SOH), as the end-of-message delimiter. Always defined as three characters. Always unencrypted.

7.2 FIX Session Layer

7.2.1 Logon (A)

Inbound | Outbound

The logon message is the first message sent by a user and is used to authenticate the FIX session with the exchange. On successful authentication, a **Logon** (A) message will be sent as an acknowledgement that the connection request has been accepted. The user should wait for the acknowledgement **Logon** (A) message before sending other messages. Messages sent prior to this confirmation may not be processed.

In the event that logon fails, a **Logout** (5) message will be sent and the TCP/IP session will be terminated under most circumstances. Circumstances when a **Logout** (5) message is not sent, include an invalid *SenderCompID* (49) or *TargetCompID* (56).

If a logon attempt fails, the client should attempt no more than 6 times before taking remedial action requested in the **Logout** (5) message. Remedial action includes changing the password sent on the **Logon** (A) message, correcting sequence numbers, or contacting ASX regarding account administration.

The password can be changed by specifying the new password in the *NewPassword* (925) tag.

Recovery is supported using the **ResendRequest** (2) message. Refer to Section 4 Recovery.

Sequence number gap is detectable using the *MsgSeqNum* (34) and *NextExpectedMsgSeqNum* (789) tags. Refer to Section 3.11 Sequence Number Gap Management for details.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = A See Standard Header section.
98	EncryptMethod	Int	Mandatory	0		Method of encryption. ASX does not use FIX encryption, however this field is required by FIX 5.0 SP2. Please set to zero, to specify no encryption. Please refer to the Section 3.8 Encryption for details on the encryption method.
108	HeartBtInt	Int	Mandatory	30	30	Heartbeat interval in seconds. The same value is used by both sides.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
						ASX requires heartbeat intervals to be 30 seconds for both incoming and outgoing messages to ASX. Thus, this tag is always required to be 30. Otherwise, ASX will respond with **Logout** (5) message with the reason as "Invalid Heartbeat interval! expected value is 30 (s)".
141	ResetSeqNumFlag	Boolean	Conditional	First **Logon** (A) = Y Intraday **Logon** (A) = N	Inbound: Y = Yes, reset sequence number (this must be used for the first **Logon** (A) message for the day) N = No, do not reset sequence number (this must be the default for the **Logon** (A) messages after the first message) Outbound: not applicable	Indicates if both sides of a FIX session should reset sequence numbers.
789	NextExpectedMsgSeqNum	Int	Mandatory			Next expected message sequence number [*MsgSeqNum* (34)] value to be received. This tag is mandatory for ASX's inbound (client's outbound) messages but not mandatory for ASX's outbound messages.
553	Username	String [64]	Mandatory		Inbound: Firm ID (must be the same as the *SenderCompID* (49) in the header) Outbound: ASX	FIX username. This tag is not case sensitive. For incoming messages into ASX, the *Username* (553) will be the same as the *SenderCompID* (49).
554	Password	String [8-128]	Mandatory			Password for username. Passwords are valid for 90 days.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
925	NewPassword	String [8-128]	Conditional		Password must satisfy at least four of the following criteria: • Contain an English uppercase character (A-Z) • Contain an English lowercase character (a-z) • Contain a Hindu Arabic numeral (0-9) • Contain one or more of the following non-alphanumeric special characters: !@#$%^&*()_+|~-=\`{}[]:";'<>?,./) The new password must also meet all the below criteria: • must be a minimum of 8 characters in length. • must be different to the previous 12 passwords used. The account will lock after 6 failed attempts	Specifies a new password for the FIX Logon. The new password is used for subsequent logons. Passwords are valid for 90 days.
1409	SessionStatus	Int	Optional		0 = session active 1 = session password changed 2 = session password due to expire	FIX session status. Sent by ASX. Ignored if input by client.
1137	DefaultApplVerID	String	Mandatory	9	9 = FIX50SP2	Specifies the service pack release being applied to the message at the session level.
58	Text	String	Optional			Free format text string. In the acknowledgement **Logon** (A) message, this tag can be used to provide a logon response to the logon initiator.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.2 Logon (A) Examples

7.2.2.1 First Inbound Session-level Logon (A) of the Trading Day

8=FIXT.1.1|9=138|35=A|49=TESTCLIENT1|56=ASX|34=1|43=N|52=20220525-03:24:09.856|98=0|108=30|141=Y|789=1|553=TESTCLIENT1|554=xY0@1263EF5FBA46|1137=9|10=190|

7.2.2.2 First Outbound Session-level Logon (A) Acknowledgement of the Trading Day

8=FIXT.1.1|9=100|35=A|49=ASX|56=TESTCLIENT1|34=1|52=20220525-03:24:11.739|1128=9|98=0|108=30|141=Y|1137=9|1409=0|10=093|

7.2.2.3 Intraday Inbound Session-level Logon (A)

8=FIXT.1.1|9=127|35=A|98=0|108=30|141=N|553=TESTCLIENT1|554=+5PhvN2Ms|1137=9|789=2|49=TESTCLIENT1|56=ASX|34=24|52=20220509-00:05:05.403|10=178|

7.2.2.4 Intraday Outbound Session-level Logon (A) Acknowledgement

8=FIXT.1.1|9=95|35=A|98=0|108=30|1409=0|1137=9|49=ASX|56=TESTCLIENT1|34=50|52=20220506-09:50:07.256|1128=9|10=069|

7.2.3 Heartbeat (0)

Inbound | Outbound

Heartbeat messages are sent by counterparties to indicate that a connection is still active as well as a response to **TestRequest** (1) messages.

Each party will keep track of its previous message sent and when the interval reaches 30 seconds from its previous message sent (and there are no other messages to send), it will send a **Heartbeat** (0) message to the counterparty to indicate that its connection is still active.

When either side of the connection has not received any message from the counterparty for 66 seconds (i.e. no **Heartbeat** (0) message after 30 seconds + 36 seconds of reasonable heartbeat transmission time), a **TestRequest** (1) message will be transmitted. The counterparty then has 36 seconds to respond with a **Heartbeat** (0) message. If there is still no response, then the connection is considered lost and the sender of the **TestRequest** (1) will then disconnect by sending a **Logout** (5) message. Please refer to Section 4.1. Lost Connection and Recovery for further details.

Heartbeats issued as the result of **TestRequest** (1) must contain the *TestReqID* (122) tag transmitted in the **TestRequest** (1) message. This verifies that the **Heartbeat** (0) is the result of the **TestRequest** (1) and not as the result of a regular timeout.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 0 See Standard Header section.
112	TestReqID	String	Conditional			Unique identifier included in **TestRequest** (1) message to be returned in resulting **Heartbeat** (0) message. Required when the **Heartbeat** (0) is the result of a **TestRequest** (1) message.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.4 Heartbeat (0) Examples

7.2.4.1 Standard Heartbeat (0)

```
8=FIXT.1.1|9=68|35=0|49=ASX|56=TESTCLIENT1|34=3|52=20220506-08:05:39.130|1128=9|10=101|
```

7.2.4.2 Heartbeat (0) as a Result of a TestRequest (1)

```
8=FIXT.1.1|9=93|35=0|49=TESTCLIENT1|56=ASX|34=3|52=20211012-05:08:49.883|1128=9|112=20211012-04:54:32|10=082|
```

See Section 7.2.6 for the corresponding **TestRequest** (1) example message.

7.2.5 TestRequest (1)

Inbound | Outbound

To verify if a connection is active, a **TestRequest** (1) message is sent to the counterparty. The recipient of the **TestRequest** (1) responds with a **Heartbeat** (0) message. Failure to respond to a **TestRequest** (1) message may trigger a disconnection by the sender.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 1 See Standard Header section.
112	TestReqID	String	Mandatory			Unique identifier of this Test Request. To be returned in the Heartbeat generated upon receipt of the Test Request.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.6 TestRequest (1) Example

```
8=FIXT.1.1|9=92|35=1|49=ASX|56=TESTCLIENT1|34=166|52=20220516-06:51:43.250|1128=9|112=20220516-06:51:43|10=249|
```

See Section 7.2.4.2 for the corresponding **Heartbeat** (0) example message.

7.2.7 ResendRequest (2)

Inbound | Outbound

The Signal B FIX Gateway is not expecting any acknowledgements of trade confirmations to reduce the overall network bandwidth. When trade confirmation messages are lost or not consumed, the gateway will allow client FIX sessions to recover the lost messages through a **ResendRequest** (2). This will pause the current flow of trade confirmation streams and will resume once the retransmission request is completed.

Client has the option to perform the below message retransmissions:

- Request for a retransmission of a specific range of messages – by sending a **ResendRequest** (2) message with *BeginSeqNo* (7) = sequence number of the first message in range to be resent and *EndSeqNo* (16) = sequence number of the last message in range to be resent. The Signal B FIX Gateway will pause the stream of messages and retransmit **TradeConfirmationReport** (AE) messages that are from the *BeginSeqNo* (7) until the *EndSeqNo* (16) values.
- Request for a retransmission of all messages sent starting from a specific message sequence number – by sending a **ResendRequest** (2) message with *BeginSeqNo* (7) = sequence number of the first message in range to be resent and *EndSeqNo* (16) = 0. The Signal B FIX Gateway will pause the stream of messages and retransmit all **TradeConfirmationReport** (AE) messages. The value "0" in the *EndSeqNo* (16) indicates a request for all messages from *BeginSeqNo* (7) until the last *MsgSeqNum* (34) that was sent.

During a retransmission, the Signal B FIX Gateway will resend the application messages [i.e., **TradeCaptureReport** (AE), **TradeCaptureReport** (AQ)] and **SequenceReset** (4] message will be sent as a gap fill to replace the administration messages [i.e., **Logon** (A), **Logout** (5), **Heartbeat** (0), **TestRequest** (1), **ResendRequest** (2), **Reject** (3), **SequenceReset** (4), **BusinessMessageReject** (j)]. All retransmitted messages will contain *PossDupFlag* (43) = Y.

More details on how Signal B detects a sequence number gap can be found in Section 3.11 Sequence Number Gap Management.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 2 See Standard Header section.
7	BeginSeqNo	Int	Mandatory		Numerical	Message sequence number of first message in range to be resent.
16	EndSeqNo	Int	Mandatory		Numerical	Message sequence number of the last message in range to be resent. If all messages subsequent to *BeginSeqNo* are required, set *EndSeqNo* = 0.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.8 ResendRequest (2) Examples

7.2.8.1 Inbound ResendRequest (2) Requesting a Specific Range of Messages

```
8=FIXT.1.1|9=79|35=2|49=TESTCLIENT1|56=ASX|34=663|43=N|52=20220504-05:14:08.756|7=715|16=0|10=112|
```

7.2.8.2 Inbound ResendRequest (2) Requesting All Messages Subsequent to a Specific Message

```
8=FIXT.1.1|9=70|35=2|49=TESTCLIENT1|56=ASX|34=6|52=20220511-02:02:45.211|7=2|16=0|10=163|
```


7.2.9 Reject (3)

Inbound | Outbound

If an incoming message violates any session level validation such as data type mismatches of message structure mismatches, the messages are expected to be rejected back to the sender using **Reject** (3) message.

Tag	Name	Data Type	Signal B Requirement	Default Values	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 3 See Standard Header section.
45	RefSeqNum	Int	Mandatory		Numerical	MsgSeqNum of rejected message.
371	RefTagID	Int	Optional		Any relevant Signal B FIX tag number	The tag number of the FIX field being referenced.
372	RefMsgType	String	Conditional		0 = **Heartbeat** 1 = **TestRequest** 2 = **ResendRequest** 3 = **Reject** 4 = **SequenceReset** 5 = **Logout** A = **Logon** AD = **TradeCaptureReportRequest** AE = **TradeCaptureReport** AQ = **TradeCaptureReportRequestAck** j = **BusinessMessageReject**	The *MsgType* (35) of the FIX message being referenced.

Tag	Name	Data Type	Signal B Requirement	Default Values	Possible Values	Description
373	SessionRejectReason	Int	Conditional		0 = Invalid Tag number 1 = Required Tag Missing 4 = Tag specified without a value 5 = Value is incorrect (out of range) for this tag 6 = Incorrect data format for value 10 = SendingTime accuracy problem 14 = Tag specified out of required order.	Code to identify reason for a session-level **Reject** (3) message.
58	Text	String	Optional			Message to explain reason for rejection where possible.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.10 Reject (3) Example

7.2.10.1 Rejecting a Message with Missing Mandatory Tag

8=FIXT.1.1|9=162|35=3|49=ASX|56=TESTCLIENT1|34=2|52=20220509-08:45:54.135|1128=9|45=2|372=AD|373=1|58=Required tag # 568 is missing (RefSeqNum=2, RefMsgType=AD, RefTagID=568)|10=137|

7.2.11 SequenceReset (4)

Inbound | Outbound

In the FIX protocol, the **SequenceReset** (4) message has 2 purposes. One is to use as a gap fill message [**SequenceReset-GapFill** (4)]. The other is to reset the incoming sequence number on the opposite side [**SequenceReset-Reset** (4)]. However, ASX will not allow clients to reset sequence numbers, hence **SequenceReset** (4) will only be used as a gap fill message with *GapFillFlag* (123) = Y by default.

From a **ResendRequest** (2) message, ASX will only retransmit application messages (i.e., AE, AD, and AQ messages). **SequenceReset-GapFill** (4) messages are sent in place of administration messages, which are **Logon** (A), **Logout** (5), **ResendRequest** (2), **Heartbeat** (0), **TestRequest** (1), **Reject** (3), **SequenceReset** (4) messages. In the case of multiple consecutive administration messages, only one **SequenceReset-GapFill** (4) message will be sent. This also applies to **SequenceReset** (4) messages sent by the client.

Please refer to Section 3.11 Sequence Number Gap Management for further details on sequence number gap detection and management.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 4 See Standard Header section.
123	GapFillFlag	Boolean	Mandatory	Y	Y = Gap Fill Message	Indicates that the Sequence Reset message is replacing administrative or application messages, which will not be resent. For outbound Sequence Reset messages, ASX will not provide an N (Sequence Reset) value as it is not supported.
36	NewSeqNo	SeqNum	Mandatory		Numerical	New sequence number.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.12 SequenceReset (4) Example

```
8=FIXT.1.1|9=113|35=4|49=ASX|56=TESTCLIENT1|34=2|43=Y|52=20210928-02:55:08.167|122=20210928-02:55:08.167| 1128=9|123=Y|36=8|10=106|
```

7.2.13 Logout (5)

Inbound | Outbound

The **Logout** (5) message is used to initiate or confirm the termination of a FIX session. **Logout** (5) is normally initiated by the client. The ASX will initiate a logout, for example, prior to system shutdown or when a **Logon** (A) is attempted with an invalid source IP.

A **Logout** (5) message is also used to respond to failed logon requests.

On completion of the logout procedure, ASX will close the TCP/IP connection.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = 5 See Standard Header section.
58	Text	String	Conditional			Free format text string.
1409	SessionStatus	Int	Optional		3 = New session password does not comply with policy 4 = Session logout complete 5 = Invalid username or password 6 = Account locked 7 = Logons are not allowed at this time 8 = Password expired 9 = Sequence number too low 104 = *HeartBtInt* (108) must be equal to 30 (seconds) 106 = **Logon** (A) message could not be recognised	FIX Session Status. Sent by ASX. Ignored if input by client.
	StandardTrailer		Mandatory			See Standard Trailer section.

7.2.14 Logout (5) Examples

7.2.14.1 Inbound Request

8=FIXT.1.1|9=92|35=5|49=TESTCLIENT1|56=ASX|34=319|52=20220503-01:15:33.306|58=Shutting Down SignalB FIX|10=007|

7.2.14.2 Outbound Message Acknowledging the Inbound Logout Request

8=FIXT.1.1|9=104|35=5|49=ASX|56=TESTCLIENT1|34=1485|52=20220503-09:59:37.024|1128=9|58=Logout acknowledgement|1409=4|10=242|

7.3 FIX Trade Capture Report Messages

Signal B will be using the FIX Protocol to provide post trade capabilities. The Trade Capture Report messages are at the application layer of the FIX Protocol.

The following sections cover all the supported trade capture messages that will be streamed to market participants.

7.3.1 TradeCaptureReportRequest (AD)

Inbound

TradeCaptureReportRequest (AD) message is used by the client FIX session to request for a subscription of near real-time trade confirmations. The response to **TradeCaptureReportRequest** (AD) messages will be communicated by the acknowledgement message, **TradeCaptureReportRequestAck** (AQ).

The Signal B FIX Gateway is expected to only receive and communicate with one active subscription per client FIX session during Signal B's available hours. The **TradeCaptureReportRequest** (AD) message is only required to be sent once for the trading day. All subsequent **TradeCaptureReportRequest** (AD) messages will be declined by the **TradeCaptureReportRequestAck** (AQ) message with *TradeRequestStatus* (750) = 2 (rejected).

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	StandardHeader		Mandatory			MsgType = AD See Standard Header section.
568	TradeRequestID	String	Mandatory			Unique identifier for the trade capture report request.
569	TradeRequestType	Int	Mandatory	0	0 = All Trades	Type of trade capture report requested.
<TrdCapDtGrp> Component Starts						
580	NoDates	Int	Mandatory	1	1	Number of dates to report on. This is always 1.
75	TradeDate	String [8]	Mandatory		YYYYMMDD (YYYY = 0000-9999, MM = 01-12, DD = 01-31)	Business Trade Date of trade report in YYYYMMDD format.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
<TrdCapDtGrp> Component Ends						
	Standard Trailer		Mandatory			See Standard Trailer section.

7.3.2 TradeCaptureReportRequest (AD) Examples

7.3.2.1 Successful Request

8=FIXT.1.1|9=102|35=AD|49=TESTCLIENT1|56=ASX|34=3|52=20211013-04:52:08.456|1128=9|568=1|569=0|580=1| 75=20211013|10=250|

See Section 7.3.4.1 for the corresponding **TradeCaptureReportRequestAck** (AQ) example message.

7.3.2.2 Subsequent TradeCaptureReportRequest (AD) from the First Request

8=FIXT.1.1|9=102|35=AD|49=TESTCLIENT1|56=ASX|34=4|52=20211015-00:54:08.736|1128=9|568=1|569=0|580=1| 75=20211015|10=254|

See Section 7.3.4.2 for the corresponding **TradeCaptureReportRequestAck** (AQ) example message.

7.3.3 TradeCaptureReportRequestAck (AQ)

Inbound

The **TradeCaptureRequestAck** (AQ) message is used to:

- Provide an acknowledgement to a **TradeCaptureReportRequest** (AD) message.
- Notify the user why a **TradeCaptureReportRequest** (AD) message cannot be satisfied, if applicable.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	Standard Header		Mandatory			MsgType = AQ See Standard Header section.
568	TradeRequestID	String	Mandatory			Identifier of the trade capture report request.
569	TradeRequestType	Int	Mandatory	0	0 = All Trades	Type of trade capture report requested.
749	TradeRequestResult	Int	Mandatory	0	0 = Successful (default) 8 = Trade request type not supported 99 = Other	Result of Trade Request.
750	TradeRequestStatus	Int	Mandatory	1	1 = Completed 2 = Rejected	Status of Trade Request.
58	Text	String	Conditional			Free format text string.
	Standard Trailer		Mandatory			See Standard Trailer section.

7.3.4 TradeCaptureReportRequestAck (AQ) Examples

7.3.4.1 TradeCaptureReportRequestAck (AQ) Acknowledging the Successful TradeCaptureReportRequest (AD)

8=FIXT.1.1|9=96|35=AQ|49=ASX|56=TESTCLIENT1|34=2|52=20211013-04:52:08.493|1128=9|568=1|569=0|749=0|750=1|10=192|

See Section 7.3.2.1 for the corresponding **TradeCaptureReportRequest** (AD) example message.

7.3.4.2 Responding to the TradeCaptureReportRequest (AD) Subsequent to the First Successful Request

8=FIXT.1.1|9=118|35=AQ|49=ASX|56=TESTCLIENT1|34=4|52=20211015-00:54:08.738|1128=9|568=1|569=0|750=2|58=Already Subscribed|10=139|

See Section 7.3.2.2 for the corresponding **TradeCaptureReportRequest** (AD) example message.

7.3.5 TradeCaptureReport (AE)

Outbound

TradeCaptureReport (AE) messages are used to transmit information about trades (fills) executed in ASX.

The trade confirmations of Tailor-Made Combination (TMC) legs may not be sent in the same sequence as when the TMC legs were executed by the order-matching engine in ASX Trade.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
	StandardHeader			Mandatory		MsgType = AE See Standard Header section for details.	Mandatory
487	TradeReportTransType	Int [20]		Mandatory		0 = New (Standard) 1 = Cancel (Reverse)	Identifies Trade Report message transaction type.
1125	OrigTradeDate	String		Conditional		YYYYMMDD (YYYY = 0000-9999, MM = 01-12, DD = 01-31)	Original Trade Date in YYYYMMDD format. Used to preserve original trade date when original trade is being referenced in a subsequent transaction such as a trade cancellation or trade report.
20003	TrdConditionCode	String [50]	Condition Codes	Conditional		Refer to the Appendix - Trade Condition Codes Table (section 8.2)	Trade Condition Code is a two-character code indicating the condition(s) under which the trade was executed. When the tag is empty, this indicates a trade with no conditions. When there are multiple values, they will be concatenated in alphabetical order. E.g. EQTM (Equity Combination + Tailor Made

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
							Combination), SHXT (Short Sell + Cross Trade). Refer to the Appendix - Trade Condition Codes Table (Section 8.2) for the possible values and descriptions of the *TrdConditionCode*. Please note that this tag is an extension to FIX 5.0 SP2.
20007	CorporateAction	String [50]	Basis of Quotation	Optional		Refer to the Appendix - Corporate Action (Basis of Quotation) Table (Section 8.3)	Indicates the status under which a Security is quoted. In the case of trades, this field will only contain a value if special permission has been granted by the respective committees to trade outside the current stated Basis of Quotation. In the case where there are multiple values, they should be concatenated. Refer to the Appendix - Corporate Action (Basis of Quotation) Table (Section 8.3) for the possible values and descriptions of the Basis of Quotation. Please note that this tag is an extension to FIX 5.0 SP2.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
880	TrdMatchID	String [200]		Mandatory			This is a unique identifier used in ASX Trade, assigned to a trade by a matching system. Uniqueness is guaranteed across trading days.
1003	TradeID	String [10]	Serial Trade Qualifier + Trade Serial Number	Mandatory		10 digit alphanumeric value	This is also referred to as TSN (Trade Slip Number) which is a combination of the Serial Trade Qualifier (first 4 digits of the TSN) + the Trade Serial Number (last 6 digits of the TSN). This is assigned to the trade entity once it is received or matched by the exchange or central counterparty. Uniqueness is guaranteed within a single trading day. ASX intends to move customers away from using TSN towards *TrdMatchID* (880) on a long-term basis to provide uniqueness across trading days.
75	TradeDate	String	Trade Date	Mandatory		YYYYMMDD (YYYY = 0000-9999, MM = 01-12, DD = 01-31)	The date the trade was sent from ASX Trade in YYYYMMDD format.
64	SettlDate	String	Settlement Date	Mandatory		YYYYMMDD (YYYY = 0000-9999, MM = 01-12, DD = 01-31)	The date the trade was sent from ASX Trade in YYYYMMDD format.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
60	TransactTime	String	Time	Mandatory		YYYYMMDD-HH:MM:SS or YYYYMMDD-HH:MM:SS.sss (YYYY = 0000-9999, MM = 01-12, DD = 01-31, HH = 00-23, MM = 00-59, SS = 00-59, sss = 000-999)	Identifies the agreement date and time in UTCTimestamp format.
32	LastQty	Float	Sale Volume	Mandatory		Numerical	Identifies the quantity of this (last) fill bought or sold.
31	LastPx	Float	Sale Price or Sale Premium	Mandatory			Data is represented in AUD
381	GrossTradeAmt	Float	Sale Value	Mandatory		Decimal value	• Is expressed in dollars and cents. • Up to 6 decimal places provided.
15	Currency	String [3]		Mandatory	AUD	AUD	Used to qualify *LastQty* (32) and *GrossTradeAmount* (381). The default currency value is AUD.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
1015	AsOfIndicator	Int [1]	As At Date	Optional	0	0 = false 1 = true	When this tag is supplied, it means that this message relates to a trade cancellation or trade report. If the tag value is 0 (false), then the trade report or trade cancellation occurred today. If the tag value is 1 (true), then the trade report occurred on the previous business day. The trade date is supplied in the *OrigTradeDate* (1125) tag.
<Instrument> Component Starts							
167	SecurityType	String [8]	Security Type	Mandatory		Refer to Appendix - Security Type Table (Section 8.4)	Indicates the type of security. This is following international standard for CFI codes. Refer to Appendix - Security Type Table (Section 8.4) to view the detailed security types, the previous field format, and the current FIX format.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
762	SecuritySubType	String	Security Type Code	Mandatory		Refer to Appendix – Security Type Table (Section 8.4) This will be the same as the current Signal B Security Type Code	Indicates the ASX specific security type that is used in Signal B. Refer to Appendix – Security Type Table (Section 8.4) to view the detailed security types, the previous field format, and the current FIX format.
22	SecurityIDSource	String [2]		Mandatory	4	8 = ASX Code (if ISIN is not present) 4 = ISIN (if ISIN is present)	Identifies class or source of the *SecurityID* (48) value. If ISIN value is not present, then 8 (ASX Code) will be used. If ISIN value is present, 4 (ISIN) will be used.
48	SecurityID	String		Mandatory			Based on *SecurityIDSource* (22), this will be populated with either the ISIN or ASX code.
55	Symbol	String [100]	Issuer Code + Security Code	Mandatory			Identifies the ticker symbol. That is, the common, "human understood" representation of the security.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values Possible Values	Description
461	CFICode	String [50]		Optional		Identifies the type of security using ISO 10962 Standard, CFI code values. This is mandatory for the listing market in Securities reference data.
1301	MarketID	String [4]		Mandatory	XASX	Identifies the Market. The default value is XASX.
106	Issuer	String [40]	Issuer Code	Conditional		Name of security issuer. For options this tag is empty.
<Instrument> Component Ends						
<TrdCapRptSideGrp> Component Starts						

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
552	NoSides	Int [1]		Mandatory		1 = One Side 2 = Both Sides	Number of *Side* (54) repeating group instances.
> 54	Side	Int [1]		Mandatory		1 = Buy 2 = Sell	Indicates the side of the order. This field is populated based on the participants involved as indicated in the possible value.
>	**<Parties> Component Starts**						
> 453	NoPartyIDs	Int		Optional	1		The number of parties involved in the trade. The <Parties> component should be reported for each side of the trade report. The default number for NoPartyID = 1.
>> 448	PartyID	String [5]	Buyer ID or Seller ID	Optional			Identifies the source of PartyID (also referred to as Broker's PID). Format: Broker Participant Code (3 digits) + "-"(1 digit) + Clearing Participant Code (1 digit). Example: 150-2
>> 447	PartyIDSource	String [1]		Optional	D	D = Proprietary/Custom code	Identifies class or source of the *PartyID* (448).
>> 452	PartyRole	Int [1]		Optional	1 = Executing Firm		Identifies the role of the Party [specified in *PartyID* (448)] in the transaction.

Tag		Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
								Default value for *PartyRole* (452) = 1 (Executing Firm. That is, the executing/give-up broker).
>	**<Parties> Component Ends**							
> 1		Account	String [10]	Buyer Order Reference Number or Seller Order Reference Number	Optional			Account mnemonic as agreed between buy and sell sides, e.g. broker and institution or investor/intermediary and fund manager. This tag is used for each side of the trade and can have different values for the buy and sell side.
>	**<ClrInstGrp> Component Starts**							
>	576	NoClearingInstructions	Int [1]		Optional		1	Indicates the number of clearing instructions. The value is always 1.
>>	577	ClearingInstruction	Int [1]		Optional	0 = process normally	0 = process normally 7 = Trade not sent to Chess	Indicates the instruction of this trade for clearing and central counterparty processing.
>	**<ClrInstGrp> Component Ends**							
>	1009	SideLastQty	Int		Optional			Used to indicate the quantity for the short side of the Trade Capture Report. This field is applicable for short sells.

Tag	Name	Data Type	Legacy Signal B Field(s)	Signal B Requirement	Default Values	Possible Values	Description
>	**<TradeReportOrderDetail> Component Starts**						
>	11 ClOrdID	String		Optional			Identifies the Party Order ID. This is the unique identifier for the order(s) as assigned by the buy-side (institution, broker, intermediary etc.). Uniqueness must be guaranteed within a single trading day.
>	**<TradeReportOrderDetail> Component Ends**						
<TrdCapRptSideGrp> Component Ends							
	StandardTrailer			Mandatory			See Standard Trailer section.

7.3.6 TradeCaptureReport (AE) Examples

7.3.6.1 Single-sided Buy Trade

8=FIXT.1.1|9=346|35=AE|49=ASX|56=TESTCLIENT1|34=4|52=20211017-03:51:30.950|1128=9|487=0|1003=1234| 75=20211017|1015=1|64=20200508|60=20200918-17:21:54.000|55=XJOF37|48=AU9003813618|22=8|381=1000.00|31=0.55|
32=505|15=AUD|1301=XASX|20003=CTSP|20007=CD|552=1|54=1|11=AHL1|576=1|577=0|453=1|448=150-2|447=D|452=1| 880=1198002|167=CS|106=XJO|10=134|

7.3.6.2 Single-sided Sell Trade

8=FIXT.1.1|9=346|35=AE|49=ASX|56=TESTCLIENT1|34=3|52=20211017-03:51:30.324|1128=9|487=1|1125=20211016|1003=1234|
75=20211017|1015=1|64=20200508|60=20200918-17:21:54.000|55=AMC|48=AU000000AMC4|22=8|381=3237.30|31=14.85|
32=218|15=AUD|1301=XASX|20003=SH|20007=CT|552=1|54=2|11=5GN|576=1|577=0|453=1|448=111-1|447=D|452=1|880=1198001|167=CS| 106=AMC|10=171|

7.3.6.3 Cross Trade (Equity)

8=FIXT.1.1|9=434|35=AE|49=ASX|56=TESTCLIENT1|34=4|52=20211026-00:24:50.955|1128=9|487=1|1125=20211025|1003=1234|
75=20211026|1015=1|64=20200508|60=20200918-17:21:54.000|55=DEF|48=AU123456789A|22=4|461=ESVTFB|381=400|31=20|
32=20.000000000000|15=AUD|1301=ASX|20003=CXXT|20007=XC|552=2|54=1|11=10002|1=client1|576=1|577=0|453=1|448=111-1|
447=D|452=1|54=2|11=99998|1=client1|576=1|577=0|453=1|448=111-1|447=D|452=1|880=1199002|167=PS|106=9915|10=119

7.3.6.4 Cross Trade (Options)

8=FIXT.1.1|9=424|35=AE|49=ASX|56=TESTCLIENT1|34=4|52=20211026-00:25:04.257|1128=9|487=0|1003=1234| 75=20211026|1015=0|64=20200508|60=20200918-17:21:54.000|55=GHI|48=GHI|22=8|461=ESVTFR|381=90|31=3|32=30.000000000000|
15=AUD|1301=XASX|20003=EQ|552=2|54=1|11=10003|1=client2|576=1|577=0|453=1|448=222-1|447=D|452=1| 54=2|11=99996|1=client1|576=1|577=0|453=1|448=111-1|447=D|452=1|880=1199004|167=OPT|106=9914|10=173

7.4 General Messages

The following sections cover supported general messages.

7.4.1 BusinessMessageReject (j)

The **BusinessMessageReject** (j) message can reject an application-level message, which fulfils session-level rules and cannot be rejected via any other means - typically unsupported application messages or application messages lacking a specific reject message. If the message fails, a session-level rule (for example, body length is incorrect), a session-level Reject message should be issued.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
	Standard Header		Mandatory			MsgType = j (lowercase) See Standard Header section.
45	RefSeqNum	Int	Optional		Numerical	MsgSeqNum of rejected message.
372	RefMsgType	String	Mandatory		Any message type that is NOT listed in the message types below: 0 = **Heartbeat** 1 = **TestRequest** 2 = **ResendRequest** 3 = **Reject** 4 = **SequenceReset** 5 = **Logout** A = **Logon** AD = **TradeCaptureReportRequest** AE = **TradeCaptureReport** AQ = **TradeCaptureReportRequestAck** j = **BusinessMessageReject**	The MsgType of the rejected FIX message being referenced.
380	BusinessRejectReason	Int	Mandatory		3 = Unsupported Message Type 4 = Application not available	Code to identify reason for the **BusinessMessageReject** (j) message.

Tag	Name	Data Type	Signal B Requirement	Default Value	Possible Values	Description
58	Text	String	Optional			Where possible, message to explain reason for rejection.
	Standard Trailer		Mandatory			See Standard Trailer section.

7.4.2 BusinessMessageReject (j) Example

8=FIXT.1.1|9=140|35=j|49=ASX|56=TESTCLIENT1|34=3|52=20211024-22:41:59.111|1128=9|45=3|372=D|380=3|58=Only AD message type is supported by FIX Adapter|10=057

8 Appendix

8.1 Discontinued Signal B Fields

The following fields from the legacy Signal B platform will be discontinued with no replacement in the new FIX format.

- Market ID
- Exchange ID
- Currency Exchange Rate
- Ticker Permission Indicator
- Sale Yield
- Accrued Interest
- Accrued Interest Sign
- Retransmit ID
- Buyer Clearing Broker ID
- Seller Clearing Broker ID
- Special Market Indicator
- Exercise Price (Strike Price)
- Number of Contracts
- Reversal Reason Code

8.2 Trade Condition Codes Table

Trade Condition Code is a two-character code indicating the condition(s) under which the sale was effected. Where there are multiple values, the values will be concatenated in alphabetical order. For example, EQTM (Equity Combination + Tailor Made Combination), SHXT (Short Sell + Cross Trade).

The below table lists the valid values for the *TradeConditionCodes* (20003) tag.

Trade Condition Code	Description
(no value)	Normal Trade
AB	ASX Bookbuild (ABB)
ABXT	ASX Bookbuild (ABB) Crossed Trade
AM	ASX Match Trade
BB	Bulletin Board Trade
BBCOEQ	Bulletin Board Trade Standard Combination Equity Combination
BBCOEQLT	Bulletin Board Trade Standard Combination Equity Combination
BBCOEQLTXT	Standard Equity Combo Bulletin Board Late Crossed Trade
BBCOEQXT	Bulletin Board Trade Standard Combination Equity Combination
BBCOLT	Bulletin Board Trade Standard Combination Late
BBCOLTXT	Bulletin Board Trade Standard Combination Late Crossed Trade
BBCOXT	Bulletin Board Trade Standard Combination Crossed Trade
BBEQ	Bulletin Board Trade Equity Combination
BBEQLT	Bulletin Board Trade Equity Combination Late
BBEQLTTM	Bulletin Board Trade Equity Combination Late Tailor Made Combination
BBEQLTTMXT	Tailor Made Equity Combo Bulletin Board Late Crossed Trade
BBEQLTXT	Bulletin Board Trade Equity Combination Late Crossed Trade
BBEQTM	Bulletin Board Trade Equity Combination Tailor Made Combination
BBEQTMXT	Bulletin Board Trade Equity Combination Tailor Made Combination
BBEQXT	Bulletin Board Trade Equity Combination Crossed Trade
BBLT	Bulletin Board Trade Late
BBLTTM	Bulletin Board Trade Late Tailor Made Combination
BBLTTMXT	Bulletin Board Trade Late Tailor Made Combination Crossed Trade
BBLTXT	Bulletin Board Trade Late Crossed Trade
BBTMXT	Bulletin Board Trade Tailor Made Combination Crossed Trade
BBXT	Bulletin Board Trade Crossed Trade
BCSHXT	BC Pref Block Trade Short Crossed Trade
BCXT	BC Pref Block Trade Crossed Trade
BK	Buy Back
BKBP	Buy Back Booking Purpose Only
BKBPDR	Buy Back Booking Purpose Only Directed Reporting

BKBPDREC	Buy Back Booking Purpose Only Directed Reporting Exercise of Call
BKBPDRECON	Buy Back Booking Purpose Only Directed Reporting Exercise of Call Overnight
BKBPON	Buy Back Booking Purpose Only Overnight
BKBWDRON	Buy Back Buy and Write Directed Reporting Overnight
BKDR	Buy Back Directed Reporting
BKDREC	Buy Back Directed Reporting Exercise of Call
BKDRECON	Buy Back Directed Reporting Exercise of Call Overnight
BKDRECOS	Buy Back Directed Reporting Exercise of Call Overseas
BKDRON	Buy Back Directed Reporting Overnight
BKDROS	Buy Back Directed Reporting Overseas
BKON	Buy Back Overnight
BKOS	Buy Back Overseas
BKSHXT	Buy Back Short Crossed Trade
BKXT	Buy Back Crossed Trade
BL	Blocked
BLBP	Blocked Booking Purpose Only
BLBW	Blocked Buy and Write
BLDR	Blocked Directed Reporting
BLDRXT	Blocked Directed Reporting Crossed Trade
BLEC	Blocked Exercise of Call
BLEP	Blocked Exercise of Put
BLFD	Blocked Forward Delivery
BLFDSP	Blocked Forward Delivery Special Sale > $1m
BLFDXT	Blocked Forward Delivery Crossed Trade
BLLN	Blocked Loan
BLLR	Blocked Loan Return
BLMI	Blocked Market Information
BLOL	Blocked Oddlot
BLON	Blocked Overnight
BLONPRPSXT	Blocked Overnight Prompt Rebooking Prompt Sale Crossed Trade
BLONST	Blocked Overnight Stabilisation Trade
BLONXT	Blocked Overnight Crossed Trade
BLOS	Blocked Overseas
BLOSSHXT	Blocked Overseas Short Crossed Trade
BLOSXT	Blocked Overseas Crossed Trade
BLSHSTXT	Blocked Short Stabilisation Trade Crossed Trade

BLSO	Blocked Other Conditional Special
BLSP	Blocked Special Sale > $1m
BLSTXT	Blocked Stabilisation Trade Crossed Trade
BLSX	Blocked Portfolio Special
BLXT	Blocked Crossed Trade
BP	Booking Purpose Only
BPBW	Booking Purpose Only Buy and Write
BPBWXT	Booking Purpose Only Buy and Write Crossed Trade
BPCXSHXT	Booking Purpose Only Centre Point Short Crossed Trade
BPCXXT	Booking Purpose Only Centre Point Crossed Trade
BPDF	Booking Purpose Only Delivery Fail
BPDR	Booking Purpose Only Directed Reporting
BPDREC	Booking Purpose Only Directed Reporting Exercise of Call
BPDRECLR	Booking Purpose Only Directed Reporting Exercise of Call Loa
BPDRECVW	Booking Purpose Only Directed Reporting Exercise of Call VWA
BPDRON	Booking Purpose Only Directed Reporting Overnight
BPEQ	Booking Purpose Only Equity Combination
BPEQXT	Booking Purpose Only Equity Combination Crossed Trade
BPLN	Booking Purpose Only Loan
BPLR	Booking Purpose Only Loan Return
BPLT	Booking Purpose Only Late
BPLTSPXT	Booking Purpose Only Late Special Sale > $1m Crossed Trade
BPLTXT	Booking Purpose Only Late Crossed Trade
BPON	Booking Purpose Only Overnight
BPONVW	Booking Purpose Only Overnight VWAP Trade
BPOS	Booking Purpose Only Overseas
BPOSXT	Booking Purpose Only Overseas Crossed Trade
BPSHXT	Booking Purpose Only Short Crossed Trade
BPSPXT	Booking Purpose Only Special Sale > $1m Crossed Trade
BPXT	Booking Purpose Only Crossed Trade
BT	BT Block Trade
BTSH	BT Block Trade Short
BTSHXT	BT Block Trade Short Crossed Trade
BTXT	BT Block Trade Crossed Trade
BV	Book Value Switch
BW	Buy and Write
BWCSLTXT	Buy and Write Contingent Special Late Crossed Trade

BWCSXT	Buy and Write Contingent Special Crossed Trade
BWDR	Buy and Write Directed Reporting
BWDRECLR	Buy and Write Directed Reporting Exercise of Call Loan Return
BWDRLR	Buy and Write Directed Reporting Loan Return
BWEC	Buy and Write Exercise of Call
BWLR	Buy and Write Loan Return
BWLT	Buy and Write Late
BWLTSP	Buy and Write Late Special Sale > $1m
BWLTSPXT	Buy and Write Late Special Sale > $1m Crossed Trade
BWLTXT	Buy and Write Late Crossed Trade
BWON	Buy and Write Overnight
BWOS	Buy and Write Overseas
BWOSXT	Buy and Write Overseas Crossed Trade
BWSP	Buy and Write Special Sale > $1m
BWSPXT	Buy and Write Special Sale > $1m Crossed Trade
BWVW	Buy and Write VWAP Trade
BWXT	Buy and Write Crossed Trade
BXSHXT	BX Crs Sys Pr Blk Tr Short Crossed Trade
BXXT	BX Crs Sys Pr Blk Tr Crossed Trade
BZ	Board Broker Sale
BZLT	Board Broker Sale Late
BZSP	Board Broker Sale Special Sale > $1m
BZXT	Board Broker Sale Crossed Trade
CM	1 Sided Combo Trade
CMEQ	1 Sided Combo Trade Equity Combination
CMEQSH	1 Sided Combo Trade Equity Combination Short
CMEQSHST	1 Sided Combo Trade Equity Combination Short Stabilisation T
CMEQSHSTXT	1 Sided Combo Trade Eqy Combo Short Stabilisation Crossed
CMEQSHXT	1 Sided Combo Trade Equity Combination Short Crossed Trade
CMEQST	1 Sided Combo Trade Equity Combination Stabilisation Trade
CMEQSTXT	1 Sided Combo Trade Equity Combination Stabilisation Trade Combination
CMEQXT	1 Sided Combo Trade Equity Combination Crossed Trade
CMSH	1 Sided Combo Trade Short
CMSHST	1 Sided Combo Trade Short Stabilisation Trade
CMSHSTXT	1 Sided Combo Trade Short Stabilisation Trade Crossed Trade
CMSHXT	1 Sided Combo Trade Short Crossed Trade
CMST	1 Sided Combo Trade Stabilisation Trade

CMSTXT	1 Sided Combo Trade Stabilisation Trade Crossed Trade
CMXT	1 Sided Combo Trade Crossed Trade
CO	Standard Combination
COCTXT	Standard Combination Combination Trade Crossed Trade
COLTTM	Standard Combination Late Tailor Made Combination
COLTTMXT	Standard Combination Late Tailor Made Combination Crossed Trade
COTMXT	Standard Combination Tailor Made Combination Crossed Trade
COXT	Standard Combination Crossed Trade
CPCXSHXT	CP Preference trade Centre Point Short Crossed Trade
CPCXXT	CP Preference trade Centre Point Crossed Trade
CSSPXT	Contingent Special Special Sale > $1m Crossed Trade
CSXT	Contingent Special Crossed Trade
CT	Combination Trade
CTEQLT	Combination Trade Equity Combination Late
CTEQLTSP	Combination Trade Equity Combination Late Special Sale > $1m
CTEQLTSPXT	Equity Combo Combination Late Crossed Trd Special Sale > $1m
CTEQLTXT	Combination Trade Equity Combination Late Crossed Trade
CTEQSP	Combination Trade Equity Combination Special Sale > $1m
CTEQSPXT	Combination Trade Equity Combination Special Sale > $1m Crossing
CTLT	Combination Trade Late
CTLTSHXT	Combination Trade Late - Post 5PM Short Crossed Trade
CTLTSP	Combination Trade Late Special Sale > $1m
CTLTXT	Combination Trade Late Crossed Trade
CTSHSPXT	Combination Trade Short Special -Derivatives Crossed Trade
CTSHXT	Combination Trade Short Crossed Trade
CTSP	Combination Trade Special Sale > $1m
CTSPXT	Combination Trade Special Sale > $1m Crossed Trade
CTXT	Combination Trade Crossed Trade
CX	Centre Point
CXNXXT	Centre Point NBBO Crossing Crossed Trade
CXSH	Centre Point Short
CXSHXT	Centre Point Short Crossed Trade
CXXT	Centre Point Crossed Trade
DR	Directed Reporting
DREC	Directed Reporting Exercise of Call
DRECIBON	Directed Reporting Exercise of Call Index Replicating Sp Overnight
DRECLR	Directed Reporting Exercise of Call Loan Return

DRECON	Directed Reporting Exercise of Call Overnight
DRLR	Directed Reporting Loan Return
DRON	Directed Reporting Overnight
DRONXT	Directed Reporting Overnight Crossed Trade
DROSXT	Directed Reporting Overseas Crossed Trade
DRSH	Directed Reporting Short
DRSHXT	Directed Reporting Short Crossed Trade
DRSP	Directed Reporting Special Sale > $1m
DRSX	Directed Reporting Portfolio Special
DRXT	Directed Reporting Crossed Trade
EC	Exercise of Call
ECON	Exercise of Call Overnight
ECOS	Exercise of Call Overseas
ECXT	Exercise of Call Crossed Trade
EF	Delivery of a Future
EP	Exercise of Put
EPXT	Exercise of Put Crossed Trade
EQ	Equity Combination
EQLT	Equity Combination Late
EQLTSP	Equity Combination Late Special Sale > $1m
EQLTSPXT	Equity Combination Late Special Sale > $1m Crossed Trade
EQLTXT	Equity Combination Late Crossed Trade
EQOS	Equity Combination Overseas
EQOSXT	Equity Combination Overseas Crossed Trade
EQSHTM	Equity Combination Short Tailor Made Combination
EQSHTMXT	Equity Combination Short Tailor Made Combination Crossed Trade
EQSP	Equity Combination Special Sale > $1m
EQSPXT	Equity Combination Special Sale > $1m Crossed Trade
EQTM	Equity Combination Tailor Made Combination
EQTMXT	Equity Combination Tailor Made Combination Crossed Trade
EQXT	Equity Combination Crossed Trade
ET	ETF Special Trades
ETFD	ETF Special Trades Forward Delivery
ETFDOR	ETF Special Trades Forward Delivery Overseas Resident
ETFDORSH	ETF Special Trades Forward Delivery Overseas Resident Short
ETFDORXT	ETF Special Trades Forward Delivery Overseas Resident Crosse
ETFDSH	ETF Special Trades Forward Delivery Short

ETFDSHXT	ETF Special Trades Forward Delivery Short Crossed Trade
ETFDXT	ETF Special Trades Forward Delivery Crossed Trade
ETOR	ETF Special Trades Overseas Resident
ETORSH	ETF Special Trades Overseas Resident Short
ETORSHST	ETF Special Trades Overseas Resident Short Stabilisation Trade
ETORST	ETF Special Trades Overseas Resident Stabilisation Trade
ETORXT	ETF Special Trades Overseas Resident Crossed Trade
ETSH	ETF Special Trades Short
ETSHST	ETF Special Trades Short Stabilisation Trade
ETSHSTXT	ETF Special Trades Short Stabilisation Trade Crossed Trade
ETSHXT	ETF Special Trades Short Crossed Trade
ETST	ETF Special Trades Stabilisation Trade
ETSTXT	ETF Special Trades Stabilisation Trade Crossed Trade
ETXT	ETF Special Trades Crossed Trade
FD	Forward Delivery
FDIBSHXT	Forward Delivery Index Replicating Sp Short Crossed Trade
FDOSXT	Forward Delivery Overseas Crossed Trade
FDSP	Forward Delivery Special Sale > $1m
FDXT	Forward Delivery Crossed Trade
FM	Foreign Markets
FMXT	Foreign Markets Crossed Trade
GL	Non-Scr Traded Govt
GLLT	Non-Scr Traded Govt Late
GLLTXT	Non-Scr Traded Govt Late Crossed Trade
GLSH	Non-Scr Traded Govt Short
GLSHST	Non-Scr Traded Govt Short Stabilisation Trade
GLSHSTXT	Non-Scr Traded Govt Short Stabilisation Trade Crossed Trade
GLSHXT	Non-Scr Traded Govt Short Crossed Trade
GLST	Non-Scr Traded Govt Stabilisation Trade
GLSTXT	Non-Scr Traded Govt Stabilisation Trade Crossed Trade
GLXT	Non-Scr Traded Govt Crossed Trade
IA	Interstate Accounting
IBSHST	Index Replicating Sp Short Stabilisation Trade
IBST	Index Replicating Sp Stabilisation Trade
IBXT	Index Replicating Sp Crossed Trade
L1	Late Trade - Book Squaring
L1SH	Late Trade - Book Squaring Short

L1SHST	Late Stabilisation Trade - Book Squaring Short
L1SHSTXT	Late Trade Crossing Price Stabilisatn - Book Squaring Short
L1SHXT	Late Trade Crossing - Book Squaring Short
L1ST	Late Stabilisation Trade - Book Squaring
L1STXT	Late Trade Crossing Price Stabilisation - Book Squaring
L1XT	Late Trade Crossing - Book Squaring
L2	Late Trade - Hedging Trades
L2SH	Late Trade - Hedging Trades Short
L2SHST	Late Stabilisation Trade - Hedging Trades Short
L2SHSTXT	Late Trade Crossing Price Stabilisation - Hedging Trades Short
L2SHXT	Late Trade Crossing - Hedging Trades Short
L2ST	Late Stabilisation Trade - Hedging Trades
L2STXT	Late Trade Crossing Price Stabilisation - Hedging Trades
L2XT	Late Trade Crossing - Hedging Trades
L3	Late Trade - Order Completion
L3SH	Late Trade - Order Completion Short
L3SHST	Late Stabilisation Trade - Order Completion Short
L3SHSTXT	Late Trade Crossing Price Stabilisation - Order Completion Short
L3SHXT	Late Trade Crossing - Order Completion Short
L3ST	Late Stabilisation Trade - Order Completion
L3STXT	Late Trade Crossing Price Stabilisation - Order Completion
L3XT	Late Trade Crossing - Order Completion
L4	Late Trade - Error Rectification
L4SH	Late Trade - Error Rectification Short
L4SHST	Late Stabilisation Trade - Error Rectification Short
L4SHSTXT	Late Trade Crossing Price Stabilisation - Error Rect Short
L4SHXT	Late Trade Crossing - Error Rectification Short
L4ST	Late Stabilisation Trade - Error Rectification
L4STXT	Late Trade Crossing Price Stabilisation - Error Rect
L4XT	Late Trade Crossing - Error Rectification
L5	Late Trade - Put Through
L5SH	Late Trade - Put Through Short
L5SHST	Late Stabilisation Trade - Put Through Short
L5SHSTXT	Late Trade Crossing Price Stabilisation - Put Through Short
L5SHXT	Late Trade Crossing - Put Through Short
L5ST	Late Stabilisation Trade - Put Through
L5STXT	Late Trade Crossing Price Stabilisation - Put Through

L5XT	Late Trade Crossing - Put Through
LN	Loan
LNSHXT	Loan Short Crossed Trade
LNXT	Loan Crossed Trade
LPSHXT	LP Broker Crs Sys Tr Short Crossed Trade
LPXT	LP Broker Crs Sys Tr Crossed Trade
LR	Loan Return
LRON	Loan Return Overnight
LRONPS	Loan Return Overnight Prompt Sale
LRPS	Loan Return Prompt Sale
LRXT	Loan Return Crossed Trade
LT	Late Trade Post 5pm
LTSHST	Late Short Stabilisation Trade - Post 5pm
LTSHXT	Late Short Crossed Trade Post 5pm
LTSP	Late Special Sale > $1m
LTSPXT	Late Special Sale > $1m Crossed Trade
LTST	Late Stabilisation Trade
LTSTXT	Late Stabilisation Trade Crossed Trade Post 5pm
LTTM	Late Tailor Made Combination
LTTMXT	Late Tailor Made Combination Crossed Trade
LTWH	Late Non-Screen Traded Whole
LTWHXT	Late Non-Screen Traded Whole Crossed Trade
LTXT	Late Trade Crossing - Post 5pm
MI	Market Information
NXSHXT	NBBO Crossing Short Crossed Trade
NXXT	NBBO Crossing Crossed Trade
OCXT	OTC Contingent Eqy Crossed Trade
ODOSXT	Overseas Delivery Overseas Crossed Trade
OL	Oddlot
OLXT	Oddlot Crossed Trade
ON	Overnight
ONORXT	Overnight Overseas Resident Crossed Trade
ONSH	Overnight Short
ONSHST	Overnight Short Stabilisation Trade
ONSHXT	Overnight Short Crossed Trade
ONST	Overnight Stabilisation Trade
ONVW	Overnight VWAP Trade

ONVWXT	Overnight VWAP Trade Crossed Trade
ONXT	Overnight Crossed Trade
OR	Overseas Resident
OROS	Overseas Resident Overseas
OROSXT	Overseas Resident Overseas Crossed Trade
ORSP	Overseas Resident Special Sale > $1m
ORST	Overseas Resident Stabilisation Trade
ORSX	Overseas Resident Portfolio Special
ORXT	Overseas Resident Crossed Trade
OS	Overseas
OSSH	Overseas Short
OSSHST	Overseas Short Stabilisation Trade
OSSHXT	Overseas Short Crossed Trade
OSSP	Overseas Special Sale > $1m
OSSPXT	Overseas Special Sale > $1m Crossed Trade
OSST	Overseas Stabilisation Trade
OSXT	Overseas Crossed Trade
P1	Put Through >= $1m
P1SH	Put Through >= $1m Short
P1SHXT	Put Through Crossing >= $1m Short
P1XT	Put Through Crossing >= $1m
P2	Put Through >= $500K & < $1m
P2SH	Put Through >= $500k & < $1m Short
P2SHXT	Put Through Crossing >= $500k & < $1m Short
P2XT	Put Through Crossing >= $500k & < $1m
PR	Prompt Re-booking
PS	Prompt Sale
PSXT	Prompt Sale Crossed Trade
PT	Put Through
PTFD	Put Through Forward Delivery
PTOR	Put Through Overseas Resident
PTPS	Put Through Prompt Sale
PTSH	Put Through Short - Post 5pm
PTXT	Put Through Crossed Trade Post 5pm
QB	Quote Display Board
QBXT	Quote Display Board Crossed Trade
S1	Special Sale >= $2.5m

S1SH	Special Sale >= $2.5m Short
S1SHXT	Special Sale Crossings >= $2.5m Short
S1XT	Special Sale Crossing >= $2.5m
S2	Special Sale >= $1m & < $2.5m
S2SH	Special Sale >= $1m & < $2.5m Short
S2SHXT	Special Sale Crossings >= $1m & < $2.5m Short
S2XT	Special Sale Crossing >= $1m & < $2.5m
S3	Special Sale >= $500k & < $1m
S3SH	Special Sale >= $500k & < $1m Short
S3SHXT	Special Sale Crossings >= $500k & < $1m Short
S3XT	Special Sale Crossing >= $500k & < $1m
SA	Special Crossing
SASHST	Special Crossing Short Stabilisation Trade
SASHXT	Special Crossing Short Crossed Trade
SAST	Special Crossing Stabilisation Trade
SAXT	Special Crossing Crossed Trade
SH	Short
SHSMXT	Short SMSF Crossing Crossed Trade
SHSOST	Short Other Conditional Special Stabilisation Trade
SHSP	Short Special Sale - Derivatives
SHSPST	Short Special Sale > $1m Stabilisation Trade
SHSPXT	Short Special Sale Crossed Trade - Derivatives
SHST	Short Stabilisation Trade
SHSTSX	Short Stabilisation Trade Portfolio Special
SHSTWH	Short Stabilisation Trade Non-Screen Traded Whole
SHSTWHXT	Short Stabilisation Trade Non-Screen Traded Whole Crossed Trade
SHSTXT	Short Stabilisation Trade Crossed Trade
SHSX	Short Portfolio Special
SHSXXT	Short Portfolio Special Crossed Trade
SHTM	Short Tailor Made Combination
SHTMXT	Short Tailor Made Combination Crossed Trade
SHVM	Short Volume Match
SHVMXT	Short Volume Match Crossed Trade
SHVW	Short VWAP Trade
SHWH	Short Non-Screen Traded Whole
SHWHXT	Short Non-Screen Traded Whole Crossed Trade
SHXT	Short Crossed Trade

SMXT	SMSF Crossing Crossed Trade
SO	Other Conditional Special
SOST	Other Conditional Special Stabilisation Trade
SOXT	Other Conditional Special Crossed Trade
SP	Special Sale - Derivatives
SPST	Special Sale > $1m Stabilisation Trade
SPXT	Special Sale Crossing - Derivatives
ST	Stabilisation Trade
STSX	Stabilisation Trade Portfolio Special
STWH	Stabilisation Trade Non-Screen Traded Whole
STWHXT	Stabilisation Trade Non-Screen Traded Whole Crossed Trade
STXT	Stabilisation Trade Crossed Trade
SX	Portfolio Special
SXVW	Portfolio Special VWAP Trade
SXXT	Portfolio Special Crossed Trade
TM	Tailor Made Combination
TMXT	Tailor Made Combination Crossed Trade
VM	Volume Match
VMXT	Volume Match Crossed Trade
VW	VWAP Trade
VWXT	VWAP Trade Crossed Trade
WH	Non-Scr Traded Whole
WHXT	Non-Scr Traded Whole Crossed Trade
XT	Crossed Trade

8.3 Corporate Action and Basis of Quotation Codes

The *CorporateAction* (20007) FIX tag is referred to as "Basis of Quotation" in the legacy Signal B service. This field indicates the status under which a security is quoted. In the case of trades, this field will only contain a value if special permission has been granted by the respective committees to trade outside the currently stated Basis of Quotation.

The table below lists the valid values for the *CorporateAction* (20007) tag.

Corporate Action and Basis of Quotation Codes	Description
CD	Cum Dividend
XD	Ex Dividend
CR	Cum Rights Issue
XR	Ex Rights Issue
CT	Conditional Trading
CB	Cum Bonus Issue
XB	Ex Bonus Issue
CE	Cum Entitlement
XE	Ex Entitlement
CF	Cum Takeover Offer
XF	Ex Takeover Offer
CC	Cum Capital Return
XC	Ex Capital Return
PA	Protection Available
PU	Protection Unavailable
CM	Cum Premium Return
XM	Ex Premium Return
CQ	Cum Equal Access Buy-back
XQ	Ex Equal Access Buy-back
NX	New Ex Interest
XI	Ex Interest
CL	Call Due
CP	Call Paid
CZ	Cum Priority
XZ	Ex Priority
RE	Reconstructed
RA	Received Appointed

8.4 Security Type Table

- The table below provides a mapping from the legacy Signal B's "Message Type", "Security Type Code", and "Security Group Code" fields to the new Signal B's FIX tags *SecurityType* (167) and *SecuritySubType* (167) as they appear in AE messages.
- The 'Masking Applied' column denotes which security subtypes will have the counterparty masked within the TradeCaptureReport <AE> message.

Legacy Signal B					New Signal B		Masking Applied
Message Type	Security Type Code	Security Group Code	Security Group Description	Security Type Description	Security Type (Tag 167)	Security SubType (Tag 762)	
TA, TB, TG	01	EQY	Equity	Ordinary Shares	CS	1	Y
TA, TB, TG	02	EQY	Equity	Restricted Ordinary Shares	CS	2	Y
TA, TB, TG	03	EQY	Equity	Employee Ordinary Shares	CS	3	Y
TA, TB, TG	04	EQY	Equity	Allocation Interest	CS	4	Y
TA, TB, TG	05	EQY	Equity	Forfeited	CS	5	Y
TA, TB, TG	06	EQY	Equity	Trust Unit	CS	6	Y
TA, TB, TG	07	EQY	Equity	Exchange Trade Fund Units	CS	7	N
TA, TB, TG	08	EQY	Equity	Transferable Custody Receipts	CS	8	Y
TA, TB, TG	09	EQY	Equity	Entitlements	CS	9	Y
TA, TB, TG	10	EQY	Equity	Rights	CS	10	Y
TA, TB, TG	11	EQY	Equity	High Denomination Equity	CS	11	Y
TC, TH	12	CNV	Convertible Note	High Denomination Convertible Notes	CB	12	Y
TA, TB, TG	15	EQY	Equity	Reserved for CHESS Miscellaneous Payments	CS	15	Y
TA, TB, TG	16	EQY	Equity	Preference	PS	16	Y
TA, TB, TG	17	EQY	Equity	Cumulative Preference	PS	17	Y

TA, TB, TG	18	EQY	Equity	Cumulative Redeemable Preference	PS	18	Y
TA, TB, TG	19	EQY	Equity	Cumulative Redeemable Convertible Preference	PS	19	Y
TA, TB, TG	20	EQY	Equity	Cumulative Convertible Preference	PS	20	Y
TA, TB, TG	21	EQY	Equity	Convertible Preference	PS	21	Y
TA, TB, TG	22	EQY	Equity	Convertible Redeemable Preference	PS	22	Y
TA, TB, TG	23	EQY	Equity	Redeemable Preference	PS	23	Y
TA, TB, TG	24	EQY	Equity	Part Preference	PS	24	Y
TA, TB, TG	25	EQY	Equity	Redeemable Part Preference	PS	25	Y
TA, TB, TG	26	EQY	Equity	Cumulative Part Preference	PS	26	Y
TA, TB, TG	27	EQY	Equity	Convertible Part Preference	PS	27	Y
TA, TB, TG	28	EQY	Equity	Cumulative Redeemable Part Preference	PS	28	Y
TA, TB, TG	29	EQY	Equity	Cumulative Redeemable Convertible Part Preference	PS	29	Y
TA, TB, TG	30	EQY	Equity	Employee Preference	PS	30	Y
TA, TB, TG	31	EQY	Equity	Cumulative Part Employee Preference	PS	31	Y
TA, TB, TG	32	EQY	Equity	Trading Long Exposure	CS	32	N
TA, TB, TG	33	EQY	Equity	Trading Managed Fund - High Denomination	CS	33	N
TA, TB, TG	34	EQY	Equity	QDB Managed Fund (T+3) - High Denomination	CS	34	N
TA, TB, TG	35	EQY	Equity	QDB Managed Fund - High Denomination	CS	35	N
TA, TB, TG	36	EQY	Equity	Trading Managed Fund	CS	36	N
TA, TB, TG	37	EQY	Equity	QDB Managed Fund (T+3)	CS	37	N
TA, TB, TG	38	EQY	Equity	QDB Managed Fund	CS	38	N
TA, TB, TG	39	WAR	Warrant	Trading Structured Product (Calls) - Ultra High Denomination	WAR	39	N
TA, TB, TG	40	COP	Company Option	Options	OPT	40	Y
TA, TB, TG	41	COP	Company Option	Employee Options	OPT	41	Y
TA, TB, TG	42	COP	Company Option	Restricted Option	OPT	42	Y

TA, TB, TG	43	COP	Company Option	Delivery Option	OPT	43	Y
TA, TB, TG	44	COP	Company Option	Bonus Delivery Option	OPT	44	Y
TA, TB, TG	45	COP	Company Option	Option Bonds	OPT	45	Y
TA, TB, TG	46	WAR	Warrant	Call Warrant	WAR	46	N
TA, TB, TG	47	WAR	Warrant	Put Warrant	WAR	47	N
TA, TB, TG	48	WAR	Warrant	High Denomination Call Warrant	WAR	48	N
TA, TB, TG	49	WAR	Warrant	High Denomination Put Warrant	WAR	49	N
TC, TH	50	CNV	Convertible Note	Convertible Notes (Equity Security)	CB	50	Y
TC, TH	51	CNV	Convertible Note	Convertible Notes (Interest Rate Security)	CB	51	Y
TA, TB, TG	52	WAR	Warrant	Trading Structured Product (Puts) - Ultra High Denomination	WAR	52	N
TA, TB, TG	53	WAR	Warrant	Trading Structured Product Call	WAR	53	N
TA, TB, TG	54	WAR	Warrant	Trading Structured Product Put	WAR	54	N
TA, TB, TG	55	WAR	Warrant	QDB Structured Product Call	WAR	55	N
TA, TB, TG	56	WAR	Warrant	QDB Structured Product Put	WAR	56	N
TA, TB, TG	57	WAR	Warrant	QDB Structured Product Call - High Denomination	WAR	57	N
TA, TB, TG	58	WAR	Warrant	QDB Structured Product Put - High Denomination	WAR	58	N
TA, TB, TG	59	WAR	Warrant	Warrant Call - Ultra High Denomination	WAR	59	N
N/A	60	FIN	Fixed Interest	Debenture	Not Applicable*	Not Applicable*	Y
N/A	61	FIN	Fixed Interest	Debentures (Price) / Screen Traded Debentures	Not Applicable*	Not Applicable*	Y
N/A	62	FIN	Fixed Interest	Transferable Deposits	Not Applicable*	Not Applicable*	Y
N/A	63	FIN	Fixed Interest	Tax Free Loans	Not Applicable*	Not Applicable*	Y
TC, TH	64	FIN	Fixed Interest	Semi-Government Loans	TERM	64	Y
TA, TB, TG	65	WAR	Warrant	Warrant Put - Ultra High Denomination	WAR	65	N

TC, TH	66	FIN	Fixed Interest	Screen Traded Semi Government Loans (Cash)	TERM	66	Y
TC, TH	70	FIN	Fixed Interest	Unsecured Notes (Non-Screen Traded)	CORP	70	Y
TC, TH	71	FIN	Fixed Interest	Unsecured Notes (Price, Cash Traded)	CORP	71	Y
TC, TH	72	FIN	Fixed Interest	Fixed Interest (Floating Rate Notes)	TERM	72	Y
TC, TH	73	FIN	Fixed Interest	Wholesale Corporate Interest Rate Securities	TERM	73	Y
TC, TH	80	FIN	Fixed Interest	Government Loans	TERM	80	Y
TC, TH	81	FIN	Fixed Interest	Government Bond - CHESS Depository Interests (CDI)	TERM	81	Y
TC, TH	83	FIN	Fixed Interest	Screen Traded Government Loans	TERM	83	Y
TD, TI	90	AOM	Exchange Traded Option	Local Call Options	OPT	90	N
TD, TI	91	AOM	Exchange Traded Option	Local Put Options	OPT	91	N
TD, TI	92	IOM	Internal Option	International Call Options	OPT	92	N
TD, TI	93	IOM	Internal Option	International Put Options	OPT	93	N
TD, TI	95	AOM	Exchange Traded Option	Low Exercise Price Options	OPT	95	N

- Instruments with Security Type Code = 60, 61, 62 and 63 do not trade on ASX Trade. Therefore, trades on those instruments are not applicable to Signal B

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